

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549**

**Form S-4
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933**

INVITAE CORPORATION

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

8071
(Primary Standard Industrial
Classification Code Number)

27-1701898
(I.R.S. Employer
Identification Number)

**1400 16th Street
San Francisco, CA 94103
(415) 374-7782**

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

**Sean E. George, Ph.D.
President and Chief Executive Officer
Invitae Corporation
1400 16th Street
San Francisco, CA 94103
(415) 374-7782**

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

**Thomas Brida
General Counsel
Invitae Corporation
1400 16th Street
San Francisco, CA 94103
(415) 374-7782**

**Mike Hird
Patty M. DeGaetano
Pillsbury Winthrop Shaw Pittman LLP
12255 El Camino Real, Suite 300
San Diego, CA 92130
(619) 234-5000**

**Mark McDonough
President and Chief Executive Officer
CombiMatrix Corporation
300 Goddard, Suite 100
Irvine, CA 92618
(949) 753-0624**

**Parker A. Schweich
Stradling Yocca Carlson & Rauth, P.C.
660 Newport Center Drive, Suite 1600
Newport Beach, CA 92660
(949) 725-4000**

Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this registration statement and the satisfaction or waiver of all other conditions under the Merger Agreement described herein.

If the securities being registered on this Form are being offered in connection with the formation of a holding company and there is compliance with General Instruction G, check the following box:
If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Non-accelerated filer (Do not check if a smaller reporting company)

Accelerated filer

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

If applicable, place an X in the box to designate the appropriate rule provision relied upon in conducting this transaction:

Exchange Act Rule 13e-4(i) (Cross-Border Issuer Tender Offer)

Exchange Act Rule 14d-1(d) (Cross-Border Third-Party Tender Offer)

CALCULATION OF REGISTRATION FEE

Title of each class of securities to be registered	Amount to be registered(1)(2)	Proposed maximum offering price per share	Proposed maximum aggregate offering price(3)	Amount of registration fee
Common stock, par value \$0.0001 per share	5,287,335	N/A	\$49,782,231	\$5,769.76

- (1) Represents the maximum number of shares of common stock of the registrant that may be issued to holders of common stock, Series F convertible preferred stock, Series D warrants, Series F warrants who do not elect to participate in the warrant exchange offer, restricted stock units, in-the-money stock options and certain entitlements in a transaction bonus plan of CombiMatrix Corporation, a Delaware corporation, pursuant to the Agreement and Plan of Merger and Reorganization, dated as of July 31, 2017, by and among the registrant, Coronado Merger Sub, Inc., a Delaware corporation and a wholly owned subsidiary of the registrant, and CombiMatrix Corporation. The number includes (i) 2,645,058 shares of Invitae common stock, which is the maximum number of shares of Invitae common stock issuable to holders CombiMatrix common stock, (ii) 21,512 shares of Invitae common stock, which is the maximum number of shares of Invitae common stock issuable to holders of CombiMatrix Series F convertible preferred stock, (iii) 351,939 shares of Invitae common stock, which is the maximum number of shares of Invitae common stock issuable to holders of CombiMatrix Series D warrants upon exercise of such warrants which are potentially being assumed by Invitae, (iv) 1,796,834 shares of Invitae common stock, which is the maximum number of shares of Invitae common stock issuable to holders of CombiMatrix Series F warrants upon exercise of such warrants which are potentially being assumed by Invitae, and presuming such holders do not elect to participate in the warrant exchange offer, (v) 88,853 shares of Invitae common stock, which is the maximum number of shares of Invitae common stock issuable to holders of CombiMatrix restricted stock units, (vi) 3,582 shares of Invitae common stock, which is the maximum number of shares of Invitae common stock issuable to holders of CombiMatrix in-the-money stock options, (vii) 23,709 shares of Invitae common stock, which is the maximum number of shares of Invitae common stock issuable to CombiMatrix outside directors pursuant to certain transaction bonus payout agreements, and (viii) 370,135 shares of Invitae common stock, which is the maximum number of shares of Invitae common stock underlying Invitae restricted stock units that may be settled in shares of Invitae common stock and which are issuable by Invitae to CombiMatrix executives pursuant to certain transaction bonus payout agreements.
- (2) The shares of Invitae common stock issuable to holders of CombiMatrix Series F warrants to purchase shares of CombiMatrix common stock who participate in Invitae's warrant exchange offer will be registered on a separate registration statement on Form S-4.
- (3) Estimated solely for purposes of calculating the registration fee in accordance with Rule 457(f) of the Securities Act of 1933, as amended, based upon the average of the high and low prices of the Invitae common stock on the New York Stock Exchange on September 8, 2017.

The Registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

The information in this proxy statement/prospectus is not complete and may be changed. These securities may not be sold until the registration statement filed with the Securities and Exchange Commission is effective. This proxy statement/prospectus is not an offer to sell and it is not soliciting an offer to buy these securities in any jurisdiction where the offer or sale is not permitted.

SUBJECT TO COMPLETION, DATED SEPTEMBER 13, 2017



MERGER PROPOSED—YOUR VOTE IS VERY IMPORTANT

The board of directors of CombiMatrix Corporation, or CombiMatrix, and the board of directors of Invitae Corporation, or Invitae, have each approved an Agreement and Plan of Merger and Reorganization, dated July 31, 2017, or the Merger Agreement, pursuant to which a wholly owned subsidiary of Invitae will merge with and into CombiMatrix, with CombiMatrix surviving as a wholly owned subsidiary of Invitae, which is referred to as the Merger. The approval of CombiMatrix's stockholders must be obtained before the Merger can be completed. This document is being sent to CombiMatrix stockholders to ask them to vote in favor of the adoption of the Merger Agreement. The approval of Invitae's stockholders is not required for the issuance of its shares of common stock in the Merger.

Prior to the Merger, Invitae intends to commence an exchange offer for CombiMatrix Series F warrants to acquire shares of CombiMatrix common stock, or the Warrant Exchange Offer. The completion of the Merger is conditioned upon the successful completion of the Warrant Exchange Offer as described in the Merger Agreement.

At the effective time of the Merger, each share of CombiMatrix's common stock, or CombiMatrix common stock, will be converted into the right to receive a fraction of a share of Invitae common stock, or the Exchange Ratio. It is currently anticipated that, at the closing of the Merger, the Exchange Ratio would be between approximately 0.91 and 0.84 shares of Invitae's common stock, or Invitae common stock. The Exchange Ratio is determined pursuant to a formula in the Merger Agreement and described in the attached proxy statement/prospectus, and the estimate of the Exchange Ratio is subject to adjustment. For example, the estimated Exchange Ratio of 0.91 was calculated assuming that 100% of the CombiMatrix Series F warrants are exchanged in the Warrant Exchange Offer. Based on the average closing price of \$9.491 per share of Invitae common stock on the NYSE for the 30 trading days prior to July 31, 2017, the date on which the Merger Agreement was executed, and estimated CombiMatrix net cash of negative \$0.8 million (the calculation of which includes a reduction for CombiMatrix transaction bonuses payable), the estimated Exchange Ratio represented \$8.60 in value for each share of CombiMatrix common stock. If, instead of being exchanged, 100% of the CombiMatrix Series F warrants were exercised prior to the Merger, the Exchange Ratio would be reduced to 0.84, representing \$8.00 in value for each share of CombiMatrix common stock, based on estimated CombiMatrix net cash of negative \$2.3 million (which excludes warrant exercise proceeds). Alternatively, if none of the CombiMatrix Series F warrants are exchanged in the Warrant Exchange Offer or exercised prior to the Merger and all such warrants are assumed by Invitae, although Invitae's obligation to proceed with the Merger is subject to a participation level in the Warrant Exchange Offer of at least 90% as described in the attached proxy statement/prospectus, the Exchange Ratio would be reduced to 0.87, representing \$8.25 in value for each share of CombiMatrix common stock, based on estimated CombiMatrix net cash of negative \$0.7 million. These dollar values may fluctuate higher or lower prior to the closing of the Merger depending on fluctuations in the price of Invitae common stock on the NYSE. See the sections entitled "*The Merger Agreement—Merger Consideration and Exchange Ratio*" and "*The Merger Agreement—Determination of CombiMatrix's Net Cash; Merger Consideration Sensitivity Analysis*" beginning on pages 80 and 84, respectively, of the attached proxy statement/prospectus for additional factors that may affect the Exchange Ratio.

Each outstanding share of CombiMatrix Series F preferred stock will be converted into the right to receive a number of shares of Invitae common stock equal to the Exchange Ratio multiplied by the number of shares of CombiMatrix common stock issuable upon conversion of one share of Series F preferred stock on the date immediately prior to the Merger. Each in-the-money option to purchase CombiMatrix common stock that is outstanding and unexercised immediately prior to completion of the Merger, whether or not vested or exercisable, will be fully accelerated to the extent of any applicable vesting period and converted into the number of shares of Invitae common stock equal to the Exchange Ratio multiplied by the number of shares of CombiMatrix common stock issuable upon exercise of such option, minus the number of shares of Invitae common stock determined by dividing the aggregate exercise price for such option by the average closing price for shares of Invitae common stock on the NYSE for the immediately preceding period of 30 trading days prior to the date of the Merger Agreement (which is \$9.491 and referred to herein as the Invitae Trailing Average Share Value). Each out-the-money option to purchase CombiMatrix common stock that is outstanding and unexercised immediately prior to completion of the Merger, whether or not vested or exercisable, will be cancelled and terminated without the right to receive any consideration. Each CombiMatrix restricted stock unit outstanding immediately prior to completion of the Merger will be fully accelerated to the extent of any applicable

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vesting period and converted into the right to receive a number of shares of Invitae common stock determined by multiplying the number of shares of CombiMatrix common stock that were subject to such restricted stock unit by the Exchange Ratio. Immediately after announcement of the Merger, CombiMatrix repurchased half of the outstanding and unexercised CombiMatrix Series A warrants, Series B warrants, Series C warrants, Series E warrants and PIPE warrants pursuant to the terms of that certain CombiMatrix Common Stock Purchase Warrants Repurchase Agreement dated July 11, 2016. Upon the closing of the Merger, CombiMatrix will repurchase the remainder of such outstanding and unexercised warrants. All CombiMatrix Series D warrants and Series F warrants that are outstanding and unexercised at the closing of the Merger will be converted into and become warrants to purchase Invitae common stock, and Invitae will assume each such CombiMatrix Series D warrant and Series F warrant (to the extent such Series F warrants are not exchanged in the Warrant Exchange Offer or previously exercised) in accordance with their terms, with the number of underlying shares and exercise price as adjusted for the Exchange Ratio, although Invitae's obligation to proceed with the Merger is subject to achieving 90% participation in the Warrant Exchange Offer as described in the attached proxy statement/prospectus. Invitae stockholders will continue to own and hold their existing shares of Invitae common stock.

In connection with the Merger and the Warrant Exchange Offer, Invitae expects to issue a maximum of 3,985,812 shares of common stock, including common stock underlying warrants and restricted stock units issuable to CombiMatrix securityholders who, immediately after the Merger, are expected to own approximately 6.9% of the fully-diluted common stock of the combined company, with Invitae securityholders, whose shares of Invitae capital stock will remain outstanding after the Merger, owning approximately 93.1% of the fully-diluted common stock of the combined company. These estimates are based on the assumption that 100% of the CombiMatrix Series F warrants are exchanged in the Warrant Exchange Offer and are subject to adjustment.

Invitae's common stock is listed on the NYSE under the symbol "NVTA." CombiMatrix's common stock is listed on the NASDAQ Capital Market under the symbol "CBMX." CombiMatrix Series F warrants are listed on the NASDAQ Capital Market under the symbol "CBMXW."

The special meeting of CombiMatrix stockholders will be held on _____, 2017 at _____, local time, at the offices of Stradling Yocca Carlson & Rauth, P.C., 660 Newport Center Drive, Suite 1600, Newport Beach, California 92660. At the special meeting of CombiMatrix stockholders, CombiMatrix stockholders will be asked to vote on the adoption of the Merger Agreement and certain other matters. **The CombiMatrix board of directors unanimously recommends that CombiMatrix stockholders vote "FOR" the Merger Proposal and "FOR" the other related proposals.**

This document is a prospectus related to the issuance of shares of Invitae common stock in the Merger and a proxy statement for CombiMatrix to use in soliciting proxies for its special meeting of stockholders. It is an important document containing answers to frequently asked questions and a summary description of the Merger (beginning on page 9), followed by more detailed information about Invitae, CombiMatrix, the proposed Merger, the Merger Agreement and certain other matters. You are urged to read this document carefully and in its entirety. **In particular, you should consider the matters discussed in the section entitled "[Risk Factors](#)" beginning on page 38 of this proxy statement/prospectus.**

Invitae and CombiMatrix are excited about the opportunities the Merger brings to both Invitae's and CombiMatrix's stockholders, and thank you for your consideration and continued support.

Sean E. George, Ph.D.
President and Chief Executive Officer
Invitae Corporation

Mark McDonough
President and Chief Executive Officer
CombiMatrix Corporation

Neither the Securities and Exchange Commission, or the SEC, nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this proxy statement/prospectus. Any representation to the contrary is a criminal offense.

The accompanying proxy statement/prospectus is dated _____, 2017 and is first being mailed to stockholders of CombiMatrix on or about _____, 2017.

CombiMatrix Corporation
300 Goddard, Suite 100
Irvine, CA 92618

NOTICE OF SPECIAL MEETING OF STOCKHOLDERS

To the Stockholders of CombiMatrix Corporation:

Notice is hereby given that a Special Meeting of Stockholders of CombiMatrix Corporation, a Delaware corporation, will be held on _____, 2017 at _____, local time, at the offices of Stradling Yocca Carlson & Rauth, P.C., 660 Newport Center Drive, Suite 1600, Newport Beach, California 92660, to consider and vote upon the following matters, as more fully described in the proxy statement/prospectus accompanying this notice:

1. a proposal to approve and adopt the Agreement and Plan of Merger and Reorganization, dated as of July 31, 2017, by and among Invitae Corporation, Coronado Merger Sub, Inc. and CombiMatrix Corporation, as such agreement may be amended from time to time, and the transactions contemplated thereby, including the merger of Coronado Merger Sub, Inc. with and into CombiMatrix Corporation, with CombiMatrix Corporation surviving as a wholly owned subsidiary of Invitae Corporation. This proposal is referred to as the “Merger Proposal”;
2. a proposal to approve, on a non-binding advisory basis, specified compensation that may be paid or become payable to CombiMatrix’s named executive officers in connection with the Merger. This proposal is referred to as the “Compensation Proposal”; and
3. a proposal to approve the possible adjournment of the special meeting, including, if necessary or appropriate, to solicit additional proxies in the event that there are not sufficient votes at the time of the special meeting to approve the foregoing proposals. This proposal is referred to as the “Adjournment Proposal.”

The CombiMatrix board of directors has fixed the close of business on _____, 2017 as the record date for the CombiMatrix special meeting. Only CombiMatrix common stockholders of record at that time are entitled to notice of, and to vote at, the CombiMatrix special meeting, or any adjournment or postponement of the CombiMatrix special meeting. At the close of business on the record date, CombiMatrix had _____ shares of common stock outstanding and entitled to vote. Holders of CombiMatrix Series F preferred stock are not entitled to vote at the CombiMatrix special meeting.

Approval of the Merger Proposal requires the affirmative vote of holders of a majority of the outstanding shares of CombiMatrix common stock entitled to vote on the record date for the CombiMatrix special meeting. Approval, on a non-binding advisory basis, of the Compensation Proposal requires that the votes cast in favor of this proposal at the CombiMatrix special meeting exceed the votes cast opposing the proposal, assuming a quorum is present. Approval of the Adjournment Proposal requires the affirmative vote of holders of a majority of the shares of CombiMatrix common stock having voting power present in person or represented by proxy at the CombiMatrix special meeting, whether or not a quorum is present.

Invitae intends to commence an exchange offer for Series F warrants to acquire shares of CombiMatrix common stock, which is referred to as the Warrant Exchange Offer. The completion of the Merger is conditioned upon, among other conditions, the successful completion of the Warrant Exchange Offer as described in the Merger Agreement. The terms of the Warrant Exchange Offer are described in the accompanying proxy statement/prospectus, including in the section entitled “*The Warrant Exchange Offer*.”

Whether or not you plan to attend the special meeting, please vote as soon as possible by the method described below to ensure that your shares are represented and voted in accordance with your wishes. To submit your proxy by mail, please complete, sign, date and return the accompanying proxy card in the enclosed self-addressed, postage-paid envelope. To vote over the Internet or by telephone, please follow the voting

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instructions printed on the proxy card sent to you. For detailed information regarding voting instructions, please refer to the section entitled “ *Special Meeting of CombiMatrix Stockholders* ” in the accompanying proxy statement/prospectus. This will not prevent you from voting in person, but it will help to secure a quorum and avoid additional solicitation costs. Any holder of CombiMatrix common stock who is present and entitled to vote at the CombiMatrix special meeting may vote in person instead of by proxy, thereby cancelling any previously submitted proxy. In any event, a proxy may be revoked in writing at any time before the CombiMatrix special meeting in the manner described in the accompanying proxy statement/prospectus. If your shares are held in the name of a bank, broker, or other holder of record, you must obtain a legal proxy, executed in your favor, from the holder of record in order to be able to vote in person at the special meeting.

The CombiMatrix board of directors has determined and believes that each of the proposals outlined above is fair to, in the best interests of, and advisable to CombiMatrix and its stockholders and has approved the proposals. The CombiMatrix board of directors unanimously recommends that the CombiMatrix stockholders vote “FOR” each such proposal.

Before voting your shares, you should read the entire proxy statement/prospectus carefully, including its annexes and the documents incorporated by reference in the proxy statement/prospectus.

By Order of the Board of Directors,

Mark McDonough
President and Chief Executive Officer
Irvine, California
, 2017

YOUR VOTE IS IMPORTANT. PLEASE COMPLETE, SIGN, DATE AND RETURN YOUR PROXY CARD WHETHER OR NOT YOU PLAN TO ATTEND THE SPECIAL MEETING.

ADDITIONAL INFORMATION

This proxy statement/prospectus incorporates important business and financial information about Invitae and CombiMatrix from documents that each company has filed with the SEC, including certain documents of CombiMatrix attached as annexes to this proxy statement/prospectus and certain documents of Invitae incorporated by reference that have not been included in or delivered with this document. This information is available to you without charge upon your oral or written request. You may read and copy documents incorporated by reference in this document, other than certain exhibits to those documents, at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. You can also obtain such documents free of charge through the SEC's website (www.sec.gov) or by requesting them in writing or by telephone from the appropriate company at the following addresses:

Invitae Corporation
1400 16th Street
San Francisco, CA 94103
(415) 374-7782
Attn.: Investor Relations

CombiMatrix Corporation
300 Goddard, Suite 100
Irvine, CA 92618
(949) 753-0624
Attn.: Investor Relations

If you would like to request any documents, please do so by no later than five business days before the date of the CombiMatrix special meeting in order to receive them before the special meeting.

You should rely only on information contained in this proxy statement/prospectus, attached within an annex to this proxy statement/prospectus, or incorporated by reference into this proxy statement/prospectus. No one has been authorized to provide you with information that is different from the information contained in, attached as an annex to, or incorporated by reference into, this document. You should not assume that the information contained in, attached as an annex to, or incorporated by reference into, this document is accurate as of any date other than the date of this document, the respective dates of the applicable annexes, or the respective dates of the information incorporated by reference into this document. Neither the mailing of this document to CombiMatrix stockholders, nor the issuance by Invitae of common stock in connection with the Merger, will create any implication to the contrary. For a listing of certain documents attached as annexes or incorporated by reference into this document, please see the section entitled “*Where You Can Find More Information.*”

Information on the websites of Invitae or CombiMatrix, or any subsidiary of Invitae or CombiMatrix, is not part of this proxy statement/prospectus. You should not rely on that information in deciding how to vote.

ABOUT THIS DOCUMENT

This proxy statement/prospectus forms a part of a registration statement on Form S-4 (Registration No. 333-) filed by Invitae with the Securities and Exchange Commission and constitutes a prospectus of Invitae under Section 5 of the Securities Act, and the rules thereunder, with respect to the shares of Invitae common stock to be issued in the Merger. In addition, it constitutes a proxy statement under Section 14(a) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), and the rules thereunder, and a notice of meeting with respect to a special meeting of CombiMatrix stockholders.

This proxy statement/prospectus does not constitute an offer to sell, or a solicitation of an offer to buy, any securities, or the solicitation of a proxy, in any jurisdiction to or from any person to whom it is unlawful to make any such offer or solicitation in such jurisdiction. Information contained in this document regarding Invitae has been provided by Invitae and information contained in this document regarding CombiMatrix has been provided by CombiMatrix.

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[ANNEX D—COMBIMATRIX QUARTERLY REPORT ON FORM 10-Q FOR THE QUARTERLY PERIOD ENDED JUNE 30, 2017](#)

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QUESTIONS AND ANSWERS

The following questions and answers briefly address some commonly asked questions about the special meeting of CombiMatrix stockholders and the Merger. Invitae and CombiMatrix urge you to read the remainder of this proxy statement/prospectus carefully. Additional important information is also contained in the annexes to, and in the documents incorporated by reference into, this proxy statement/prospectus.

Q: What will happen in the Merger?

A: Invitae Corporation, or Invitae, and CombiMatrix Corporation, or CombiMatrix, have entered into an Agreement and Plan of Merger and Reorganization, dated July 31, 2017, or the Merger Agreement. The Merger Agreement contains the terms and conditions of the proposed business combination of Invitae and CombiMatrix. Under the Merger Agreement, Coronado Merger Sub, Inc., a wholly owned subsidiary of Invitae, or Merger Sub, will merge with and into CombiMatrix, with CombiMatrix surviving as a wholly owned subsidiary of Invitae. This transaction is referred to as the Merger. A copy of the Merger Agreement is attached to this proxy statement/prospectus as *Annex A*.

Prior to the Merger, Invitae intends to commence an exchange offer for CombiMatrix Series F warrants to acquire shares of CombiMatrix common stock, or the Warrant Exchange Offer. The completion of the Merger is conditioned upon the completion of the Warrant Exchange Offer.

At the effective time of the Merger, each share of CombiMatrix's common stock, or CombiMatrix common stock, will be converted into the right to receive a fraction of a share of Invitae common stock, or the Exchange Ratio. It is currently anticipated that, at the closing of the Merger, the Exchange Ratio would be between approximately 0.91 and 0.84 shares of Invitae's common stock, or Invitae common stock. The Exchange Ratio is determined pursuant to a formula in the Merger Agreement and described in this proxy statement/prospectus, and the estimate of the Exchange Ratio is subject to adjustment. For example, the estimated Exchange Ratio of 0.91 was calculated assuming that 100% of the CombiMatrix Series F warrants are exchanged in the Warrant Exchange Offer. Based on the average closing price of \$9.491 per share of Invitae common stock on the NYSE for the 30 trading days prior to July 31, 2017, the date on which the Merger Agreement was executed, and estimated CombiMatrix net cash of negative \$0.8 million (the calculation of which includes a reduction for CombiMatrix transaction bonuses payable), the estimated Exchange Ratio represented \$8.60 in value for each share of CombiMatrix common stock. If, instead of being exchanged, 100% of the CombiMatrix Series F warrants were exercised prior to the Merger, the Exchange Ratio would be reduced to 0.84, representing \$8.00 in value for each share of CombiMatrix common stock, based on estimated CombiMatrix net cash of negative \$2.3 million (which excludes warrant exercise proceeds). Alternatively, if none of the CombiMatrix Series F warrants are exchanged in the Warrant Exchange Offer or exercised prior to the Merger and all such warrants are assumed by Invitae, although Invitae's obligation to proceed with the Merger is subject to a participation level in the Warrant Exchange Offer of at least 90% as described in this proxy statement/prospectus, the Exchange Ratio would be reduced to 0.87, representing \$8.25 in value for each share of CombiMatrix common stock, based on estimated CombiMatrix net cash of negative \$0.7 million. These dollar values may fluctuate higher or lower prior to the closing of the Merger depending on fluctuations in the price of Invitae common stock on the NYSE. See the sections entitled "*The Merger Agreement—Merger Consideration and Exchange Ratio*" and "*The Merger Agreement—Determination of CombiMatrix Net Cash; Merger Consideration Sensitivity Analysis*" for additional factors that may affect the Exchange Ratio.

Q: What will CombiMatrix stockholders receive in the Merger?

A: Each share of CombiMatrix common stock will be converted into the right to receive a fraction of a share of Invitae common stock equal to the Exchange Ratio. Each outstanding share of CombiMatrix Series F preferred stock will be converted into the right to receive a number of shares of Invitae common stock equal the Exchange Ratio multiplied by the number of shares of CombiMatrix common stock issuable upon

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conversion of one share of Series F preferred stock on the date immediately prior to the Merger. Each in-the-money option to purchase CombiMatrix common stock that is outstanding and unexercised immediately prior to completion of the Merger, whether or not vested or exercisable, will be fully accelerated to the extent of any applicable vesting period and converted into the number of shares of Invitae common stock equal the Exchange Ratio multiplied by the number of shares of CombiMatrix common stock issuable upon exercise of such option, minus the number of shares of Invitae common stock determined by dividing the aggregate exercise price for such option by the Invitae Trailing Average Share Value. Each out-the-money option to purchase CombiMatrix common stock that is outstanding and unexercised immediately prior to completion of the Merger, whether or not vested or exercisable, will be cancelled and terminated without the right to receive any consideration. Each CombiMatrix restricted stock unit outstanding immediately prior to completion of the Merger will be fully accelerated to the extent of any applicable vesting period and converted into the right to receive a number of shares of Invitae common stock determined by multiplying the number of shares of CombiMatrix common stock that were subject to such restricted stock unit by the Exchange Ratio. Immediately after announcement of the Merger, CombiMatrix repurchased half of the outstanding and unexercised CombiMatrix Series A warrants, Series B warrants, Series C warrants, Series E warrants and PIPE warrants pursuant to the terms of that certain CombiMatrix Common Stock Purchase Warrants Repurchase Agreement dated July 11, 2016, and upon the closing of the Merger, CombiMatrix will repurchase the remainder of such warrants (such warrant repurchase referred to herein as the “CombiMatrix Warrant Repurchase”). All CombiMatrix Series D warrants and Series F warrants that are outstanding and unexercised at the closing of the Merger will be converted into and become warrants to purchase Invitae common stock, and Invitae will assume each such CombiMatrix Series D warrant and Series F warrant (to the extent such Series F warrants are not exchanged in the Warrant Exchange Offer or previously exercised) in accordance with their terms, with the number of underlying shares and exercise price as adjusted for the Exchange Ratio, although Invitae’s obligation to proceed with the Merger is subject to a participation level in the Warrant Exchange Offer of at least 90% as described in this proxy statement/prospectus. Invitae stockholders will continue to own and hold their existing shares of Invitae common stock.

In connection with the Merger and the Warrant Exchange Offer, Invitae expects to issue a maximum of 3,985,812 shares of common stock, including common stock underlying warrants and restricted stock units issuable, to CombiMatrix securityholders, who, immediately after the Merger, are expected to own approximately 6.9% of the fully-diluted common stock of the combined company, with Invitae securityholders, whose shares of Invitae capital stock will remain outstanding after the Merger, owning approximately 93.1% of the fully-diluted common stock of the combined company. These estimates are based on the assumption that 100% of the CombiMatrix Series F warrants are exchanged in the Warrant Exchange Offer and subject to adjustment.

The total number of shares of Invitae common stock to be issued by Invitae in connection with the Merger and the Warrant Exchange Offer depends primarily upon:

- The amount of CombiMatrix’s net cash as of the closing of the Merger; and
- The number of CombiMatrix Series F warrants outstanding as of the closing of the Merger, which depends on how many Series F warrants are exercised or exchanged pursuant to the Warrant Exchange Offer.

For illustrative purposes only, the examples below provide two different scenarios showing the effect of the number of Series F warrants either tendered in the Warrant Exchange Offer or exercised on the number of shares of Invitae common stock issued in the Merger, but do not take into account certain other factors. The examples also do not reflect Invitae common stock and restricted stock units issuable to CombiMatrix executive officers and directors under the CombiMatrix transaction bonus plan or issuable upon exercise of the CombiMatrix Series D warrants assumed by Invitae in the Merger. See the sections entitled “*The Merger Agreement—Merger Consideration and Exchange Ratio*” and “*The Merger Agreement—Determination of CombiMatrix’s Net Cash; Merger Consideration Sensitivity Analysis*” for additional factors that may affect the number of shares of Invitae common stock issued in the Merger.

Example 1: All Series F Warrants Tendered

As of September 4, 2017, CombiMatrix had 3,044,195 shares of common stock outstanding (inclusive of common stock underlying Series F preferred stock, restricted stock units, and in-the-money options) and 2,066,976 Series F warrants outstanding. In the event that all Series F warrants are tendered, CombiMatrix currently estimates that net cash at the closing of the Merger will be approximately negative \$0.8 million. If there is no change after September 4, 2017 in the number of shares of CombiMatrix common stock outstanding, then subject to adjustment for CombiMatrix's net cash as of the closing of the Merger (including adjustments for payments to participants in CombiMatrix's transaction bonus plan), Invitae would issue shares of Invitae common stock with an aggregate value of approximately \$26,185,712 million in exchange for all of such outstanding CombiMatrix capital stock. Using the Invitae Trailing Average Share Value of \$9.491 per share, Invitae would issue approximately 2,759,005 shares of Invitae common stock for all of such outstanding shares of CombiMatrix common stock, which means that each share of CombiMatrix common stock would be exchanged for 0.91 shares of Invitae common stock at a per share value of \$8.60 based on the Invitae Trailing Average Share Value.

In the Warrant Exchange Offer, holders of CombiMatrix Series F warrants may exchange their outstanding CombiMatrix Series F warrants for shares of Invitae common stock with a value calculated to represent at least \$2.90 per Series F warrant, or an aggregate value of approximately \$6 million in Invitae common stock if all 2,066,976 Series F warrants were tendered (based on the number of Series F warrants outstanding as of September 4, 2017). Using the Invitae Trailing Average Share Value of \$9.491, each CombiMatrix Series F warrant is exchangeable for 0.3056 shares of Invitae common stock, and a total of 631,668 shares Invitae common stock would be issued in connection with the Warrant Exchange Offer.

Example 2: All Series F Warrants Exercised

If all of the CombiMatrix Series F warrant holders exercised their warrants and purchased CombiMatrix common stock at the exercise price of \$5.17, based on the number of shares of common stock outstanding as of September 4, 2017, CombiMatrix would have approximately 5.1 million shares of common stock outstanding and no Series F warrants outstanding at the closing of the Merger. In addition, CombiMatrix would have realized approximately \$10,686,266 in cash from the Series F warrants exercised, which CombiMatrix is required to preserve and include in the calculation of net cash pursuant to the Merger Agreement. The Merger Agreement also requires Invitae to issue additional shares of Invitae common stock to reflect the increase in CombiMatrix net cash resulting from warrant exercises. Using the Invitae Trailing Average Share Value, Invitae would be required to issue an additional 1,024,173 shares of Invitae common stock, or a total of 3,783,178 shares of Invitae common stock for the approximately 5.1 million shares of CombiMatrix common stock then outstanding. This would mean that each share of CombiMatrix common stock would be entitled to be exchanged for 0.74 shares of Invitae common stock, which using the Invitae Trailing Average Share Value, would have a value of \$7.02 per share.

Pursuant to the Merger Agreement, however, Invitae and CombiMatrix have agreed on a minimum per share value of Invitae common stock, notwithstanding the result of the calculation above, for which each share of CombiMatrix common stock would be exchanged equal to \$8.25, subject to net cash adjustments. Using this minimum per share value and assuming a net cash adjustment of negative \$0.25 per share of CombiMatrix common stock, which CombiMatrix expects in the event that all Series F warrants are exercised, each share of CombiMatrix common stock would be exchangeable for 0.84 shares of Invitae common stock, or a total of 4,307,676 shares of Invitae common stock, which using the Invitae Trailing Average Share Value, would have a value of \$8.00 per share.

Q: When do you expect to complete the Merger?

A: The Merger is expected to be completed as soon as possible once all the conditions to the Merger, including obtaining the approval of CombiMatrix stockholders and completion of the Warrant Exchange Offer, are

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fulfilled. While the exact timing cannot be predicted and no assurances can be given as to when it will occur, the Merger is currently expected to be completed in the fourth quarter of 2017.

Q: Why am I receiving this document?

A: We are delivering this document to you because it is a proxy statement being used by the CombiMatrix board of directors to solicit proxies of CombiMatrix stockholders in connection with the approval and adoption of the Merger Agreement and the transactions contemplated thereby, including the Merger. This document is also a prospectus that is being delivered to CombiMatrix stockholders because, in connection with the Merger, Invitae will issue Invitae common stock in exchange for CombiMatrix capital stock in the Merger.

This proxy statement/prospectus contains important information about the Merger, the Merger Agreement and important information to consider in connection with an investment in Invitae common stock. You should read it carefully and in its entirety. The enclosed materials allow you to have your shares voted by proxy without attending the special meeting. Your vote is important and we encourage you to submit your proxy as soon as possible.

Q: Where can I find more information about Invitae and CombiMatrix?

A: You can find more information about Invitae and CombiMatrix from reading this document and the various sources described in this proxy statement/prospectus in the section entitled “*Where You Can Find More Information*.”

Q: What am I voting on?

A: Invitae is proposing to acquire CombiMatrix. CombiMatrix stockholders are being asked to vote to approve and adopt the Merger Agreement and the transactions contemplated thereby, including the Merger. In the Merger, Merger Sub will merge into CombiMatrix. CombiMatrix would be the surviving entity in the Merger and would become a wholly owned subsidiary of Invitae.

CombiMatrix is also seeking your approval of two additional related proposals. The first is to approve, on a non-binding advisory basis, specified compensation that may be paid or become payable to CombiMatrix’s named executive officers in connection with the Merger. The second is a proposal to adjourn or postpone the special meeting, if necessary, to solicit additional proxies in favor of approval of the above proposals.

Invitae stockholders are not voting on any matter because the approval of Invitae stockholders is not required for the issuance of its shares of common stock in the Merger.

Q: What is the Exchange Ratio and how is it calculated at the closing of the Merger?

A: As a result of the Merger, holders of CombiMatrix common stock will receive a number of shares of Invitae common stock equal to the fraction of a share of Invitae common stock represented by the Exchange Ratio. Holders of CombiMatrix Series F preferred stock will receive, for each share of CombiMatrix Series F preferred stock held by them, a number of shares of Invitae common stock equal the Exchange Ratio multiplied by the number of shares of CombiMatrix common stock issuable upon conversion of one share of Series F preferred stock on the date immediately prior to the Merger. CombiMatrix stockholders will receive a cash payment instead of any fractional shares.

The Merger consideration is calculated at the closing of the Merger using the definition of “Exchange Ratio” set forth in the Merger Agreement. This definition calculates the Merger consideration based on the greater of two exchange ratio calculations. The first method of calculation values CombiMatrix at \$27,000,000 in the aggregate, with adjustments for net cash, restricted stock unit settlements, option exercises, Series F preferred stock conversions and warrant exercises (other than Series D warrants, Series F

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warrants exchanged in the Warrant Exchange Offer and terminated options). The second method of calculation imputes an \$8.25 per share valuation, with adjustments thereafter for net cash and any new share issuances after the date of the Merger Agreement. The purpose of the second calculation is to provide a “floor” price per share of Merger consideration in the event that certain Series F warrants are exercised or are not tendered, both of which would cause dilution to existing CombiMatrix common stockholders.

The “net cash” calculation, as defined in the Merger Agreement for the purpose of calculating the Exchange Ratio, includes all current assets, less all current liabilities (including amounts payable pursuant to CombiMatrix’s executive severance plan) and capital lease obligations of CombiMatrix, less all transaction-related expenses including amounts owed to CombiMatrix’s strategic advisors, accountants and attorneys, less amounts owed to repurchase certain of CombiMatrix’s common stock warrants, less amounts payable under CombiMatrix’s transaction bonus plan that was adopted on December 2, 2015, and less \$250,000 stipulated for working capital purposes.

Q: How is the Merger consideration impacted by the tendering and exercise of Series F warrants?

A: The per share value of the Merger consideration payable to the holders of the CombiMatrix common stock will be reduced to the extent that more shares are outstanding as of the closing of the Merger. Therefore, to the extent that CombiMatrix Series F warrants are exercised prior to closing and/or are not tendered in the Exchange Offer, the per share value of the Merger consideration will be reduced. For a table showing the impact of such warrant exercises and tenders on the per share value of the Merger consideration and additional discussion of the foregoing, see the section entitled “*The Merger Agreement—Determination of CombiMatrix’s Net Cash; Merger Consideration Sensitivity Analysis*.”

Q: Will the value of the Merger consideration change between the date of this proxy statement/prospectus and the time the Merger is completed?

A: Yes. CombiMatrix stockholders will receive Merger consideration in the form of shares of Invitae common stock based upon the Exchange Ratio; therefore, the value of the Merger consideration will fluctuate between the date of this proxy statement/prospectus and the completion of the Merger based upon the market value of Invitae common stock. Any fluctuation in the market price of Invitae common stock after the date of this proxy statement/prospectus will change the value of the Invitae common stock that CombiMatrix stockholders will receive.

Q: Are there risks associated with the Merger that I should be aware of?

A: Yes. You should consider the risk factors set out in the section entitled “*Risk Factors*” in this proxy statement/prospectus.

Q: When and where will the CombiMatrix special meeting be held?

A: The CombiMatrix special meeting will be held at the offices of Stradling Yocca Carlson & Rauth, P.C., 660 Newport Center Drive, Suite 1600, Newport Beach, California 92660 on _____, 2017 at _____, local time.

Q: What constitutes a quorum for the purpose of the special meeting of CombiMatrix stockholders?

A: The representation (in person or by proxy) of holders of at least a majority in voting power of all issued and outstanding shares of CombiMatrix common stock entitled to vote at the special meeting constitutes a quorum for action at the special meeting. All shares of CombiMatrix common stock present in person or represented by proxy, including abstentions, will be treated as present for purposes of determining the presence or absence of a quorum for all matters voted on at the special meeting.

Q: What vote is required to approve the proposals presented at the special meeting of CombiMatrix stockholders?

A: Approval of the Merger Proposal requires the affirmative vote of holders of a majority of the outstanding shares of CombiMatrix common stock entitled to vote on the record date for the CombiMatrix special meeting.

Approval, on a non-binding advisory basis, of the Compensation Proposal requires that the votes cast in favor of this proposal at the CombiMatrix special meeting exceed the votes cast opposing the proposal, assuming a quorum is present.

Approval of the Adjournment Proposal requires the affirmative vote of holders of a majority of the shares of CombiMatrix common stock entitled to vote and having voting power present in person or represented by proxy at the CombiMatrix special meeting, whether or not a quorum is present.

Q: What will happen if the CombiMatrix stockholders do not vote to adopt the Merger Proposal?

A: Approval of the Merger Proposal by the CombiMatrix stockholders is required in order for the Merger to occur. If the Merger is not completed, CombiMatrix stockholders will not receive the Merger consideration. Instead, CombiMatrix will remain an independent public company and its shares of common stock will continue to be listed and traded on the NASDAQ Capital Market. If the Merger is not completed because the CombiMatrix stockholders do not approve the Merger Proposal, CombiMatrix will still be required to pay certain Merger-related expenses.

Q: What will happen if the CombiMatrix stockholders do not vote to adopt the Compensation Proposal?

A: The vote on the Compensation Proposal is a vote separate and apart from the vote to approve the Merger Agreement. CombiMatrix stockholders may vote for this proposal and against the Merger Proposal, or vice versa. CombiMatrix stockholders also may abstain from this proposal and vote on the Merger Proposal, or vice versa. The vote to approve, on an advisory basis, the Compensation Proposal is not binding on CombiMatrix, the CombiMatrix board of directors or the compensation committee of the CombiMatrix board of directors. The Merger-related named executive officer compensation to be paid in connection with the Merger is based on contractual arrangements with the named executive officers and accordingly the outcome of this advisory vote will not affect the obligation to make these payments.

Q: What percentage of CombiMatrix common stock is owned by CombiMatrix directors, executive officers and their affiliates?

A: As of the record date for the CombiMatrix special meeting, directors and executive officers of CombiMatrix and their affiliates have the right to vote _____ shares of CombiMatrix common stock, or approximately _____ % of the outstanding CombiMatrix common stock entitled to vote at the CombiMatrix special meeting.

Q: How does the CombiMatrix board of directors recommend that I vote?

A: The CombiMatrix board of directors unanimously recommends that the CombiMatrix stockholders vote “FOR” each of the Merger Proposal, the Compensation Proposal and the Adjournment Proposal.

Q: How do I vote if I am a stockholder of record of CombiMatrix?

A: If you are a stockholder of record of CombiMatrix as of the record date for the CombiMatrix special meeting, you may vote in person by attending the CombiMatrix special meeting or, to ensure your shares are represented at the meeting, you may vote by completing, signing and returning the enclosed proxy card in the postage-paid envelope provided. You may also vote over the Internet or by telephone according to the voting instructions printed on the proxy card sent to you.

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If you hold CombiMatrix shares in the name of a bank or broker, please see the discussion below.

Q: If my shares are held in street name by my broker, will my broker vote my shares for me?

A: If you hold your shares in a stock brokerage account or if your shares are held by a bank or nominee (that is, in street name), you must provide the record holder of your shares with instructions on how to vote your shares. Please follow the voting instructions provided by your bank or broker. Please note that you may not vote shares held in street name by returning the proxy card directly to CombiMatrix or by voting in person at the CombiMatrix special meeting unless you provide a “legal proxy,” which you must obtain from your bank or broker. Further, brokers who hold shares of CombiMatrix common stock on behalf of their customers may not give a proxy to CombiMatrix to vote those shares on the proposals unless they have received voting instructions from their customers.

Q: What will happen if I fail to vote or abstain from voting?

A: The failure to vote or abstention from voting of a CombiMatrix stockholder with respect to the Merger Proposal will have the same effect as a vote against that proposal, as it requires the affirmative vote of holders of a majority of the outstanding shares of CombiMatrix common stock. Failing to vote or abstaining from voting will not impact the Compensation Proposal. Failing to vote will not impact the Adjournment Proposal but abstaining from voting will have the same effect as a vote against the Adjournment Proposal.

Q: What will happen if I return my proxy card without indicating how to vote?

A: If you return your signed proxy card without indicating how to vote on any particular proposal, the CombiMatrix stock represented by your proxy will be voted on that proposal consistent with the recommendation of CombiMatrix’s board of directors.

Q: Can I change my vote after I have returned a proxy or voting instruction card?

A: Yes. You can change your vote at any time before your shares are voted at the CombiMatrix special meeting. You can do this in one of three ways:

- enter a new vote over the Internet or by telephone, or by signing and returning a replacement proxy card;
- provide written notice of the revocation to CombiMatrix’s Corporate Secretary at its principal executive office, 300 Goddard, Suite 100, Irvine, California 92618; or
- attend the special meeting and vote in person, but your attendance alone will not revoke any proxy that you have previously given.

If you choose either of the first two methods, you must submit your notice of revocation or your new signed proxy to CombiMatrix’s Corporate Secretary to be received no later than the beginning of the special meeting. If your shares are held in street name by your bank or broker, you should contact your broker to change your vote.

Q: Do I have dissenter’s rights or appraisal rights?

A: Holders of shares of CombiMatrix capital stock will not be entitled to any appraisal rights under the Delaware General Corporation Law, or the DGCL, in connection with the Merger.

Q: Should I send in my stock certificates now?

A: No. CombiMatrix stockholders SHOULD NOT send in any stock certificates now. If the Merger is approved, transmittal materials with instructions will be provided to CombiMatrix stockholders under separate cover and the stock certificates should be sent at that time in accordance with such instructions.

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Q: Will CombiMatrix be required to submit the proposal to adopt the Merger Agreement to its stockholders even if the board of directors has withdrawn, modified or qualified its recommendation?

A: Yes. Unless the Merger Agreement is terminated before the special meeting, CombiMatrix is required to submit the Merger Proposal to its stockholders even if CombiMatrix's board of directors has withdrawn or modified its recommendation.

Q: What are the material U.S. federal income tax consequences of the Merger to CombiMatrix stockholders?

A: Each of Invitae and CombiMatrix intends the Merger, together with the Warrant Exchange Offer, to qualify as a reorganization within the meaning of Section 368(a) of the Internal Revenue Code of 1986, as amended, or the Code. In general, and subject to the qualifications and limitations set forth in the section entitled "*Material U.S. Federal Income Tax Consequences of the Merger*," if the Merger qualifies as a "reorganization" within the meaning of Section 368(a) of the Code, the material U.S. federal income tax consequences to U.S. Holders of CombiMatrix capital stock will be as follows:

- a CombiMatrix stockholder will not recognize gain or loss upon the exchange of CombiMatrix stock for Invitae common stock pursuant to the Merger, except to the extent of cash received in lieu of a fractional share of Invitae common stock as described below;
- a CombiMatrix stockholder who receives cash in lieu of a fractional share of Invitae common stock in the Merger will recognize capital gain or loss in an amount equal to the difference between the amount of cash received in lieu of a fractional share and the stockholder's tax basis allocable to such fractional share;
- a CombiMatrix stockholder's aggregate tax basis for the shares of Invitae common stock received in the Merger (including any fractional share interest for which cash is received) will equal the stockholder's aggregate tax basis in the shares of CombiMatrix stock surrendered in the Merger; and
- the holding period of the shares of Invitae common stock received by a CombiMatrix stockholder in the Merger will include the holding period of the shares of CombiMatrix stock surrendered in exchange therefor.

Tax matters are very complicated, and the tax consequences of the Merger to a particular CombiMatrix stockholder will depend on such stockholder's circumstances. Accordingly, you are strongly urged to consult your tax advisor for a full understanding of the tax consequences of the Merger to you, including the applicability and effect of federal, state, local and non-U.S. income and other tax laws. For more information, please see the section entitled "*Material U.S. Federal Income Tax Consequences of the Merger*."

Q: Who can help answer my questions?

A: If you have any questions about the Merger or if you need additional copies of this proxy statement/prospectus, you should contact CombiMatrix's proxy solicitor:

ADVANTAGE PROXY, INC.
PO Box 13581
Des Moines, WA 98198
Telephone: (877) 870-8565 (toll free); (206) 870-8565 (collect)
Email: ksmith@advantageproxy.com

PROSPECTUS SUMMARY

The following is a summary which highlights selected information contained in this document. It may not contain all of the information that is important to you. You are urged to carefully read this entire document and the other documents which are attached as annexes to this proxy statement/prospectus or incorporated herein by reference in order to fully understand the Merger and related transactions, including the sections entitled “Where You Can Find More Information” on page 119 and “Risk Factors” on page 38.

The Companies

Invitae Corporation

1400 16th Street
San Francisco, CA 94103
(415) 374-7782

Invitae’s mission is to bring comprehensive genetic information into mainstream medical practice to improve the quality of healthcare for billions of people. Invitae’s goal is to aggregate most of the world’s hereditary genetic tests into a single service with higher quality, faster turnaround time and lower pricing than many single gene tests today. Invitae was founded on four core principles: patients should own and control their own genetic information; healthcare professionals are fundamental in ordering and interpreting genetic information; driving down the price of genetic information will increase its clinical and personal utility; and genetic information is more valuable when shared. Invitae utilizes an integrated portfolio of laboratory processes, software tools and informatics capabilities to process DNA-containing samples, analyze information about patient-specific genetic variation and generate test reports for clinicians and their patients. Invitae currently has more than 20,000 genes in production and provides a variety of diagnostic tests that can be used in multiple indications. Invitae’s tests include multiple genes associated with hereditary cancer, neurological disorders, cardiovascular disorders, pediatric disorders, metabolic disorders and other hereditary conditions, as well as recently acquired capabilities in preimplantation and carrier screening for inherited disorders. Invitae now provides comprehensive genetic information for every stage of life, from preconception through adult diagnostics.

Invitae common stock is currently listed on the New York Stock Exchange under the symbol “NVTA.”

CombiMatrix Corporation

300 Goddard, Suite 100
Irvine, CA 92618
(949) 753-0624

CombiMatrix is a family health-focused clinical molecular diagnostic laboratory specializing in pre-implantation genetic screening, prenatal diagnosis, miscarriage analysis, and pediatric developmental disorders. CombiMatrix strives to provide best-in-class clinical laboratory support to healthcare professionals, allowing them to maximize the clinical utility of their patients’ test results and to optimize patient care. CombiMatrix’s testing focuses on advanced technologies, including single nucleotide polymorphism, or SNP, chromosomal microarray analysis, next-generation sequencing, fluorescent *in situ* hybridization, or FISH, and high resolution chromosome analysis (also referred to as karyotyping). CombiMatrix’s approach to testing is to offer sophisticated technology along with high quality clinical support to its ordering physicians and their patients. CombiMatrix also owns a one-third minority interest in Leuchemix, Inc., a private drug development company focused on developing a series of compounds to address a number of oncology-related diseases.

CombiMatrix was originally incorporated in October 1995 as a California corporation. In September 2000, CombiMatrix was reincorporated as a Delaware corporation. In August 2007, CombiMatrix became publicly

traded on NASDAQ under the symbol “CBMX,” where it is currently listed and traded. The CombiMatrix Series F warrants are listed on NASDAQ under the symbol “CBMXW.” Following completion of the Merger, the CombiMatrix common stock and the CombiMatrix Series F warrants will cease trading on NASDAQ and CombiMatrix will file the appropriate forms with the Securities and Exchange Commission to suspend its reporting obligations under the Securities Exchange Act of 1934, as amended, or the Exchange Act.

Coronado Merger Sub, Inc.

1400 16th Street
San Francisco, CA 94103
(415) 374-7782

Coronado Merger Sub, Inc., or Merger Sub, is a wholly owned subsidiary of Invitae and was formed solely for the purpose of carrying out the Merger. In the Merger, Merger Sub will merge with and into CombiMatrix and Merger Sub will cease to exist. Merger Sub has engaged in no business activities to date and it has no material assets or liabilities of any kind, other than those incident to its formation and those incurred in connection with the Merger.

The Merger Agreement (See page 80)

A copy of the Merger Agreement is attached as *Annex A* to this document. Invitae and CombiMatrix encourage you to read the entire Merger Agreement carefully because it is the principal document governing the Merger.

Structure of the Merger (See page 80)

Subject to the terms and conditions of the Merger Agreement and in accordance with the DGCL, at the effective time of the Merger, Merger Sub will be merged with and into CombiMatrix, with CombiMatrix surviving the Merger and becoming a wholly owned subsidiary of Invitae. The effect of the Merger will be that CombiMatrix will be acquired by Invitae and shares of CombiMatrix common stock and Series F warrants will no longer be publicly traded.

Reasons for the Merger (See pages 64 and 67)

CombiMatrix’s board of directors believes that the businesses of CombiMatrix and Invitae are complementary and that a combination of CombiMatrix with Invitae presents a compelling strategic opportunity to enhance value for CombiMatrix stockholders. In reaching its decision to approve the Merger Agreement and ancillary agreements and the Merger and to recommend that CombiMatrix stockholders vote “FOR” the Merger Proposal, the CombiMatrix board of directors, with the assistance of CombiMatrix’s management and financial and legal advisors, considered and analyzed a number of factors and a number of potential risks, including those reviewed by the CombiMatrix board of directors at the meetings described in this proxy statement/prospectus in the section entitled “*The Merger Proposal—Background of the Merger*” and those discussed in more detail in the section entitled “*The Merger Proposal—CombiMatrix’s Reasons for the Merger; Recommendation of CombiMatrix’s Board of Directors.*”

Invitae’s board of directors concluded that the Merger Agreement, the Merger, the stock issuance in connection therewith and the other transaction documents and the transactions contemplated thereby or undertaken in connection therewith are advisable and in the best interests of Invitae and its stockholders because, among other factors, the transaction provides Invitae with a unique opportunity to expand its business by acquiring a clinical molecular diagnostic laboratory whose focus is on pre-implantation genetic screening, prenatal diagnosis, miscarriage analysis and pediatric developmental disorders, as well as to expand its technologies and sample handling capabilities.

Consideration to be received in the Merger (See page 80)

Upon completion of the Merger:

- each share of CombiMatrix common stock outstanding immediately prior to completion of the Merger (other than shares of CombiMatrix common stock held by CombiMatrix as treasury or held by CombiMatrix, Merger Sub or any subsidiary of CombiMatrix) automatically will be converted into the right to receive a fraction of a share of Invitae common stock equal to the Exchange Ratio;
- each share of CombiMatrix Series F preferred stock outstanding immediately prior to completion of the Merger (other than shares of CombiMatrix Series F preferred stock held by CombiMatrix as treasury or held by CombiMatrix, Merger Sub or any subsidiary of CombiMatrix) automatically will be converted into the right to receive a number of shares of Invitae common stock equal the Exchange Ratio multiplied by the number of shares of CombiMatrix common stock issuable upon conversion of one share of Series F preferred stock on the date immediately prior to the Merger;
- each CombiMatrix restricted stock unit, or RSU, outstanding immediately prior to completion of the Merger will be fully accelerated to the extent of any applicable vesting period and converted into the right to receive a number of shares of Invitae common stock determined by multiplying the number of shares of CombiMatrix common stock that were subject to such CombiMatrix RSU by the Exchange Ratio;
- each in-the-money CombiMatrix stock option that is outstanding and unexercised immediately prior to completion of the Merger, whether or not vested or exercisable, will be fully accelerated to the extent of any applicable vesting period and converted into the right to receive a number of shares of Invitae common stock determined by multiplying the number of shares of CombiMatrix common stock underlying such CombiMatrix stock option by the Exchange Ratio, minus the number of shares of Invitae common stock determined by dividing the aggregate exercise price for such option by the average closing price for shares of Invitae common stock on the NYSE for the immediately preceding period of 30 trading days prior to the date of the Merger Agreement (which is \$9.491 and referred to herein as the Invitae Trailing Average Share Value);
- each out-the-money CombiMatrix stock option that is outstanding and unexercised immediately prior to completion of the Merger, whether or not vested or exercisable, will be cancelled and terminated without the right to receive any consideration; and
- although Invitae's obligation to proceed with the Merger is subject to achieving 90% participation in the Warrant Exchange Offer as described in this proxy statement/prospectus, each outstanding CombiMatrix Series D warrant and Series F warrant to purchase shares of CombiMatrix common stock (other than those Series F warrants exchanged in the Warrant Exchange Offer or previously exercised) will be assumed by Invitae and will be converted into a warrant to purchase shares of Invitae common stock, with the exercise price and the number of shares of Invitae common stock subject to such warrants being adjusted appropriately to account for the Exchange Ratio.

The Exchange Ratio is determined pursuant to a formula described in more detail in the Merger Agreement and in this proxy statement/prospectus, and the estimate of the Exchange Ratio is subject to adjustment. For example, the estimated Exchange Ratio of 0.91 was calculated assuming that 100% of the CombiMatrix Series F warrants are exchanged in the Warrant Exchange Offer. Based on the average closing price of \$9.491 per share of Invitae common stock on the NYSE for the 30 days prior to July 31, 2017, the date on which the Merger Agreement was executed, and estimated CombiMatrix net cash of negative \$0.8 million (the calculation of which includes a reduction for CombiMatrix transaction bonuses payable), the estimated Exchange Ratio represented \$8.60 in value for each share of CombiMatrix common stock. If, instead of being exchanged, 100% of the CombiMatrix Series F warrants were exercised prior to the Merger, the Exchange Ratio would be reduced to 0.84, representing

\$8.00 in value for each share of CombiMatrix common stock, based on estimated CombiMatrix net cash of negative \$2.3 million (which excludes warrant exercise proceeds). Alternatively, if none of the CombiMatrix Series F warrants are exchanged in the Warrant Exchange Offer or exercised prior to the Merger and all such warrants are assumed by Invitae, although Invitae's obligation to proceed with the Merger is subject to a participation level in the Warrant Exchange Offer of at least 90% as described in this proxy statement/prospectus, the Exchange Ratio would be reduced to 0.87, representing \$8.25 in value for each share of CombiMatrix common stock, based on estimated CombiMatrix net cash of negative \$0.7 million. These dollar values may fluctuate higher or lower prior to the closing of the Merger depending on fluctuations in the price of Invitae common stock on the NYSE. The "net cash" calculation, as defined in the Merger Agreement for the purpose of calculating the Exchange Ratio, includes all current assets, less all current liabilities (including amounts payable pursuant to CombiMatrix's executive severance plan) and capital lease obligations of CombiMatrix, less all transaction-related expenses including amounts owed to CombiMatrix's strategic advisors, accountants and attorneys, less amounts owed to repurchase certain of CombiMatrix's common stock warrants, less amounts payable under CombiMatrix's transaction bonus plan that was adopted on December 2, 2015, and less \$250,000 stipulated for working capital purposes. See the sections entitled "*The Merger Agreement—Merger Consideration and Exchange Ratio*" and "*The Merger Agreement—Determination of CombiMatrix's Net Cash; Merger Consideration Sensitivity Analysis*" for additional factors that may affect the Exchange Ratio.

Based on the closing price of Invitae common stock on the NYSE on _____, 2017, the latest practicable date before the date of this document, the estimated Exchange Ratio represented \$ _____ in value for each share of CombiMatrix common stock or preferred stock. Invitae will not issue any fractional shares of Invitae common stock in the Merger. Holders of CombiMatrix common stock, preferred stock, restricted stock units or stock options who would otherwise be entitled to a fractional share of Invitae common stock will receive a cash payment in lieu of fractional shares. Shares of Invitae common stock outstanding before the Merger is completed will remain outstanding and will not be exchanged, converted or otherwise changed in the Merger.

Material U.S. Federal Income Tax Consequences of the Merger (See page 104)

Invitae and CombiMatrix intend the Merger, together with the Warrant Exchange Offer, to qualify as a reorganization within the meaning of Section 368(a) of the Code. In general, and subject to the qualifications and limitations set forth in the section entitled "*Material U.S. Federal Income Tax Consequences of the Merger*," if the Merger qualifies as a "reorganization" within the meaning of Section 368(a) of the Code, the material U.S. federal income tax consequences to U.S. Holders (as defined in the section entitled "*Material U.S. Federal Income Tax Consequences of the Merger*") of CombiMatrix capital stock will be as follows:

- a CombiMatrix stockholder will not recognize gain or loss upon the exchange of CombiMatrix stock for Invitae common stock pursuant to the Merger, except with respect to cash received in lieu of a fractional share of Invitae common stock as described below;
- a CombiMatrix stockholder who receives cash in lieu of a fractional share of Invitae common stock in the Merger will recognize capital gain or loss in an amount equal to the difference between the amount of cash received in lieu of a fractional share and the stockholder's tax basis allocable to such fractional share;
- a CombiMatrix stockholder's aggregate tax basis for the shares of Invitae common stock received in the Merger (including any fractional share interest for which cash is received) will equal the stockholder's aggregate tax basis in the shares of CombiMatrix stock surrendered in the Merger; and
- the holding period of the shares of Invitae common stock received by a CombiMatrix stockholder in the Merger will include the holding period of the shares of CombiMatrix stock surrendered in exchange therefor.

Tax matters are very complicated, and the tax consequences of the Merger to a particular CombiMatrix stockholder will depend on such stockholder's circumstances. Accordingly, you are strongly urged to consult your tax advisor for a full understanding of the tax consequences of the Merger to you, including the applicability and effect of federal, state, local and non-U.S. income and other tax laws.

Accounting Treatment (See page 103)

Invitae prepares its financial statements in accordance with accounting principles generally accepted in the United States of America, or U.S. GAAP. The Merger will be accounted for using the acquisition method of accounting in accordance with the Financial Accounting Standards Board (FASB) Accounting Standards Codification (ASC) 805, "*Business Combinations*," and, accordingly, will result in the recognition of CombiMatrix assets acquired and liabilities assumed at fair value. As discussed in the section entitled "Accounting Treatment," based upon the terms of the exchange and other factors, such as the composition of the combined company's board and senior management and the size of the parties and the business purpose for the Merger, Invitae is considered to be the acquirer of CombiMatrix for accounting purposes. This means that Invitae will recognize and measure the assets acquired and liabilities assumed at their fair values at the acquisition date. Acquisition-related costs, which include advisory, legal, accounting, valuation, and other professional or consulting fees, will be expensed in the period incurred. As of the date of this proxy statement/prospectus, the valuation studies necessary to estimate the fair values of the assets acquired and liabilities assumed are preliminary and have been performed based on publicly available benchmarking information as well as a variety of other assumptions, including market participant assumptions, as there are limitations on the type of information that can be exchanged between Invitae and CombiMatrix at this time. Until the Merger is complete, all the relevant information will not be known. Differences between preliminary estimates and the final acquisition accounting will occur.

Opinion of CombiMatrix Financial Advisor (See page 69)

Pursuant to an engagement letter dated April 20, 2016, as amended, CombiMatrix retained Torrey Capital, or Torrey, to act as financial advisor in connection with the Merger and to render an opinion to the CombiMatrix board of directors as to the fairness, from a financial point of view, to the stockholders of CombiMatrix of the total Merger consideration. Torrey rendered to CombiMatrix's board of directors at its meetings on July 28, 2017 and July 30, 2017, Torrey's oral opinion, subsequently confirmed by delivery of a written opinion dated July 30, 2017, that, as of such dates, and based upon and subject to the various assumptions, considerations, qualifications and limitations set forth therein, the consideration to be paid in the Merger and in the proposed Warrant Exchange Offer pursuant to the Merger Agreement was fair, from a financial point of view, to CombiMatrix's stockholders, as more fully described below in the section entitled "*The Merger Proposal—Opinion of CombiMatrix Financial Advisor*."

The full text of the written opinion of Torrey, dated July 30, 2017, is attached as *Annex B* to this proxy statement/prospectus and is incorporated herein by reference. CombiMatrix encourages CombiMatrix stockholders to read the opinion in its entirety for the assumptions made, procedures followed, other matters considered and limits of the review by Torrey. The summary of the written opinion of Torrey set forth herein is qualified by reference to the full text of such opinion. Torrey's analyses and opinion were prepared for and addressed to the CombiMatrix board of directors and are directed only to the fairness, from a financial point of view, of the aggregate transaction value to be paid in the Merger. Torrey's opinion is not a recommendation to any stockholder as to how to vote with respect to the proposed Merger or to take any other action in connection with the Merger or otherwise.

Interests of Certain CombiMatrix Directors and Officers in the Merger (See page 76)

In considering whether to approve the proposals set forth in this proxy statement/prospectus to be voted on at the CombiMatrix special meeting, including the Merger Proposal, you should recognize that some of the members of management and of the CombiMatrix board of directors may have interests in the Merger that differ from, or are in addition to, their interests as CombiMatrix stockholders. These interests include:

- the rights of certain of CombiMatrix’s executive officers to receive payments or other benefits, including the conversion of certain stock options and restricted stock unit awards, acceleration of the vesting of certain equity awards, and severance payments due upon termination of employment in connection with the Merger;
- the rights of certain of CombiMatrix’s executive officers and directors to receive payments pursuant to the CombiMatrix Transaction Bonus Plan in connection with the Merger;
- the consulting agreements entered into between Invitae and Messrs. McDonough and Burell providing for their continued service to CombiMatrix following the closing of the Merger; and
- the continued indemnification of CombiMatrix’s directors and officers after the completion of the Merger for acts or omissions that occurred in their capacity as directors or officers prior to the closing of the Merger.

These interests are further described in the section entitled “ *The Merger Proposal—Interests of Certain CombiMatrix Directors and Officers in the Merger* .”

Board of Directors of Invitae Following Completion of the Merger (See page 68)

Upon completion of the Merger, the board of directors of Invitae will continue to consist of the current five members, namely, Eric Aguiar, M.D., Geoffrey S. Crouse, Sean George, Ph.D. (Invitae’s President and Chief Executive Officer), Christine M. Gorjanc, and Randal W. Scott, Ph.D. (Invitae’s Executive Chairman).

Regulatory Approvals Required for the Merger (See page 69)

Invitae and CombiMatrix have agreed to cooperate and use commercially reasonable efforts to obtain all regulatory approvals required to complete the transactions contemplated by the Merger Agreement. Invitae must comply with applicable federal and state securities laws and the rules and regulations of the NYSE in connection with the issuance of shares of Invitae common stock and restricted stock units and the filing of this proxy statement/prospectus with the SEC.

The Merger Agreement also provides that CombiMatrix and Invitae will file any notification and report forms required to be filed under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended, and respond as promptly as practicable to any inquiries or requests received from the Federal Trade Commission or the Department of Justice for information or documentation or any inquiries or requests received from any other governmental body in connection with antitrust or competition matters.

Conditions that Must Be Satisfied or Waived for the Merger to Occur (See page 96)

Invitae and CombiMatrix currently expect to complete the Merger in the fourth quarter of 2017. However, as more fully described in this document and in the Merger Agreement, the obligations of Invitae and CombiMatrix to complete the Merger depend on a number of conditions being satisfied or, where legally permissible, waived, including the following, as applicable:

- the effectiveness of the registration statements for the issuance of shares of Invitae common stock in the Merger and the Warrant Exchange Offer;

- the approval by the CombiMatrix stockholders of the Merger Proposal;
- the completion of the Warrant Exchange Offer with a minimum required participation by holders of at least 90% of the outstanding CombiMatrix Series F warrants (which Warrant Exchange Offer may be completed at the same time as the Merger is completed), so long as Invitae has offered shares with a value of at least \$2.90 per CombiMatrix Series F warrant (based on the Invitae Trailing Average Share Value);
- CombiMatrix shall have repurchased all of its Series A warrants, Series B warrants, Series C warrants, Series E warrants and PIPE warrants;
- the Transaction Bonus Payout Agreements entered into by and among CombiMatrix, Invitae and each of CombiMatrix's directors and executives concurrently with the Merger Agreement remain in full force and effect;
- the consulting agreements entered into between Invitae and each of Mark McDonough (CombiMatrix's President and Chief Executive Officer) and Scott Burell (CombiMatrix's Chief Financial Officer) remain in full force and effect and become effective immediately upon the closing of the Merger;
- the absence of any legal restraint or prohibition on the completion of the Merger or Warrant Exchange Offer or related transactions;
- the expiration or termination of any applicable waiting periods under the HSR Act;
- receipt of NYSE listing approval for the shares of Invitae common stock to be issued in the Merger and the Warrant Exchange Offer;
- the receipt of certain required consents;
- the accuracy of the respective representations and warranties of CombiMatrix and Invitae, subject to a materiality standard described in the section of this document entitled "*Summary of the Merger Agreement*";
- the performance by CombiMatrix and Invitae in all material respects of their respective obligations under the Merger Agreement; and
- no material adverse effect of CombiMatrix or Invitae shall have occurred that is continuing.

Termination of the Merger Agreement (See page 98)

The Merger Agreement may be terminated without completing the Merger, whether before or after the meeting of the CombiMatrix stockholders, as follows:

- by mutual written consent of CombiMatrix and Invitae;
- by either Invitae or CombiMatrix, if:
 - the Merger has not been completed by January 31, 2018 (subject to certain exceptions);
 - if a governmental entity has enjoined or prohibited the Merger; or
 - if the CombiMatrix stockholders do not approve the Merger Proposal (subject to certain exceptions);
- by Invitae, if:
 - CombiMatrix's board of directors fails to recommend or withdraws or modifies its recommendation that CombiMatrix stockholders vote to adopt and approve the Merger Proposal, fails to include such recommendation in the proxy statement/prospectus, enters into an agreement relating to an alternative acquisition proposal, breaches its obligation under the Merger Agreement not to solicit alternative acquisition proposals, or approves, endorses or recommends an alternative acquisition proposal; or

- CombiMatrix materially breaches the terms of the Merger Agreement and is unable to cure within 30 days of receiving written notice from Invitae (or by January 31, 2018, if earlier); or
- by CombiMatrix, if:
 - Invitae materially breaches the terms of the Merger Agreement and is unable to cure within 30 days of receiving written notice from CombiMatrix (or by January 31, 2018, if earlier).

Expenses and Termination Fees (See pages 99 and 98)

Generally, all fees and expenses incurred in connection with the Merger Agreement and the transactions contemplated by the Merger Agreement will be paid by the party incurring those expenses, except that Invitae and CombiMatrix will each pay one-half of the filing fees and expenses, other than attorneys' and accountants' fees and expenses, incurred in connection with the filing, printing and mailing of this document and the offering documents for the Warrant Exchange Offer, as well as any filing fees and expenses, other than attorneys' and accountants' fees and expenses, pursuant to the HSR Act and any fees and expenses, other than attorneys' and accountants' fees and expenses, of the exchange agent. Following termination of the Merger Agreement under specified circumstances, CombiMatrix may be required to pay Invitae a termination fee of \$1,400,000 (net of expense reimbursement previously paid), and reimburse Invitae's reasonably incurred transaction expenses up to a maximum of \$400,000, and Invitae may be required to reimburse CombiMatrix's reasonably incurred transaction expenses up to a maximum of \$400,000.

No Appraisal Rights (See page 69)

Under Delaware law, neither the holders of CombiMatrix capital stock nor the holders of Invitae common stock are entitled to appraisal rights in connection with the Merger.

Comparison of Stockholder Rights (See page 109)

Both Invitae and CombiMatrix are incorporated under the laws of the State of Delaware, and accordingly, the rights of the stockholders of each are currently, and will continue to be, governed by the DGCL. If the Merger is completed, CombiMatrix stockholders will become stockholders of Invitae, and their rights will be governed by the DGCL, the amended and restated certificate of incorporation, as amended, of Invitae and the amended and restated bylaws of Invitae. Therefore, CombiMatrix stockholders will have different rights as stockholders once they become Invitae stockholders. The rights of Invitae stockholders contained in the amended and restated certificate of incorporation, as amended, and amended and restated bylaws differ from the rights of CombiMatrix stockholders, as more fully described in the section entitled "*Comparison of Rights of Invitae and CombiMatrix Stockholders*" in this proxy statement/prospectus.

Risk Factors (See page 38)

Both Invitae and CombiMatrix are subject to various risks associated with their businesses and their industries. In addition, the Merger, including the possibility that the Merger may not be completed, poses a number of risks to each company and its respective stockholders, including the following risks:

- The completion of the proposed Merger is subject to a number of conditions that are outside the control of Invitae and CombiMatrix, and there can be no assurance that the proposed Merger will be completed in a timely manner or at all. If the Merger is not consummated, Invitae's and CombiMatrix's businesses could suffer materially and their respective stock prices could decline.
- The proposed Merger could disrupt the business of Invitae and/or CombiMatrix and harm their respective financial condition.

- Neither the Merger Exchange Ratio nor the amount that will be offered to CombiMatrix Series F warrant holders in the Warrant Exchange Offer is adjustable based on the market price of Invitae common stock so the Merger consideration at the closing may have a greater or lesser value than at the time the Merger Agreement was signed.
- The results of operations of Invitae after the Merger may be affected by factors different from those currently affecting the results of operations of CombiMatrix.
- The principal form of Merger consideration is shares of Invitae common stock, the price of which is volatile and could fluctuate substantially, whether before or after the consummation of the Merger.
- CombiMatrix stockholders will generally have a reduced ownership and voting interest in Invitae after the Merger and will exercise less influence over management.
- The market price of the combined organization's common stock may decline as a result of the Merger.
- Regulatory approvals may not be received, may take longer than expected or may impose conditions that are not presently anticipated or cannot be met.
- Sales of substantial amounts of Invitae common stock in the open market by former CombiMatrix stockholders could depress Invitae's share price.
- The anticipated benefits of the Merger may not be realized fully or at all or may take longer to realize than expected.
- CombiMatrix may not be able to meet its cash requirements beyond August 2018 without obtaining additional capital from external sources and its current outstanding warrants issued in connection with various past preferred stock financings may prevent it from issuing new securities. If CombiMatrix is unable to raise additional capital through future financings or from external sources, it may not be able to continue as a going concern.
- The Merger may be completed even though material adverse changes may result from the announcement of the Merger, industry-wide changes and other causes.
- Some CombiMatrix executive officers and directors have interests in the Merger that are different from yours.
- During the pendency of the Merger, CombiMatrix may not be able to enter into a business combination with another party at a favorable price (subject to certain exceptions) because of restrictions in the Merger Agreement, which could adversely affect its business.
- Certain provisions of the Merger Agreement limit CombiMatrix's ability to pursue an alternative transaction and may discourage third parties from submitting alternative takeover proposals, including proposals that may be superior to the arrangements contemplated by the Merger Agreement.
- The shares of Invitae common stock to be received by CombiMatrix stockholders as a result of the Merger will have different rights from the shares of CombiMatrix common stock.
- The fairness opinion that CombiMatrix has obtained from its financial advisor has not been, and is not expected to be, updated to reflect any changes in circumstances that may have occurred since the signing of the Merger Agreement.
- The unaudited pro forma condensed combined financial information included in this proxy statement/prospectus is illustrative only and the actual financial condition and results of operations after the Merger may differ materially.
- If the Merger is not completed, Invitae and CombiMatrix will have incurred substantial expenses without realizing the expected benefits of the Merger.

- Any litigation relating to the Merger could require Invitae or CombiMatrix to incur significant costs and suffer management distraction, as well as delay and/or enjoin the Merger.

These risks and other risks are discussed in greater detail in the section entitled “ *Risk Factors* ” in this proxy statement/prospectus. Invitae and CombiMatrix encourage you to read and consider all of these risks carefully.

The Warrant Exchange Offer (See page 102)

As of September 4, 2017, there were outstanding Series F warrants held by the public warrant holders of CombiMatrix to acquire upon exercise a total of 2,066,976 shares of CombiMatrix common stock at an exercise price of \$5.17 per share. In the Merger Agreement, Invitae and CombiMatrix agreed that Invitae would conduct an exchange offer, or Warrant Exchange Offer, whereby holders of CombiMatrix’s Series F warrants may elect to exchange their outstanding Series F warrants for shares of Invitae’s common stock. Invitae and CombiMatrix expect that the Warrant Exchange Offer will be commenced following the registration statement on Form S-4 registering such exchange offer being declared effective by the SEC.

In the Warrant Exchange Offer, holders of CombiMatrix Series F warrants may elect to exchange their outstanding CombiMatrix Series F warrants for a number of shares of Invitae common stock equal to the quotient (rounded to the nearest ten-thousandth) obtained by dividing \$2.90 per warrant by a fixed price of \$9.491 per share of Invitae common stock. Because the value of the transaction is based on a fixed price per share of Invitae common stock, the overall value of the Warrant Exchange Offer consideration potentially to be received by CombiMatrix’s Series F warrant holders will fluctuate based on the market price of Invitae common stock between now and completion of the Warrant Exchange Offer.

The completion of the Warrant Exchange Offer is expected to be conditioned, among other things, on the participation in the Warrant Exchange Offer of holders of at least 90% of the CombiMatrix Series F warrants. If the Warrant Exchange Offer is completed, the CombiMatrix Series F warrants held by warrant holders that did not participate in the Warrant Exchange Offer will, in accordance with the terms of the warrant agreement governing the terms of the Series F warrants, be assumed by Invitae, in accordance with their terms, and converted into warrants to purchase the number of shares of Invitae common stock as such warrant holder would have received in the Merger had the warrants been exercised for shares of CombiMatrix common stock immediately prior to the completion of the Merger. Invitae does not currently intend to list such warrants for trading on any exchange.

The Warrant Exchange Offer is expected to be completed at or immediately prior to the completion of the Merger, if the conditions to the Warrant Exchange Offer are satisfied. The completion of the Merger is conditioned upon the completion of the Warrant Exchange Offer on the terms and conditions set forth in the Merger Agreement and described in this document.

The CombiMatrix Special Meeting (See page 47)

The CombiMatrix special meeting will be held at the offices of Stradling Yocca Carlson & Rauth, P.C., 660 Newport Center Drive, Suite 1600, Newport Beach, California 92660, on _____, 2017 at _____, local time. At the CombiMatrix special meeting, CombiMatrix stockholders will be asked to:

- approve and adopt the Merger Agreement and the transactions contemplated thereby, including the Merger. This proposal is referred to as the “Merger Proposal;”
- approve, on a non-binding advisory basis, specified compensation that may be paid or become payable to CombiMatrix’s named executive officers in connection with the Merger. This proposal is referred to as the “Compensation Proposal”; and

- approve the possible adjournment of the special meeting, including, if necessary or appropriate, to solicit additional proxies in the event that there are not sufficient votes at the time of the special meeting to approve the foregoing proposals. This proposal is referred to as the “Adjournment Proposal.”

The CombiMatrix board of directors has fixed the close of business on _____, 2017 as the record date for the CombiMatrix special meeting. Only CombiMatrix common stockholders of record at that time are entitled to notice of, and to vote at, the CombiMatrix special meeting, or any adjournment or postponement of the CombiMatrix special meeting. As of the record date, there were _____ shares of CombiMatrix common stock outstanding and entitled to vote at the CombiMatrix special meeting. Holders of CombiMatrix Series F preferred stock are not entitled to vote at the CombiMatrix special meeting.

Each share of CombiMatrix common stock outstanding on the record date entitles the holder to one vote on each matter to be voted upon by stockholders at the special meeting. Approval of the Merger Proposal requires the affirmative vote of a majority of the outstanding shares of CombiMatrix common stock entitled to vote on the record date for the CombiMatrix special meeting, assuming that a quorum is present. Approval, on a non-binding advisory basis, of the Compensation Proposal requires that the votes cast in favor of this proposal at the CombiMatrix special meeting exceed the votes cast opposing the proposal, assuming a quorum is present. Approval of the Adjournment Proposal requires the affirmative vote of a majority of the shares of CombiMatrix common stock entitled to vote and having voting power present in person or represented by proxy at the CombiMatrix special meeting, whether or not a quorum is present. Failing to vote or abstaining from voting with respect to the Merger Proposal will have the same effect as a vote against the Merger Proposal. Failing to vote or abstaining from voting will not impact the Compensation Proposal. Failing to vote will not impact the Adjournment Proposal but abstaining from voting will have the same effect as a vote against the Adjournment Proposal.

As of the record date for the CombiMatrix special meeting, directors and executive officers of CombiMatrix and their affiliates have the right to vote _____ shares of CombiMatrix common stock, or approximately _____ % of the outstanding CombiMatrix common stock entitled to vote at the CombiMatrix special meeting.

The CombiMatrix board of directors believes that the Merger is in the best interests of CombiMatrix and its stockholders and has unanimously approved and adopted the Merger Agreement and the transactions it contemplates. For a discussion of the factors considered by the CombiMatrix board of directors in reaching its decision to approve the Merger Agreement and the transactions contemplated thereby, including the Merger, see the section entitled “*The Merger Proposal—CombiMatrix’s Reasons for the Merger; Recommendation of the CombiMatrix Board of Directors*.” **The CombiMatrix board of directors unanimously recommends that the CombiMatrix stockholders vote “FOR” each of the Merger Proposal, the Compensation Proposal and the Adjournment Proposal .**

SELECTED HISTORICAL FINANCIAL DATA OF INVITAE

Set forth below are highlights from Invitae's consolidated financial data as of and for the periods indicated. The historical consolidated financial data presented below for each of the five fiscal years through the period ended December 31, 2016 are derived from the selected financial data included in Invitae's Annual Report on Form 10-K for the year ended December 31, 2016. The historical consolidated financial data for the six months ended June 30, 2017 are derived from the unaudited condensed consolidated financial statements included in Invitae's Quarterly Report on Form 10-Q for the quarter ended June 30, 2017.

Invitae's unaudited condensed consolidated financial statements have been prepared in accordance with U.S. GAAP on the same basis as its audited annual consolidated financial statements and, in the opinion of management, reflect all adjustments, consisting only of normal, recurring adjustments, necessary for the fair presentation of those unaudited condensed consolidated financial statements. Invitae's historical results are not necessarily indicative of the results that may be expected in any future period, and the results for the six months ended June 30, 2017 are not necessarily indicative of results to be expected for the full year ending December 31, 2017 or any other period.

The selected historical consolidated financial data below should be read in conjunction with the section entitled “ *Risk Factors* ” and Invitae’s audited annual and unaudited condensed consolidated financial statements and related notes that have been incorporated into this document by reference. See the section entitled “ *Where You Can Find More Information.* ”

	Six Months Ended June 30, 2017 (unaudited)	Year Ended December 31,				
		2016	2015	2014	2013	2012
(in thousands, except share and per share data)						
Consolidated Statements of Operations Data:						
Revenue	\$ 24,674	\$ 25,048	\$ 8,378	\$ 1,604	\$ 148	\$ —
Costs and operating expenses:						
Cost of revenue	19,819	27,878	16,523	5,624	667	—
Research and development	21,362	44,630	42,806	22,063	16,039	5,557
Selling and marketing	24,092	28,638	22,479	8,669	2,431	—
General and administrative	14,813	24,085	16,047	12,600	5,764	3,004
Total costs and operating expenses	80,086	125,231	97,855	48,956	24,901	8,561
Loss from operations	(55,412)	(100,183)	(89,477)	(47,352)	(24,753)	(8,561)
Other income (expense), net	(540)	348	(94)	(79)	(26)	2
Interest expense	(1,389)	(421)	(211)	(61)	(59)	(43)
Net loss before taxes	(57,341)	—	—	—	—	—
Income tax benefit	(1,856)	—	—	—	—	—
Net loss	\$ (55,485)	\$ (100,256)	\$ (89,782)	\$ (47,492)	\$ (24,838)	\$ (8,602)
Net loss attributable to common stockholders	\$ (55,485)	\$ (100,256)	\$ (89,782)	\$ (47,492)	\$ (24,989)	\$ (9,014)
Net loss per share attributable to common stockholders, basic and diluted	\$ (1.30)	\$ (3.02)	\$ (3.18)	\$ (56.14)	\$ (36.13)	\$ (14.18)
Shares used in computing net loss per common share, basic and diluted	42,808,175	33,176,305	28,213,324	846,027	691,731	635,705

	As of June 30, 2017 (unaudited)	As of December 31,				
		2016	2015	2014	2013	2012
(in thousands)						
Consolidated Balance Sheet Data:						
Cash and cash equivalents	\$ 27,673	\$ 66,825	\$ 73,238	\$ 107,027	\$ 43,070	\$ 21,801
Working capital	66,551	87,047	120,433	102,020	41,577	21,043
Total assets	139,208	130,651	156,676	128,778	53,103	25,973
Capital lease obligations	3,997	1,575	3,164	3,535	2,001	1,215
Debt	38,975	12,102	7,040	—	—	—
Convertible preferred stock	—	—	—	202,305	86,574	36,755
Accumulated deficit	(330,703)	(275,218)	(174,962)	(85,180)	(37,688)	(12,850)
Total stockholders’ equity (deficit)	67,164	99,074	138,376	(83,576)	(37,280)	(12,759)

SELECTED HISTORICAL FINANCIAL DATA OF COMBIMATRIX

Set forth below are highlights from CombiMatrix’s consolidated financial data as of and for the periods indicated. The historical consolidated financial data presented below for each of the five fiscal years through the period ended December 31, 2016 are derived from the consolidated financial statements included in CombiMatrix’s Annual Reports on Form 10-K for the five years ended December 31, 2016 included as *Annex C* to this proxy statement/prospectus. The historical consolidated financial data for the six months ended June 30, 2017 are derived from the unaudited interim financial statements included in CombiMatrix’s Quarterly Report on Form 10-Q for the quarter ended June 30, 2017 included as *Annex D* to this proxy statement/prospectus.

CombiMatrix’s unaudited interim financial statements have been prepared in accordance with U.S. GAAP on the same basis as its audited annual consolidated financial statements and, in the opinion of management, reflect all adjustments, consisting only of normal, recurring adjustments, necessary for the fair presentation of those unaudited interim consolidated financial statements. CombiMatrix’s historical results are not necessarily indicative of the results that may be expected in any future period, and the results for the six months ended June 30, 2017 are not necessarily indicative of results to be expected for the full year ending December 31, 2017 or any other period.

The selected historical consolidated financial data below should be read in conjunction with the section entitled “*Risk Factors*” and CombiMatrix’s audited annual and unaudited interim consolidated financial statements and related notes that are included within *Annex C* and *Annex D* attached to this document. See the section entitled “*Where You Can Find More Information.*”

	Six Months Ended June 30, 2017 (unaudited)	Year Ended December 31,				
		2016	2015	2014	2013	2012
Consolidated Statements of Operations Data:						
Revenues:						
Diagnostic services	\$ 7,972	\$ 12,696	\$ 9,941	\$ 7,893	\$ 6,204	\$ 4,975
Clinical trial support services	—	—	—	—	—	195
Royalties	56	173	147	149	163	180
Total revenues	8,028	12,869	10,088	8,042	6,367	5,350
Operating expenses:						
Cost of services	3,140	5,787	5,444	4,432	3,527	2,702
Research and development	170	493	466	725	1,011	1,400
Sales and marketing	2,038	4,569	4,979	4,349	2,764	2,596
General and administrative	3,519	6,013	5,540	7,176	5,206	5,378
Patent amortization and royalties	50	100	100	114	254	266
Impairment of cost-basis investment	—	—	97	—	—	—
Total operating expenses	8,917	16,962	16,626	16,796	12,762	12,342
Operating loss	(889)	(4,093)	(6,538)	(8,754)	(6,395)	(6,992)
Other income (expenses):						
Interest income	11	22	16	23	5	1
Interest expense	(10)	(69)	(79)	(84)	(356)	(179)
Warrant derivative gains (charges)	—	—	—	152	2,804	(2,357)
Warrant modification charge	—	—	—	(44)	—	—
Total other income (expense)	1	(47)	(63)	47	2,453	(2,535)
Net loss	\$ (888)	\$ (4,140)	\$ (6,601)	\$ (8,707)	\$ (3,942)	\$ (9,527)

	Six Months Ended June 30, 2017 (unaudited)	Year Ended December 31,				
		2016	2015	2014	2013	2012
		(in thousands, except share and per share data)				
Series A convertible preferred stock dividends	\$ —	\$ —	\$ —	\$ —	\$ (247)	\$ (123)
Series C convertible preferred stock dividends	—	—	—	—	(27)	—
Deemed dividend from issuing Series A convertible preferred stock	—	—	—	—	—	(617)
Deemed dividend from issuing Series B convertible preferred stock	—	—	—	—	(417)	—
Deemed dividend from issuing Series C convertible preferred stock	—	—	—	—	(1,213)	—
Deemed dividend from issuing Series D convertible preferred stock	—	—	—	—	(6,367)	—
Deemed dividend from issuing Series F convertible preferred stock and warrants	—	(1,877)	—	—	—	—
Deemed dividend paid for right to repurchase Series E convertible preferred stock	—	(656)	—	—	—	—
Deemed dividend from issuing and modifying Series E convertible preferred stock and warrants	—	890	(1,058)	—	—	—
Net loss attributable to common stockholders	\$ (888)	\$ (5,783)	\$ (7,659)	\$ (8,707)	\$ (12,213)	\$ (10,267)
Basic and diluted net loss per share attributable to common stockholders	\$ (0.31)	\$ (3.27)	\$ (9.22)	\$ (11.84)	\$ (46.49)	\$ (141.44)
Basic and diluted weighted average common shares outstanding	2,838,521	1,768,090	830,835	735,305	262,731	72,588
	As of June 30, 2017 (unaudited)	As of December 31,				
		2016	2015	2014	2013	2012
		(in thousands)				
Consolidated Balance Sheet Data:						
Cash, cash equivalents and short-term investments	\$ 3,022	\$ 3,727	\$ 3,901	\$ 5,240	\$ 14,036	\$ 2,372
Working capital surplus (deficit)	5,597	6,062	5,417	6,642	13,927	(1,442)
Total assets	8,119	8,478	7,922	8,632	16,832	5,180
Total liabilities	2,167	1,984	2,066	1,512	2,168	5,905
Convertible preferred stock	—	—	—	—	—	394
Accumulated deficit	(103,534)	(102,589)	(96,806)	(89,147)	(80,440)	(68,227)
Total stockholders' equity (deficit)	5,952	6,494	5,856	7,120	14,664	(1,119)

UNAUDITED PRO FORMA CONDENSED COMBINED FINANCIAL INFORMATION

The following unaudited pro forma condensed combined balance sheet as of June 30, 2017 and the unaudited pro forma condensed combined statements of operations for the year ended December 31, 2016 and the six months ended June 30, 2017 are based on the separate historical consolidated financial statements of Invitae and CombiMatrix after giving effect to the Merger.

The unaudited pro forma condensed combined balance sheet as of June 30, 2017 combines the balance sheet of Invitae as of June 30, 2017 with the balance sheet of CombiMatrix as of June 30, 2017. The unaudited pro forma condensed combined statement of operations for the year ended December 31, 2016 combines Invitae's results of operations for the year ended December 31, 2016 with CombiMatrix's results of operations for the year ended December 31, 2016. The unaudited pro forma condensed combined statement of operations for the six months ended June 30, 2017 combines Invitae's results of operations for the six months ended June 30, 2017 with CombiMatrix's results of operations for the six months ended June 30, 2017.

The unaudited pro forma condensed combined balance sheet as of June 30, 2017 assumes the Merger and related events had been consummated on June 30, 2017. The unaudited pro forma condensed combined statements of operations for the year ended December 31, 2016 and the six months ended June 30, 2017 give pro forma effect to the Merger and related events as if they had been consummated on January 1, 2016, the beginning of Invitae's 2016 fiscal year. The historical financial information has been adjusted to give effect to pro forma adjustments that are (i) directly attributable to the Merger, (ii) factually supportable, and (iii) with respect to the unaudited pro forma condensed combined statements of operations, expected to have a continuing impact on the combined entity's consolidated results. The unaudited pro forma condensed combined statements of operations do not include the impact of any operating synergies that may result from the Merger.

The Merger will be accounted for as an acquisition by Invitae, and Invitae was determined to be the accounting acquirer. See the section entitled "*Accounting Treatment*" for more information. In summary, Invitae has concluded that Invitae is the accounting acquirer based on its evaluation of the facts and circumstances of the acquisition. The purpose of the Merger is for Invitae to acquire the business of CombiMatrix so that Invitae can expand its products and services offerings. Invitae is the larger of the two entities and will be the operating company within the combining companies. Invitae's board members will continue to hold all of the seats on the Invitae board of directors and CombiMatrix stockholders do not have any board appointment rights. Invitae's senior management will be continuing as the senior management of the combined company.

The completion of the Merger is subject to various closing conditions, including, among others, (i) approval by the CombiMatrix stockholders of the Merger Proposal, (ii) completion of the Warrant Exchange Offer (which may be completed at the same time as the Merger is completed), which requires the participation by holders of at least 90% of the outstanding CombiMatrix Series F warrants, (iii) the accuracy of the representations and warranties of CombiMatrix and Invitae, (iv) the performance by CombiMatrix and Invitae in all material respects of their respective obligations under the Merger Agreement, (v) the effectiveness of the registration statements for the issuance of shares of Invitae common stock in the Merger and Warrant Exchange Offer, (vi) the repurchase by CombiMatrix of all of its outstanding Series A, Series B, Series C, Series E and PIPE warrants, and (vii) receipt of NYSE listing approval for the shares of Invitae common stock to be issued in the Merger and Warrant Exchange Offer.

The unaudited pro forma condensed combined financial statements assume that (i) the Merger Proposal is approved by 100% of the CombiMatrix stockholders, (ii) none of the CombiMatrix Series A, Series B, Series C, Series D, Series E, Series F or PIPE warrants are exercised; and (iii) all other Merger-related transactions (e.g., the outstanding CombiMatrix Series F preferred stock is converted into Invitae common stock; the outstanding CombiMatrix Series A, Series B, Series C, Series E and PIPE warrants are repurchased; and the Warrant

Exchange Offer for CombiMatrix Series F warrants is accepted by 100% of such warrant holders) are consummated.

The unaudited pro forma condensed combined financial statements are presented for informational purposes only. The unaudited pro forma condensed combined financial statements are not necessarily indicative of what Invitae's financial position or results of operations actually would have been had Invitae completed the Merger with CombiMatrix as of the dates indicated. In addition, the unaudited pro forma condensed combined financial statements do not purport to project the future financial position or operating results of the combined company. You should read this information together with the following:

- the accompanying notes to the unaudited pro forma condensed combined financial statements;
- the separate historical unaudited financial statements of Invitae as of and for the six months ended June 30, 2017 included in Invitae's Quarterly Report on Form 10-Q for the quarter ended June 30, 2017, which are incorporated by reference into this document;
- the separate historical audited consolidated financial statements of Invitae as of and for the year ended December 31, 2016 included in Invitae's Annual Report on Form 10-K for the year ended December 31, 2016, which are incorporated by reference into this document;
- the separate historical unaudited consolidated financial statements of CombiMatrix as of and for the six months ended June 30, 2017 included in CombiMatrix's Quarterly Report on Form 10-Q for the quarter ended June 30, 2017, which are attached to this document as *Annex D*; and
- the separate historical audited consolidated financial statements of CombiMatrix as of and for the year ended December 31, 2016 included in CombiMatrix's Annual Report on Form 10-K for the year ended December 31, 2016, which are attached to this document as *Annex C*.

The unaudited pro forma condensed combined financial information has been compiled in a manner consistent with the accounting policies adopted by Invitae. Invitae believes these accounting policies are similar in most material respects to those of CombiMatrix. Upon completion of the Merger, or as more information becomes available, Invitae will perform a more detailed review of the CombiMatrix accounting policies. As a result of that review, differences could be identified between the accounting policies of the two companies that, when conformed, could have a material impact on the combined financial statements.

INVITAE CORPORATION

UNAUDITED PRO FORMA CONDENSED COMBINED BALANCE SHEET

JUNE 30, 2017

(in thousands)

	Invitae (Historical)	CombiMatrix (Historical)	Pro Forma Adjustments	Note No.	Pro Forma Combined
Assets					
Current assets:					
Cash and cash equivalents	\$ 27,673	\$ 3,022	\$ (459)	(A)	\$ 30,236
Marketable securities	47,699	—	—		47,699
Accounts receivable	2,556	4,006	—		6,562
Prepaid expenses and other current assets	8,278	538	—		8,816
Total current assets	86,206	7,566	(459)		93,313
Property and equipment, net	27,664	523	—		28,187
Restricted cash	4,997	—	—		4,997
Intangible assets, net	6,467	—	19,154	(B)	25,621
Goodwill	13,477	—	16,493	(A)(C)	29,970
Other assets	397	30	—		427
Total assets	\$ 139,208	\$ 8,119	\$ 35,188		\$ 182,515
Liabilities and stockholders' equity					
Current liabilities:					
Accounts payable	\$ 5,123	\$ 716	\$ —		\$ 5,839
Accrued liabilities	12,715	1,204	4,313	(E)(F)	18,232
Capital lease obligation, current portion	1,817	—	—		1,817
Debt, current portion	—	49	—		49
Total current liabilities	19,655	1,969	4,313		25,937
Capital lease obligation, net of current portion	2,180	72	—		2,252
Debt, net of current portion	38,975	—	—		38,975
Other long-term liabilities	11,234	126	5,850	(G)	17,210
Total liabilities	72,044	2,167	10,163		84,374
Stockholders' equity:					
Preferred stock	—	—	—		—
Common stock	4	15	(12)	(H)(I)	7
Accumulated other comprehensive loss	(38)	—	—		(38)
Additional paid-in capital	397,901	109,471	(77,409)	(H)(I)	429,963
Accumulated deficit	(330,703)	(103,534)	102,446	(D)(H)(I)	(331,791)
Total stockholders' equity	67,164	5,952	25,025		98,141
Total liabilities and stockholder's equity	\$ 139,208	\$ 8,119	\$ 35,188		\$ 182,515

INVITAE CORPORATION
**UNAUDITED PRO FORMA CONDENSED COMBINED STATEMENT OF OPERATIONS
FOR THE YEAR ENDED DECEMBER 31, 2016**
(in thousands, except per share data)

	<u>Invitae (Historical)</u>	<u>CombiMatrix (Historical)</u>	<u>Pro Forma Adjustments</u>	<u>Note No.</u>	<u>Pro Forma Combined</u>
Revenue:					
Test revenue	\$ 25,048	\$ 12,696	\$ —		\$ 37,744
Other revenue	—	173	—		173
Total revenue	<u>25,048</u>	<u>12,869</u>	<u>—</u>		<u>37,917</u>
Costs and operating expenses:					
Costs of revenue	27,878	5,787	759	(J)	34,424
Research and development	44,630	493	4	(J)	45,127
Selling and marketing	28,638	4,569	1,708	(J)	34,915
General and administrative	24,085	6,113	37	(J)	30,235
Total costs and operating expenses	<u>125,231</u>	<u>16,962</u>	<u>2,508</u>		<u>144,701</u>
Loss from operations	(100,183)	(4,093)	(2,508)		(106,784)
Other income (expense), net	348	22	—		370
Interest expense	(421)	(69)	—		(490)
Net loss before taxes	(100,256)	(4,140)	(2,508)		(106,904)
Income tax benefit	—	—	—		—
Net loss	<u>\$ (100,256)</u>	<u>\$ (4,140)</u>	<u>\$ (2,508)</u>		<u>\$ (106,904)</u>
Net loss per share, basic and diluted	<u>\$ (3.02)</u>				<u>\$ (2.92)</u>
Shares used in computing net loss per share, basis and diluted	<u>33,176,305</u>		3,476,733	(I)	<u>36,653,038</u>

INVITAE CORPORATION
**UNAUDITED PRO FORMA CONDENSED COMBINED STATEMENT OF OPERATIONS
FOR THE SIX MONTHS ENDED JUNE 30, 2017**
(in thousands, except per share data)

	<u>Invitae (Historical)</u>	<u>CombiMatrix (Historical)</u>	<u>Pro Forma Adjustments</u>	<u>Note No.</u>	<u>Pro Forma Combined</u>
Revenue:					
Test revenue	\$ 23,287	\$ 7,972	\$ —		\$ 31,259
Other revenue	1,387	56	—		1,443
Total revenue	<u>24,674</u>	<u>8,028</u>	<u>—</u>		<u>32,702</u>
Costs and operating expenses:					
Costs of revenue	19,819	3,140	379	(J)	23,338
Research and development	21,362	170	2	(J)	21,534
Selling and marketing	24,092	2,038	855	(J)	26,985
General and administrative	14,813	3,569	(378)	(J)(K)	18,004
Total costs and operating expenses	<u>80,086</u>	<u>8,917</u>	<u>858</u>		<u>89,861</u>
Loss from operations	(55,412)	(889)	(858)		(57,159)
Other income (expense), net	(540)	11	—		(529)
Interest expense	(1,389)	(10)	—		(1,399)
Net loss before taxes	(57,341)	(888)	(858)		(59,087)
Income tax benefit	(1,856)	—	—		(1,856)
Net loss	<u>\$ (55,485)</u>	<u>\$ (888)</u>	<u>\$ (858)</u>		<u>\$ (57,231)</u>
Net loss per share, basic and diluted	<u>\$ (1.30)</u>				<u>\$ (1.24)</u>
Shares used in computing net loss per share, basis and diluted	<u>42,808,175</u>		3,476,733	(I)	<u>46,284,908</u>

NOTES TO UNAUDITED PRO FORMA CONDENSED COMBINED FINANCIAL STATEMENTS

1. Description of Transaction and Basis of Presentation

Description of Transaction

On July 31, 2017, Invitae Corporation, (“Invitae”) entered into an Agreement and Plan of Merger and Reorganization (“Merger Agreement”) with CombiMatrix Corporation, (“CombiMatrix”), pursuant to which, among other things, subject to the satisfaction or waiver of the conditions set forth in the Merger Agreement, Coronado Merger Sub, Inc., a wholly owned subsidiary of Invitae, will merge with and into CombiMatrix, with CombiMatrix surviving as a wholly owned subsidiary of Invitae (the “Merger”). The CombiMatrix Merger is intended to qualify for federal income tax purposes as a tax-free reorganization under the provisions of Section 368(a) of the Internal Revenue Code of 1986, as amended (the “Internal Revenue Code”). Invitae is considered to be the acquiring company for accounting purposes in this transaction.

The completion of the Merger is subject to various closing conditions, including, among others, (i) approval by the CombiMatrix stockholders of the Merger Proposal, (ii) completion of the Warrant Exchange Offer (which may be completed at the same time as the Merger is completed), which requires the participation by holders of at least 90% of the outstanding CombiMatrix Series F warrants, (iii) the accuracy of the representations and warranties of CombiMatrix and Invitae, (iv) the performance by CombiMatrix and Invitae in all material respects of their respective obligations under the Merger Agreement, (v) the effectiveness of the registration statements for the issuance of shares of Invitae common stock in the Merger and Warrant Exchange Offer, (vi) the repurchase by CombiMatrix of all of its Series A, Series B, Series C, Series E and PIPE warrants, and (vii) receipt of NYSE listing approval for the shares of Invitae common stock to be issued in the Merger and Warrant Exchange Offer.

The unaudited pro forma condensed combined financial statements assume that (i) the Merger Proposal is approved by 100% of the CombiMatrix stockholders, (ii) none of the CombiMatrix Series A, Series B, Series C, Series D, Series E, Series F or PIPE warrants are exercised, and (iii) all other Merger-related transactions (e.g., the CombiMatrix Series F preferred stock is converted into Invitae common stock; the CombiMatrix Series A, Series B, Series C, Series E and PIPE warrants are repurchased; and the Warrant Exchange Offer for CombiMatrix Series F warrants is accepted by 100% of such warrant holders) are consummated.

Basis of Presentation

The accompanying unaudited pro forma condensed combined financial statements were prepared in accordance with the regulations of the Securities and Exchange Commission (SEC) and are intended to show how the Merger might have affected the historical financial statements if the Merger had been completed on January 1, 2016 for the purposes of the condensed combined statements of operations, and as of June 30, 2017 for purposes of the condensed combined balance sheet. Both Invitae and CombiMatrix’s historical audited and unaudited financial statements were prepared in accordance with U.S. GAAP and are presented in thousands of U.S. dollars. The historical CombiMatrix financial statements included within the unaudited pro forma condensed combined balance sheet and statements of operations include certain reclassifications that were made to conform CombiMatrix’s financial statement presentation to that of Invitae.

The unaudited pro forma condensed combined statements of operations also include certain acquisition accounting adjustments, including items expected to have a continuing impact on the results of the combined company, such as increased amortization expense on acquired intangible assets. The unaudited pro forma condensed combined statements of operations do not include the impacts of any operating synergies that may result from the Merger or any related restructuring costs that may be contemplated.

Based on the terms of the Merger, Invitae is deemed to be the acquiring company for accounting purposes and the transaction represents a business combination pursuant to Financial Accounting Standards Board Accounting Standards Codification Topic 805, *Business Combinations*.

The proposed transaction is accounted for using the acquisition method of accounting. Under the acquisition method of accounting, identifiable assets and liabilities of CombiMatrix, including identifiable intangible assets, are recorded based on their estimated fair values as of the date of the closing of the proposed transaction. Goodwill is calculated as the difference between the estimated acquisition consideration and fair values of identifiable net assets acquired. Invitae has not completed a full, detailed valuation analysis necessary to determine the fair values of CombiMatrix's identifiable assets to be acquired and liabilities to be assumed. As of the date of this proxy statement/prospectus, the valuation studies necessary to estimate the fair values of the assets acquired and liabilities assumed have been performed based on publicly available benchmarking information as well as a variety of other assumptions, including market participant assumptions, as there are limitations on the type of information that can be exchanged between Invitae and CombiMatrix at this time. Until the Merger is complete, all the relevant information will not be known. Differences between preliminary estimates and the final acquisition accounting will occur. For purposes of these unaudited pro forma combined condensed financial statements, the acquisition consideration is estimated assuming the 30-day trailing average closing price of \$9.49 for Invitae's common stock on July 31, 2017, the date the Merger Agreement was executed, assuming that the transaction closed on July 31, 2017. Total consideration transferred as of this date is estimated to be \$31.5 million. Total acquisition consideration is estimated to be \$31.0 million, which excludes post-combination expense of \$488,000. The pro forma adjustments described below were developed based on Invitae's management's assumptions and estimates, including assumptions relating to the consideration paid and the fair value of the identifiable assets acquired and liabilities assumed from CombiMatrix. The amounts of the acquisition consideration, assets acquired and liabilities assumed that will be used in acquisition accounting will be based on their respective fair values as determined at the time of closing, and may differ significantly from these preliminary estimates.

2. Preliminary Purchase Price

The estimated preliminary consideration for the acquisition is as follows (in thousands):

Estimated fair value of total acquisition consideration transferred	\$31,465
Less: post-combination share-based expense attributable to outstanding and unexercised stock options and outstanding restricted stock units	(488)
Estimated total acquisition consideration	<u>\$30,977</u>

The fair value of the total acquisition transferred is calculated using the closing price of Invitae's common stock on July 31, 2017. Invitae will issue approximately 2,845,100 shares of common stock in exchange for CombiMatrix's (i) common stock, (ii) outstanding and unexercised in-the-money stock options and outstanding restricted stock. Invitae will also issue approximately 631,633 shares of common stock in exchange for CombiMatrix's Series F warrants.

The estimated fair values of outstanding in-the-money stock options and restricted stock units is approximately \$33,000 and \$1.1 million, respectively, of which \$25,000 and \$463,000, respectively, will be recognized as expenses immediately upon the closing of the transaction.

The fair value of the assets acquired and liabilities assumed, assuming the Merger has closed on June 30, 2017, are summarized below (in thousands):

Cash and cash equivalents	\$ 2,563
Accounts receivable, net	4,006
Fixed assets	523
Other assets	568
Intangible assets	19,154
Total liabilities	(6,480)
Deferred tax liability	(5,850)
Estimated total purchase price of net assets acquired	14,484
Excess of acquisition consideration over fair value of net assets acquired	16,493
Estimated total acquisition consideration	<u>\$30,977</u>

The application of the acquisition method of accounting is dependent upon the completion of a full, detailed valuation analysis that has yet to be completed. The estimated values of the assets acquired and liabilities assumed will remain preliminary until after closing of the transaction, at which time Invitae management will determine the fair values of assets acquired and liabilities assumed. The final determination of the purchase price allocation is anticipated to be completed as soon as practicable after completion of the transaction and will be based on the fair values of the assets acquired and liabilities assumed as of the transaction closing date. The final amounts allocated to assets acquired and liabilities assumed could differ significantly from the amounts presented in the unaudited pro forma condensed combined financial statements for the reasons described in Note 1.

3. Pro Forma Adjustments

Pro forma adjustments are necessary to reflect the acquisition consideration exchanged and to adjust amounts related to the tangible and intangible assets and liabilities of CombiMatrix to a preliminary estimate of their fair values, and to reflect the impact on the statements of operations of the proposed transaction as if the companies had been combined during the periods presented therein. The pro forma adjustments included in the unaudited pro forma condensed combined financial statements are as follows:

- (A) To reflect the repurchase of CombiMatrix Series A, Series B, Series C, Series E and PIPE warrants as a condition of the consummation of the Merger.
- (B) To reflect the estimated fair value of CombiMatrix intangible assets acquired, which includes the following:

Intangible Asset	Estimated Useful Life (Years)
Trade name	3
Patent licensing agreement	10
Technology	5
Customer relationships	10

- (C) To reflect goodwill, which is calculated as the difference between the fair value of the consideration paid and the values assigned to the identifiable tangible and intangible assets acquired and liabilities assumed.
- (D) To reflect estimated transaction costs at June 30, 2017 that are expected to be incurred prior to the transaction closing and that have not yet been incurred (see note 4).
- (E) To reflect the assumed transaction bonus payable by Invitae in the amount of \$2,618,000 to certain executives of CombiMatrix following the consummation of the Merger.

- (F) To reflect the assumed severance payments payable by Invitae in the amount of \$530,000 to certain executives of CombiMatrix following their termination after the consummation of the Merger.
- (G) To reflect the deferred tax liability related to the acquired intangible assets.
- (H) To reflect the elimination of CombiMatrix's historical equity consisting of common stock, paid-in capital, and accumulated deficit.
- (I) To reflect the issuance of Invitae common stock in the Merger, including the fair value of post-combination expense in relation to stock options, restricted stock units and warrants (see note 2).
- (J) To reflect the amortization of intangibles acquired.
- (K) To reflect the elimination of transaction costs recorded in the historical statements of operations in the amount of \$396,000 as these are directly attributable to the transaction and non-recurring.

4. Non-recurring Transaction Costs

Invitae and CombiMatrix have incurred, and Invitae will continue to incur, certain non-recurring transaction expenses in connection with the proposed Merger. Non-recurring transaction expenses incurred by Invitae and CombiMatrix were \$396,000 during the six months ended June 30, 2017 and are reflected as an adjustment to reduce general and administrative expenses in the pro forma condensed combined statement of operations as they are non-recurring and directly attributable to the Merger. Neither Invitae nor CombiMatrix incurred any transaction costs related to this Merger in the year ended December 31, 2016. The pro forma condensed combined balance sheet as of June 30, 2017 includes an adjustment of \$600,000 to accrued liabilities and accumulated deficit for transaction expenses expected to be incurred by Invitae subsequent to June 30, 2017. These transaction expenses are not reflected in the pro forma condensed combined statement of operations for the six months ended June 30, 2017, as they are not expected to have a continuing impact on operations. Estimated transaction expenses of CombiMatrix, which had not been incurred as of June 30, 2017, are expected to be \$565,000 and have been included in assumed liabilities as of June 30, 2017 in the unaudited pro forma condensed combined balance sheet.

The transaction bonus costs are not reflected in the pro forma condensed combined statement of operations for the year ended December 31, 2016 and the six months ended June 30, 2017, as these costs will not impact Invitae's consolidated statement of operations in the periods following the acquisition date.

COMPARATIVE MARKET PRICES AND DIVIDENDS

CombiMatrix stockholders are advised to obtain current market quotations for Invitae common stock and CombiMatrix common stock. The market price of Invitae common stock and CombiMatrix common stock will fluctuate between the date of this document and the effective date of the Merger. No assurance can be given concerning the market price of Invitae common stock or CombiMatrix common stock before or after the effective date of the Merger.

Invitae Common Stock

Invitae common stock is listed on the NYSE under the symbol "NVTA." Prior to February 12, 2015, there was no public market for Invitae's common stock. Invitae's fiscal year ends on December 31 of each year. The following table shows the high and low reported intraday sales prices per share of Invitae common stock as reported on the NYSE.

	Sales Price Per Share	
	High	Low
Fiscal year ended December 31, 2015		
First Quarter	\$22.35	\$ 16.30
Second Quarter	\$17.43	\$ 10.50
Third Quarter	\$15.48	\$ 6.58
Fourth Quarter	\$10.10	\$ 6.46
Fiscal year ended December 31, 2016		
First Quarter	\$11.25	\$ 5.66
Second Quarter	\$11.85	\$ 7.14
Third Quarter	\$ 9.84	\$ 7.22
Fourth Quarter	\$ 9.50	\$ 5.76
Fiscal year ended December 31, 2017		
First Quarter	\$11.30	\$ 7.95
Second Quarter	\$11.88	\$ 8.17

On July 31, 2017, the date of the public announcement of the Merger Agreement, the high and low sales prices of shares of Invitae common stock as reported on the NYSE were \$9.56 and \$9.26, respectively. On _____, 2017, the latest practicable trading day before the date of this proxy statement/prospectus, the high and low sales prices of shares of Invitae common stock as reported on the NYSE were \$ _____ and \$ _____, respectively. As of September 4, 2017, there were 84 stockholders of record of Invitae common stock. The actual number of stockholders is greater than this number of record holders and includes stockholders who are beneficial owners but whose shares are held in street name by brokers and other nominees.

CombiMatrix Common Stock

CombiMatrix common stock is listed on the NASDAQ Capital Market under the symbol “CBMX.” CombiMatrix’s fiscal year ends on December 31 of each year. The following table shows the high and low reported intraday sales prices per shares of CombiMatrix common stock as reported on the NASDAQ Capital Market:

	Sales Price Per Share	
	High	Low
Fiscal year ended December 31, 2014		
First Quarter	\$ 54.75	\$ 34.50
Second Quarter	\$ 46.50	\$ 30.15
Third Quarter	\$ 40.50	\$ 17.25
Fourth Quarter	\$ 26.10	\$ 16.35
Fiscal year ended December 31, 2015		
First Quarter	\$ 32.40	\$ 19.20
Second Quarter	\$ 30.00	\$ 21.00
Third Quarter	\$ 26.34	\$ 15.45
Fourth Quarter	\$ 19.05	\$ 9.75
Fiscal year ended December 31, 2016		
First Quarter	\$ 11.49	\$ 3.53
Second Quarter	\$ 4.40	\$ 2.62
Third Quarter	\$ 5.19	\$ 2.63
Fourth Quarter	\$ 4.35	\$ 2.15
Fiscal year ended December 31, 2017		
First Quarter	\$ 5.85	\$ 2.60
Second Quarter	\$ 6.63	\$ 4.35

On July 31, 2017, the date of the public announcement of the Merger Agreement, the high and low sales prices of shares of CombiMatrix common stock as reported on the NASDAQ Capital Market were \$5.30 and \$4.95, respectively. On _____, 2017, the latest practicable trading day before the date of this document, the high and low sales prices of shares of CombiMatrix common stock as reported on the NASDAQ Capital Market were \$ _____ and \$ _____, respectively. As of September 4, 2017, there were 21 stockholders of record of CombiMatrix common stock. The actual number of stockholders is greater than this number of record holders and includes stockholders who are beneficial owners but whose shares are held in street name by brokers and other nominees.

Dividends

Neither Invitae nor CombiMatrix has paid or declared any cash dividends on their common stock, and neither anticipates paying cash dividends on its common stock for the foreseeable future. Both Invitae and CombiMatrix currently expect to retain any future earnings to fund operations and expand their businesses. Notwithstanding the foregoing, any determination to pay cash dividends subsequent to the Merger will be at the discretion of Invitae’s board of directors and will depend upon a number of factors, including its results of operations, financial condition, capital requirements, future prospects, contractual restrictions, general business conditions, restrictions imposed by applicable law and other factors Invitae’s board of directors deems relevant. In addition, the terms of Invitae’s loan agreement prohibit the payment of dividends.

COMPARATIVE MARKET VALUE OF SECURITIES

Invitae common stock is listed on the NYSE under the symbol “NVTA.” CombiMatrix common stock is listed on the NASDAQ Capital Market under the symbol “CBMX.” The following table shows the closing prices of Invitae common stock and CombiMatrix common stock as reported on July 28, 2017, the last trading day prior to public announcement of the Merger, on July 31, 2017, the date of the public announcement of the Merger, and on _____, 2017, the last practicable date prior to the date of this proxy statement/prospectus. This table also shows the implied value of the Merger consideration proposed for each share of CombiMatrix common stock, which was calculated by multiplying the closing price of Invitae common stock on the relevant date by the estimated Exchange Ratio of 0.91 (i.e., assuming that 100% of the CombiMatrix Series F warrants are exchanged in the Warrant Exchange Offer).

	Closing Price of Invitae Common Stock	Closing Price of CombiMatrix Common Stock	Implied Value of Merger Consideration
As of July 28, 2017	\$ 9.51	\$ 5.15	\$ 8.62
As of July 31, 2017	\$ 9.28	\$ 4.95	\$ 8.41
As of _____, 2017	\$	\$	\$

The market price of Invitae common stock and CombiMatrix common stock will fluctuate prior to the special meeting of CombiMatrix stockholders and before the Merger is completed, which will affect the implied value of the Merger consideration to CombiMatrix stockholders. You should obtain current market quotations for the shares.

COMPARATIVE PER SHARE DATA

The following table shows, for the six months ended June 30, 2017 and the year ended December 31, 2016, selected per share information for CombiMatrix common stock and Invitae common stock on a historical and pro forma equivalent basis. Except for the historical information as of and for the year ended December 31, 2016, the information in the table is derived from unaudited information. You should read the data with the historical consolidated financial statements and related notes of Invitae contained in its Annual Report on Form 10-K for the year ended December 31, 2016, which has been incorporated into this document by reference, and the historical financial statements and related notes of CombiMatrix contained in its Annual Report on Form 10-K for the year ended December 31, 2016, attached as *Annex C* to this proxy statement/prospectus, as well as the unaudited pro forma condensed combined financial statements and related notes contained in the section entitled “*Unaudited Pro Forma Condensed Combined Financial Information.*” The following data is not necessarily indicative of future operations of the combined company.

The pro forma equivalent data for CombiMatrix are calculated by multiplying the pro forma combined (loss) income from continuing operations per share, pro forma dividends declared per share and pro forma book value by the estimated Exchange Ratio so that the per share amounts are equated to the respective values for one share of CombiMatrix common stock. The assumed Exchange Ratio in the Merger is 0.91 shares of Invitae common stock for one share of CombiMatrix common stock. The pro forma condensed combined statement of operations data assumes the Merger and related events were consummated on January 1, 2016, the beginning of Invitae’s 2016 fiscal year. The pro forma condensed combined balance sheet data assumes the Merger was consummated June 30, 2017.

	CombiMatrix		Invitae	
	Historical	Pro Forma Equivalent	Historical	Pro Forma Combined
(Loss) Income from Continuing Operations Per Share				
<i>Basic</i>				
Six Months Ended June 30, 2017	\$ (0.31)	\$ (1.13)	\$ (1.30)	\$ (1.24)
Year Ended December 31, 2016	\$ (3.27)	\$ (2.66)	\$ (3.02)	\$ (2.92)
<i>Diluted</i>				
Six Months Ended June 30, 2017	\$ (0.31)	\$ (1.13)	\$ (1.30)	\$ (1.24)
Year Ended December 31, 2016	\$ (3.27)	\$ (2.66)	\$ (3.02)	\$ (2.92)
Cash Dividends Declared Per Share				
Six Months Ended June 30, 2017	None	None	None	None
Year Ended December 31, 2016	None	None	None	None
Book Value Per Share				
June 30, 2017	\$ 2.04	\$ 3.23	\$ 1.54	\$ 3.55

RECENT DEVELOPMENTS

Invitae Private Placement

On August 3, 2017, Invitae closed a private placement to certain accredited investors, in which it sold 5,188,235 shares of common stock at a price of \$8.50 per share, and 3,458,823 shares of Series A convertible preferred stock at a price of \$8.50 per share, for gross proceeds of approximately \$73.5 million and estimated net proceeds of \$68.8 million. The Series A convertible preferred stock is a non-voting common stock equivalent, and conversion of the Series A convertible preferred stock is prohibited if the holder exceeds a specified threshold of voting security ownership. The Series A convertible preferred stock is convertible into common stock on a one-for-one basis, subject to adjustment for events such as stock splits, combinations and the like.

Acquisition of Good Start Genetics, Inc. by Invitae

On July 31, 2017, Invitae, Bueno Merger Sub, Inc., a wholly owned subsidiary of Invitae, and Good Start Genetics, Inc., a privately-held Delaware corporation, or Good Start, entered into a merger agreement pursuant to which Good Start would become a wholly owned subsidiary of Invitae. The acquisition closed on August 4, 2017. Consideration for the Good Start acquisition consisted of approximately \$40.0 million, including approximately \$16.0 million in shares of Invitae common stock, or approximately 1.69 million shares, subject to a hold back of approximately 25% of such amount for up to 13 months to cover potential indemnification liabilities, cash of up to approximately \$18.4 million, which was paid to retire certain Good Start debt and the payment or assumption of approximately \$5.6 million in pre-closing and closing-related liabilities and obligations of Good Start.

RISK FACTORS

In addition to the other information included in and incorporated by reference into this document, including the risk factors and other information set forth in the Quarterly Report on Form 10-Q of Invitae for the quarter ended June 30, 2017, the Annual Report on Form 10-K of Invitae for the fiscal year ended December 31, 2016, the Quarterly Report on Form 10-Q of CombiMatrix for the quarter ended June 30, 2017 attached as Annex D to this proxy statement/prospectus and the Annual Report on Form 10-K of CombiMatrix for the fiscal year ended December 31, 2016 attached as Annex C to this proxy statement/prospectus, and the matters addressed in the section entitled “Cautionary Statement Regarding Forward-Looking Statements,” you should carefully consider the following risk factors before deciding whether to vote for the approval and adoption of the Merger Agreement and the transactions contemplated thereby, including the Merger. For further discussion of these and other risk factors, please see Invitae’s and CombiMatrix’s periodic reports and other documents attached as annexes and incorporated by reference into this document. See the section entitled “Where You Can Find More Information.”

The completion of the proposed Merger is subject to a number of conditions that are outside the control of Invitae and CombiMatrix, and there can be no assurance that the proposed Merger will be completed in a timely manner or at all. If the Merger is not consummated, Invitae’s and CombiMatrix’s businesses could suffer materially and their respective stock prices could decline.

The consummation of the proposed Merger between Invitae and CombiMatrix is subject to a number of closing conditions, including but not limited to (i) the approval by CombiMatrix’s stockholders and (ii) completion of the Warrant Exchange Offer for CombiMatrix Series F warrants, which requires (a) a minimum participation level by holders of at least 90% of the Series F warrants, and (b) other closing conditions to the Warrant Exchange Offer are satisfied. The completion of the Merger is also subject to a number of other conditions, including certain governmental approvals and the absence of a material adverse effect upon either party. There is no assurance that all of the conditions will be satisfied or waived. If the conditions are not satisfied or waived, the Merger may not occur or will be delayed, and Invitae and CombiMatrix may lose some or all of the intended benefits of the Merger.

If the proposed Merger is not consummated, Invitae and CombiMatrix may be subject to a number of material risks, and each of their respective businesses and stock prices could be adversely affected, as follows:

- Invitae and CombiMatrix have each incurred and expect to continue to incur significant expenses related to the proposed Merger even if the Merger is not consummated;
- If the Merger Agreement is terminated under certain circumstances, CombiMatrix may be required to pay Invitae a termination fee of \$1,400,000 (net of expense reimbursement previously paid);
- If the Merger Agreement is terminated under certain circumstances, either party may be required to reimburse the other party for various expenses incurred in connection with the Merger up to a maximum of \$400,000;
- If the Merger Agreement is terminated under circumstances that require CombiMatrix to pay Invitae a termination fee and/or expense reimbursement, CombiMatrix may not have sufficient funds to make such payments to Invitae; or
- The market price of Invitae’s or CombiMatrix’s common stock may decline to the extent that the current market price reflects a market assumption that the proposed Merger will be completed.

The proposed Merger could disrupt the business of Invitae and/or CombiMatrix and harm their respective financial condition.

The announcement of the Merger or the pendency of the proposed transaction may disrupt the current plans and operations of Invitae and CombiMatrix and may divert management’s time and resources from their core

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businesses. Furthermore, Invitae or CombiMatrix may not realize the expected benefits, synergies and growth prospects resulting from the proposed Merger, or they may not be achieved in a timely manner. Invitae has limited experience with respect to acquisitions and may not be successful in integrating CombiMatrix's business following the closing or in managing their growth effectively. Invitae or CombiMatrix may experience potential difficulties in employee retention as a result of the announcement and pendency of the proposed acquisition. Additionally, the reaction of customers and potential customers, payers, partners and competitors to the announcement of the proposed transaction may disrupt Invitae's or CombiMatrix's business. Any cash Invitae may spend as part of the integration activities after closing of the proposed Merger could divert that cash from other uses.

Neither the Merger Exchange Ratio nor the amount that will be offered to CombiMatrix Series F warrant holders in the Warrant Exchange Offer is adjustable based on the market price of Invitae common stock so the Merger consideration at the closing may have a greater or lesser value than at the time the Merger Agreement was signed.

The Merger Agreement establishes the Exchange Ratio for the CombiMatrix common stock and preferred stock and establishes a minimum amount that will be offered to CombiMatrix Series F warrant holders in the Warrant Exchange Offer, and any changes in the market price of Invitae common stock before the completion of the Merger will not affect the number of shares CombiMatrix securityholders will be entitled to receive pursuant to the Merger Agreement. Therefore, if before the completion of the Merger the market price of Invitae common stock declines from the market price on the date of the Merger Agreement, then CombiMatrix securityholders could receive Merger consideration with substantially lower value. Similarly, if before the completion of the Merger the market price of Invitae common stock increases from the market price on the date of the Merger Agreement, then CombiMatrix securityholders could receive Merger consideration with substantially more value for their shares of CombiMatrix capital stock than the parties had negotiated for in the establishment of the Exchange Ratio. Additionally, the Merger Agreement does not include a termination right based solely on price. Because the Exchange Ratio does not adjust as a result of changes in the value of Invitae common stock, for each one percentage point that the market value of Invitae common stock rises or declines, there is a corresponding one percentage point rise or decline, respectively, in the value of the total Merger consideration issued to CombiMatrix securityholders.

If the combined organization is unable to realize the full strategic and financial benefits currently anticipated from the Merger, CombiMatrix stockholders may not receive consideration in the Merger which is commensurate with or greater than the value of their pre-Merger ownership, or they may receive only part of the commensurate benefit to the extent the combined organization is able to realize only part of the strategic and financial benefits currently anticipated from the Merger.

The results of operations of Invitae after the Merger may be affected by factors different from those currently affecting the results of operations of CombiMatrix.

The businesses of Invitae and CombiMatrix differ in important respects and, accordingly, the results of operations of the combined company and the market price of the combined company's common stock may be affected by factors different from those currently affecting the independent results of operations of CombiMatrix. For a discussion of the business of Invitae and certain factors to be considered in connection with Invitae's business, see the section entitled "Information About the Companies" and the documents incorporated by reference in this proxy statement/prospectus and referred to in the section entitled "Where You Can Find More Information." For a discussion of the business of CombiMatrix and certain factors to be considered in connection with CombiMatrix's business, see the section entitled "Information About the Companies" and the documents attached as annexes to this proxy statement/prospectus and referred to in the section entitled "Where You Can Find More Information."

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The principal form of Merger consideration is shares of Invitae common stock, the price of which is volatile and could fluctuate substantially, whether before or after the consummation of the Merger.

The market price of Invitae common stock that stockholders of CombiMatrix will receive in the Merger may be volatile and could fluctuate substantially due to many factors, including, among other things:

- actual or anticipated fluctuations in Invitae's results of operations;
- competition from existing tests or new tests that may emerge;
- announcements by Invitae or its competitors of significant acquisitions, strategic partnerships, joint ventures, collaborations, or capital commitments;
- failure to meet or exceed financial estimates and projections of the investment community or that Invitae provides to the public;
- issuance of new or updated research or reports by securities analysts or changed recommendations for Invitae common stock;
- Invitae's focus on long-term goals over short-term results;
- the timing of Invitae's investments in the growth of its business;
- actual or anticipated changes in regulatory oversight of Invitae's business;
- additions or departures of key management or other personnel;
- disputes or other developments related to Invitae's intellectual property or other proprietary rights, including litigation;
- sale of common stock or other securities in the future;
- the trading volume of Invitae common stock;
- changes in reimbursement by current or potential payers;
- changes in Invitae's pricing policies or the pricing policies of its competitors; and
- general economic and market conditions.

Share price changes may result from a variety of factors, including general market and economic conditions, changes in Invitae's and CombiMatrix's respective businesses, operations and prospects, and regulatory considerations, among other things. Many of these factors are beyond the control of Invitae and CombiMatrix. CombiMatrix stockholders should obtain current market quotations for Invitae common stock before voting their shares at the special meeting. In addition, the stock market in general has experienced extreme price and volume fluctuations that have often been unrelated or disproportionate to the operating performance of companies whose shares are traded on the stock market. These broad market factors may materially harm the market price of Invitae common stock, regardless of Invitae's operating performance.

CombiMatrix stockholders will generally have a reduced ownership and voting interest in Invitae after the Merger and will exercise less influence over management.

Upon the completion of the Merger, except for stockholders who own common stock in both Invitae and CombiMatrix, each CombiMatrix stockholder will be a stockholder of Invitae with a percentage ownership of Invitae that is smaller than such stockholder's current percentage ownership of CombiMatrix. Because of this, CombiMatrix stockholders will generally have less influence on the management and policies of the combined company than they now have on the management and policies of CombiMatrix, as applicable.

The market price of the combined organization's common stock may decline as a result of the Merger.

The market price of the combined organization's common stock may decline as a result of the Merger for a number of reasons, including:

- investors react negatively to the prospects of the combined organization's business and prospects from the Merger;
- the effect of the Merger on the combined organization's business and prospects is not consistent with the expectations of financial or industry analysts;
- Invitae stockholders will experience substantial dilution as a result of the additional securities to be issued in the Merger; or
- the combined organization does not achieve the perceived benefits of the Merger as rapidly or to the extent anticipated by financial or industry analysts.

Regulatory approvals may not be received, may take longer than expected or may impose conditions that are not presently anticipated or cannot be met.

Before the transactions contemplated by the Merger Agreement, including the Merger, may be completed, various approvals must be obtained from governmental and self-regulatory authorities, including the expiration or early termination of any applicable waiting period under the HSR Act. These authorities may impose conditions on the granting of such approvals. Such conditions or changes and the process of obtaining regulatory approvals could have the effect of delaying completion of the Merger or of imposing additional costs or limitations on the combined company following the Merger. The regulatory approvals may not be received at all, may not be received in a timely fashion, and may contain conditions on the completion of the Merger that are not anticipated or cannot be met. Furthermore, such conditions on completion may constitute a burdensome condition that may allow Invitae to refuse to consummate the Merger, as described in the section entitled “*The Merger Agreement—Conditions to the Completion of the Merger*.” If the consummation of the Merger is delayed, including by a delay in receipt of necessary governmental approvals, or if it is not approved, the business, financial condition and results of operations of each company may also be materially adversely affected.

Sales of substantial amounts of Invitae common stock in the open market by former CombiMatrix stockholders could depress Invitae's share price.

Invitae common stock issued to stockholders of CombiMatrix in the Merger will be freely tradable without restrictions or further registration under the Securities Act. If the Merger is completed and if CombiMatrix's former stockholders sell substantial amounts of Invitae common stock in the public market following completion of the Merger, the market price of Invitae common stock may decrease. These sales might also make it more difficult for Invitae to sell equity or equity-related securities at a time and price that it otherwise would deem appropriate.

The anticipated benefits of the Merger may not be realized fully or at all or may take longer to realize than expected.

The Merger involves the integration of two companies that have previously operated independently. Prior to announcement, Invitae and CombiMatrix did not conduct any integration planning for the two companies, and their ability to do so prior to consummation of the Merger may be substantially limited by applicable law. After the Merger, the two companies will devote significant management attention and resources to integrating the two companies. Delays in this process could adversely affect the combined company's business, financial results, financial condition and stock price. Even if Invitae and CombiMatrix are able to integrate their business operations successfully, there can be no assurance that this integration will result in the realization of the full

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benefits of synergies, cost savings, innovation and operational efficiencies that they currently expect from this integration or that these benefits will be achieved within the anticipated time frame.

The combined company may also be unable to use CombiMatrix's current net operating loss carryforwards to offset future taxable income for U.S. federal income tax purposes. Changes in services, changes in sources of revenue, and branding or rebranding initiatives may involve substantial costs and may not be favorably received by customers, resulting in an adverse impact on the combined company's financial results, financial condition and stock price.

CombiMatrix may not be able to meet its cash requirements beyond August 2018 without obtaining additional capital from external sources and its current outstanding warrants issued in connection with various past preferred stock financings may prevent it from issuing new securities. If CombiMatrix is unable to raise additional capital through future financings or from external sources, it may not be able to continue as a going concern.

As of June 30, 2017, CombiMatrix had \$3.0 million in cash and cash equivalents, which it anticipates will meet its cash requirements through and beyond the fourth quarter of 2017. However, in order for CombiMatrix to continue as a going concern beyond that point in the absence of the Merger, it will have to increase revenue and cash reimbursement and continue to control operating expenses, and it may be required to obtain capital from external sources. CombiMatrix's ability to continue independently as a going concern in the absence of the Merger is dependent upon its ability to further implement its business plan, generate sufficient revenues and cash reimbursement and to control operating expenses, of which there can be no assurance.

In order to issue securities at a price below the exercise prices of CombiMatrix's outstanding warrants issued in connection with its past preferred stock private placement financings, CombiMatrix must obtain the affirmative consent of holders of at least 67% of such outstanding CombiMatrix warrants. If CombiMatrix is unable to obtain the consent of these holders in connection with future financings, CombiMatrix may be unable to raise additional capital on acceptable terms, or at all. If external financing sources are not available in a timely manner or at all, or are inadequate to fund CombiMatrix's operations, it could experience reduced revenues and cash flows from the sales of its diagnostic services and its ability to launch, market and sell additional services necessary to grow and sustain its operations could be jeopardized.

The Merger may be completed even though material adverse changes may result from the announcement of the Merger, industry-wide changes and other causes.

In general, either Invitae or CombiMatrix can refuse to complete the Merger if there is a material adverse change affecting the other party between the date of the Merger Agreement and the closing. However, certain types of changes do not permit either party to refuse to complete the Merger, even if such change could be said to have a material adverse effect on Invitae or CombiMatrix, including:

- conditions generally affecting the industries in which CombiMatrix and Invitae operate or the United States or global economy or capital markets as a whole;
- any natural disaster or any acts of terrorism, sabotage, military action or war or any escalation or worsening thereof;
- changes in regulatory, legislative or political conditions in the United States or any other country or region in the world;
- changes in conditions in the financial markets, credit markets or capital markets in the United States or any other country or region in the world;
- any effect resulting from the execution, delivery, announcement or performance of the obligations under the Merger Agreement or the announcement, pendency or anticipated consummation of the Merger;

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- any failure by Invitae or CombiMatrix to meet internal projections or forecasts or third-party revenue or earnings predictions for any period ending on or after the date of the Merger Agreement;
- any changes in U.S. GAAP or applicable legal requirements after the date of the Merger Agreement;
- with respect to CombiMatrix, any rejection by a governmental body of a registration or filing by CombiMatrix relating to certain intellectual property rights; or
- with respect to CombiMatrix, any change in the cash position of CombiMatrix which results from operations in the ordinary course of business.

If adverse changes occur and the parties still complete the Merger, Invitae's stock price may suffer. This in turn may reduce the value of the Merger to the stockholders of Invitae, CombiMatrix or both.

Some CombiMatrix executive officers and directors have interests in the Merger that are different from yours.

Executive officers of CombiMatrix negotiated the terms of the Merger Agreement with Invitae, and the CombiMatrix board of directors approved the Merger and recommended that its stockholders vote to approve and adopt the Merger Agreement and the transactions contemplated thereby, including the Merger. In considering the information contained in this document, you should be aware that some members of CombiMatrix's management and certain members of its board of directors have economic interests in the Merger that are different from yours, including with respect to compensation to be received by certain CombiMatrix directors and executives under the CombiMatrix Transaction Bonus Payout Agreements, and pursuant to certain consulting agreements between Invitae and CombiMatrix's chief executive officer and chief financial officer. Please see the section entitled "*The Merger Proposal—Interests of Certain CombiMatrix Directors and Officers in the Merger*."

During the pendency of the Merger, CombiMatrix may not be able to enter into a business combination with another party at a favorable price (subject to certain exceptions) because of restrictions in the Merger Agreement, which could adversely affect its business.

Covenants in the Merger Agreement impede the ability of CombiMatrix to make acquisitions, subject to certain exceptions relating to fiduciaries duties, or complete other transactions that are not in the ordinary course of business pending completion of the Merger. As a result, CombiMatrix may be at a disadvantage to its competitors during that period. In addition, while the Merger Agreement is in effect, CombiMatrix is generally prohibited from soliciting, initiating, encouraging or entering into certain extraordinary transactions, such as a merger, sale of assets or other business combination outside the ordinary course of business, with any third party. Any such transactions could be favorable to CombiMatrix's stockholders.

Certain provisions of the Merger Agreement limit CombiMatrix's ability to pursue an alternative transaction and may discourage third parties from submitting alternative takeover proposals, including proposals that may be superior to the arrangements contemplated by the Merger Agreement.

The terms of the Merger Agreement prohibit CombiMatrix from soliciting alternative takeover proposals or cooperating with persons making unsolicited takeover proposals, except in limited circumstances when CombiMatrix's board of directors determines in good faith, after consultation with its independent financial advisor, if any, and its outside legal counsel, that an unsolicited alternative takeover proposal is or is reasonably likely to lead to a superior takeover proposal and is reasonably capable of being consummated and that failure to cooperate with the proponent of the proposal is reasonably likely to result in a breach of the board's fiduciary duties. If the Merger Agreement is terminated under certain circumstances, CombiMatrix may be required to pay Invitae a termination fee of \$1,400,000 (net of expense reimbursement previously paid), and, under specified circumstances, reimburse Invitae for various expenses incurred in connection with the Merger, up to a maximum of \$400,000. This termination fee may discourage third parties from submitting alternative takeover proposals to CombiMatrix or its stockholders. It should be noted that the failure of CombiMatrix stockholders to approve the Merger Proposal will not in and of itself trigger CombiMatrix's obligation to pay the termination fee, unless other factors, including a third-party acquisition proposal for CombiMatrix, also exist.

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If the Merger Agreement is terminated by Invitae as a result of a breach by CombiMatrix of its representations, warranties or covenants, or because the occurrence of a material adverse effect applicable to CombiMatrix was the sole failed condition to closing, then CombiMatrix will be obligated to reimburse Invitae's third-party expenses up to a maximum of \$400,000.

The shares of Invitae common stock to be received by CombiMatrix stockholders as a result of the Merger will have different rights from the shares of CombiMatrix common stock.

Upon the completion of the Merger, CombiMatrix stockholders will become Invitae stockholders and their rights as stockholders will be governed by the organizational documents of Invitae. The rights associated with CombiMatrix common stock are different from the rights associated with Invitae common stock. Please see the section entitled "*Comparison of Rights of Invitae and CombiMatrix Stockholders.*"

The fairness opinion that CombiMatrix has obtained from its financial advisor has not been, and is not expected to be, updated to reflect any changes in circumstances that may have occurred since the signing of the Merger Agreement.

The fairness opinion issued to CombiMatrix by Torrey Capital, or Torrey, regarding the fairness, from a financial point of view, of the consideration to be issued in connection with the Merger, speaks only as of July 30, 2017. Changes in the operations and prospects of CombiMatrix or Invitae, general market and economic conditions and other factors which may be beyond the control of CombiMatrix or Invitae, and on which the fairness opinion was based, may have altered the value of Invitae or CombiMatrix or the market prices of Invitae common stock or CombiMatrix common stock as of the date of this proxy statement/prospectus, or may alter such values and market prices by the time the Merger is completed. Torrey does not have any obligation to update, revise or reaffirm its opinion to reflect subsequent developments, and has not done so. Because CombiMatrix does not currently anticipate asking Torrey to update its opinion, the opinion will not address the fairness of the Merger consideration from a financial point of view at the time the Merger is completed or as of any other date other than the date of such opinion. CombiMatrix's board of directors' recommendation that CombiMatrix stockholders vote "FOR" approval of the Merger Proposal, however, is made as of the date of this proxy statement/prospectus. For a description of the opinion that CombiMatrix received from Torrey, see the section entitled "*The Merger Proposal—Opinion of CombiMatrix's Financial Advisor.*"

The unaudited pro forma condensed combined financial information included in this proxy statement/prospectus is illustrative only and the actual financial condition and results of operations after the Merger may differ materially.

The unaudited pro forma condensed combined financial information in this proxy statement/prospectus is presented for illustrative purposes only and is not necessarily indicative of what Invitae's actual financial condition or results of operations would have been had the Merger been completed on the date indicated. The unaudited pro forma condensed combined financial information reflects adjustments, which are based upon preliminary estimates, to record the identifiable tangible and intangible CombiMatrix assets acquired and liabilities assumed at fair value and the resulting goodwill recognized. The purchase price and fair values of assets acquired and liabilities assumed in this proxy statement/prospectus are preliminary and final amounts will be based upon the actual purchase price and the fair value of the assets and liabilities of CombiMatrix as of the date of the completion of the Merger. Accordingly, the final acquisition accounting adjustments may differ materially from the pro forma adjustments reflected in this proxy statement/prospectus. For more information, please see the section entitled "*Unaudited Pro Forma Condensed Combined Financial Information.*"

If the Merger is not completed, Invitae and CombiMatrix will have incurred substantial expenses without realizing the expected benefits of the Merger.

Each of Invitae and CombiMatrix has incurred and will incur substantial expenses in connection with the negotiation and completion of the transactions contemplated by the Merger Agreement, as well as the costs and

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expenses of filing, printing and mailing this proxy statement/prospectus, and all filing and other fees paid to the SEC in connection with the Merger. If the Merger is not completed, Invitae and CombiMatrix would have to recognize these expenses without realizing the expected benefits of the Merger.

Any litigation relating to the Merger could require Invitae or CombiMatrix to incur significant costs and suffer management distraction, as well as delay and/or enjoin the Merger.

Lawsuits related to the Merger may be filed against CombiMatrix, Invitae and/or the directors and officers of either company. The outcome of any such litigation is uncertain. Such lawsuits could prevent or delay completion of the Merger and may adversely affect CombiMatrix's and Invitae's business, financial condition, results of operations and/or cash flows.

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING STATEMENTS

This document contains or incorporates by reference certain forward-looking statements, including statements about the financial condition, results of operations, earnings outlook and prospects of Invitae and CombiMatrix and the benefits of the Merger between Invitae and CombiMatrix, which are subject to numerous assumptions, risks and uncertainties. These forward-looking statements are found at various places throughout this document, including in the section entitled “*Risk Factors*.” You can find many of these statements by looking for words such as “plan,” “believe,” “expect,” “intent,” “anticipate,” “estimate,” “project,” “potential,” “possible” or other similar expressions. Actual results could differ materially from those contained or implied by such statements for a variety of factors, including:

- strategies, prospects, plans, expectations or objectives of management of Invitae or CombiMatrix for future operations of the combined company;
- the anticipated operations, financial position, revenues, costs or expenses of Invitae, CombiMatrix or the combined company;
- any changes in future economic conditions or performance;
- competitive pressures on product pricing and services;
- the effect of governmental regulations, including the possibility that there are unexpected delays in obtaining regulatory approvals;
- the failure to obtain approval of CombiMatrix’s stockholders;
- the failure to complete the Warrant Exchange Offer for the CombiMatrix Series F warrants;
- the effect of any litigation relating to completion of the Merger; and/or
- other risks discussed and identified in public filings with the SEC made by CombiMatrix or Invitae.

All forward-looking statements included in this document are based on information available at the time of this document. These forward-looking statements should not be relied upon as predictions of future events as neither CombiMatrix nor Invitae can assure you that the events or circumstances in these statements will be achieved or will occur. Neither CombiMatrix nor Invitae assumes any obligation to update any forward-looking statement.

For additional information about factors that could cause actual results, performance or achievements to differ materially from those expressed or implied by the forward-looking statements, please see the reports that CombiMatrix and Invitae have filed with the SEC as described in the section entitled “*Where You Can Find More Information*.”

THE COMBIMATRIX SPECIAL MEETING

This document is being furnished to CombiMatrix stockholders by CombiMatrix's board of directors in connection with the solicitation of proxies from the holders of CombiMatrix common stock for use at the special meeting of CombiMatrix stockholders and any adjournments or postponements of the special meeting. This document also is being furnished to CombiMatrix stockholders as a prospectus of Invitae in connection with the issuance by Invitae of shares of Invitae common stock to CombiMatrix stockholders in the Merger.

Together with this document, you are also being sent a notice of the CombiMatrix special meeting and a form of proxy that is solicited by the CombiMatrix board of directors. The CombiMatrix special meeting will be held at the offices of Stradling Yocca Carlson & Rauth, P.C., 660 Newport Center Drive, Suite 1600, Newport Beach, California 92660, on _____, 2017 at _____, local time.

Matters to Be Considered

The purpose of the CombiMatrix special meeting is to consider and vote on:

- a proposal to approve and adopt the Merger Agreement and the transactions contemplated thereby, including the Merger. This proposal is referred to as the "Merger Proposal;"
- a proposal to approve, on a non-binding advisory basis, specified compensation that may be paid or become payable to CombiMatrix's named executive officers in connection with the Merger. This proposal is referred to as the "Compensation Proposal"; and
- a proposal to approve the possible adjournment of the special meeting, including, if necessary or appropriate, to solicit additional proxies in the event that there are not sufficient votes at the time of the special meeting to approve the foregoing proposals. This proposal is referred to as the "Adjournment Proposal."

Methods of Voting

You may vote over the Internet, by telephone, by mail or in person at the special meeting. Please be aware that if you vote by telephone or over the Internet, you may incur costs such as telephone and Internet access charges for which you will be responsible.

Voting over the Internet. You can vote via the Internet. The website address for Internet voting is provided on your proxy card. To vote via the Internet, you will need to use the control number appearing on your proxy card. You can use the Internet to transmit your voting instructions up until 11:59 p.m. Eastern Time on the day before the special meeting. Internet voting is available 24 hours a day. If you vote via the Internet, you do not need to vote by telephone or return a proxy card.

Voting by Telephone. You can vote by telephone by calling the toll-free telephone number provided on your proxy card. You will need to use the control number appearing on your proxy card to vote by telephone. You may transmit your voting instructions from any touch-tone telephone up until 11:59 p.m. Eastern Time on the day before the special meeting. Telephone voting is available 24 hours a day. If you vote by telephone, you do not need to vote over the Internet or return a proxy card.

Voting by Mail. You can vote by marking, dating and signing your proxy card, and returning it in the postage-paid envelope provided. Please promptly mail your proxy card to ensure that it is received prior to the closing of the polls at the Annual Meeting.

Voting in Person at the Meeting. If you attend the special meeting and plan to vote in person, you will be provided with a ballot at the special meeting. If your shares are registered directly in your name, you are

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considered the stockholder of record and you have the right to vote in person at the special meeting. If your shares are held in the name of your broker or other nominee, you are considered the beneficial owner of shares held in street name. As a beneficial owner, if you wish to vote at the special meeting, you will need to bring to the special meeting a legal proxy from your broker or other nominee authorizing you to vote those shares. Please follow the instructions provided to you by your broker or other nominee.

All shares represented by valid proxies that are received through this solicitation, and that are not revoked, will be voted in accordance with the instructions you provide on the proxy card. If you return your signed proxy card without indicating how to vote on any particular proposal, the CombiMatrix common stock represented by your proxy will be voted on that proposal consistent with the recommendation of the CombiMatrix board of directors.

Revoking a Proxy

You may revoke your proxy at any time before it is voted at the special meeting. To do this, you must:

- enter a new vote over the Internet or by telephone, or by signing and returning a replacement proxy card bearing a later date than your original proxy card;
- provide written notice of the revocation to CombiMatrix's Corporate Secretary at its principal executive office, 300 Goddard, Suite 100, Irvine, California 92618; or
- attend the special meeting and vote in person if your shares are registered in your name rather than in the name of a broker, but your attendance alone will not revoke any proxy that you have previously given.

If you choose either of the first two methods, you must submit your notice of revocation or your new signed proxy to CombiMatrix's Corporate Secretary to be received no later than the beginning of the special meeting.

Broker Non-Votes

If your shares are held in "street name" by a bank or broker, you should follow the instructions of your bank or broker regarding the revocation of proxies. If you fail to instruct your broker or nominee to vote, your broker or nominee will not have the authority to vote your shares, which will have the same effect as a vote against the Merger Proposal, although will have no effect on the Compensation Proposal or the Adjournment Proposal.

Solicitation of Proxies

CombiMatrix has engaged Advantage Proxy, Inc. to assist it in soliciting proxies using the means described in this document, whose contact information is below.

ADVANTAGE PROXY, INC.
PO Box 13581
Des Moines, WA 98198
Telephone: (877) 870-8565 (toll free); (206) 870-8565 (collect)
Email: ksmith@advantageproxy.com

CombiMatrix will pay the fees of this solicitation firm, which CombiMatrix expects to be approximately \$11,000. In addition to solicitation by mail, the directors, officers, employees and agents of CombiMatrix and Invitae may solicit proxies from CombiMatrix stockholders by in-person interview, telephone, facsimile, email or otherwise, but such persons will not be specially compensated. CombiMatrix and Invitae will share equally the costs of printing and filing this proxy statement/prospectus. Any solicitation made and information provided in such a solicitation will be consistent with the proxy statement. CombiMatrix will also request brokerage firms, nominees, custodians and fiduciaries to forward proxy materials to the beneficial owners of shares held as of the record date and will provide customary reimbursement to such firms for the cost of forwarding these materials.

Householding of Proxy Materials

In connection with the CombiMatrix special meeting, only one proxy statement/prospectus will be sent to certain CombiMatrix street-name stockholders who share a single address, unless contrary instructions are received from any stockholder at that address. This practice, known as “householding,” is designed to reduce printing and postage costs. However, if you are residing at such an address and wish to receive a separate proxy statement/prospectus, you may contact CombiMatrix’s proxy solicitor to request additional copies.

Record Date

The close of business on _____, 2017 has been fixed as the record date for determining CombiMatrix common stockholders entitled to receive notice of and to vote at the special meeting. At that time, _____ shares of CombiMatrix common stock were outstanding, held by _____ holders of record.

Quorum

There must be a quorum in order to conduct voting at the special meeting. Under the second amended and restated bylaws of CombiMatrix, holders of a majority of the shares outstanding and entitled to vote must be present in person or by proxy to constitute a quorum. All shares of CombiMatrix common stock represented at the meeting, including abstentions and broker non-votes, will be treated as present for purposes of determining the presence or absence of a quorum for all matters voted at the CombiMatrix special meeting.

Vote Required

Each share of CombiMatrix common stock outstanding on the record date and entitled to vote entitles the holder to one vote on each matter to be voted upon by stockholders at the special meeting. Approval of the Merger Proposal requires the affirmative vote of holders of a majority of the outstanding shares of CombiMatrix common stock entitled to vote on the record date for the CombiMatrix special meeting. Approval, on a non-binding advisory basis, of the Compensation Proposal requires that the votes cast in favor of this proposal at the CombiMatrix special meeting exceed the votes cast opposing the proposal, assuming a quorum is present. Approval of the Adjournment Proposal requires the affirmative vote of a majority of the shares of CombiMatrix common stock that are represented at the special meeting and entitled to vote thereon, whether or not a quorum is present. Failing to vote or abstaining from voting with respect to the Merger Proposal will have the same effect on that proposal as a vote against that proposal. Failing to vote or abstaining from voting with respect to the Compensation Proposal will not have an effect on this proposal. Failing to vote on the Adjournment Proposal will not have an effect on this proposal, but abstaining from voting will have the same effect as a vote against that proposal.

The CombiMatrix board of directors urges CombiMatrix stockholders to promptly vote by Internet or telephone, or by completing, dating and signing the accompanying proxy card and returning it promptly in the enclosed postage-paid envelope, or, if you hold your shares in “street name” through a bank or broker, by following the instructions of your bank or broker.

If you hold your stock in your name as a stockholder of record, you may complete, sign, date and mail your proxy card in the enclosed postage-paid return envelope as soon as possible, or you may vote over the Internet or by telephone, or vote in person at the CombiMatrix special meeting. If you hold your stock in “street name” through a bank or broker, you must direct your bank or broker to vote in accordance with the voting instruction form included with these materials and forwarded to you by your bank or broker. The voting instruction form provides instructions on voting by mail, telephone or on the Internet.

As of the record date, directors and executive officers of CombiMatrix had the right to vote approximately _____ shares of CombiMatrix common stock, or approximately _____ % of the outstanding CombiMatrix common stock entitled to vote at the special meeting.

Recommendation of the CombiMatrix Board of Directors

The CombiMatrix board of directors has approved and adopted the Merger Agreement and the transactions it contemplates, including the Merger. The CombiMatrix board of directors determined that the Merger Agreement and the transactions it contemplates are in the best interests of CombiMatrix and its stockholders. **The CombiMatrix board of directors unanimously recommends that the CombiMatrix stockholders vote “FOR” each of the Merger Proposal, the Compensation Proposal and the Adjournment Proposal** . For a more detailed discussion of the CombiMatrix board of directors’ recommendation, see the section entitled “ *The Merger Proposal—CombiMatrix’s Reasons for the Merger; Recommendation of the CombiMatrix Board of Directors* ” in this proxy statement/prospectus.

Attending the Special Meeting

All holders of CombiMatrix common stock as of the record date, including stockholders of record and stockholders who hold their shares through banks, brokers, nominees or any other holder of record, are invited to attend the special meeting. Stockholders of record can vote in person at the special meeting. If you are not a stockholder of record, you must obtain a proxy executed in your favor from the record holder of your shares, such as a broker, bank or other nominee, to be able to vote in person at the special meeting. If you plan to attend the special meeting, you must hold your shares in your own name or have a letter from the record holder of your shares confirming your ownership and you must bring a form of personal photo identification with you in order to be admitted to the special meeting. CombiMatrix reserves the right to refuse admittance to anyone without proper proof of share ownership or without proper photo identification.

INFORMATION ABOUT THE COMPANIES

Invitae Corporation

1400 16th Street
San Francisco, CA 94103
(415) 374-7782

Invitae's mission is to bring comprehensive genetic information into mainstream medical practice to improve the quality of healthcare for billions of people. Invitae's goal is to aggregate most of the world's hereditary genetic tests into a single service with higher quality, faster turnaround time and lower pricing than many single gene tests today. Invitae was founded on four core principles: patients should own and control their own genetic information; healthcare professionals are fundamental in ordering and interpreting genetic information; driving down the price of genetic information will increase its clinical and personal utility; and genetic information is more valuable when shared. Invitae utilizes an integrated portfolio of laboratory processes, software tools and informatics capabilities to process DNA-containing samples, analyze information about patient-specific genetic variation and generate test reports for clinicians and their patients. Invitae currently has more than 20,000 genes in production and provides a variety of diagnostic tests that can be used in multiple indications. Invitae's tests include multiple genes associated with hereditary cancer, neurological disorders, cardiovascular disorders, pediatric disorders, metabolic disorders and other hereditary conditions, as well as recently acquired capabilities in preimplantation and carrier screening for inherited disorders. Invitae now provides comprehensive genetic information for every stage of life, from preconception through adult diagnostics.

Invitae common stock is currently listed on the New York Stock Exchange under the symbol "NVTA."

CombiMatrix Corporation

300 Goddard, Suite 100
Irvine, CA 92618
(949) 753-0624

CombiMatrix is a family health-focused clinical molecular diagnostic laboratory specializing in pre-implantation genetic screening, prenatal diagnosis, miscarriage analysis, and pediatric developmental disorders. CombiMatrix strives to provide best-in-class clinical laboratory support to healthcare professionals, allowing them to maximize the clinical utility of their patients' test results and to optimize patient care. CombiMatrix's testing focuses on advanced technologies, including single nucleotide polymorphism, or SNP, chromosomal microarray analysis, next-generation sequencing, fluorescent *in situ* hybridization, or FISH, and high resolution chromosome analysis (also referred to as karyotyping). CombiMatrix's approach to testing is to offer sophisticated technology along with high quality clinical support to its ordering physicians and their patients. CombiMatrix also own a one-third minority interest in Leuchemix, Inc., a private drug development company focused on developing a series of compounds to address a number of oncology-related diseases.

CombiMatrix was originally incorporated in October 1995 as a California corporation. In September 2000, CombiMatrix was reincorporated as a Delaware corporation. In August 2007, CombiMatrix became publicly traded on NASDAQ under the symbol "CBMX," where it is currently listed and traded. The CombiMatrix Series F warrants are listed on NASDAQ under the symbol "CBMXW." Following completion of the Merger, the CombiMatrix common stock and the CombiMatrix Series F warrants will cease trading on NASDAQ and CombiMatrix will file the appropriate forms with the Securities and Exchange Commission to suspend its reporting obligations under the Securities Exchange Act of 1934, as amended, or the Exchange Act.

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Coronado Merger Sub, Inc.

1400 16th Street
San Francisco, CA 94103
(415) 374-7782

Merger Sub is a wholly owned subsidiary of Invitae and was formed solely for the purpose of carrying out the Merger. In the Merger, Merger Sub will merge with and into CombiMatrix and Merger Sub will cease to exist.

THE MERG ER PROPOSAL

Background of the M erger

On September 23, 2015, the CombiMatrix board of directors held a meeting with representatives of CombiMatrix's senior management and CombiMatrix's then outside legal counsel Dorsey & Whitney LLP, or Dorsey, at which the CombiMatrix board of directors began evaluating the alternative benefits and risks between raising additional capital to meet CombiMatrix's future needs and exploring possible partnerships or strategic transactions.

On November 23, 2015, the CombiMatrix board of directors held a telephonic meeting with representatives of CombiMatrix's senior management and CombiMatrix's then outside legal counsel Dorsey, at which CombiMatrix's management reported on various potential opportunities for strategic alternatives that they had researched and discussed the feasibility of raising additional capital. The CombiMatrix board of directors authorized CombiMatrix's management to select and engage an investment bank to assist in pursuing an underwritten registered public offering of common stock to raise additional capital while also authorizing CombiMatrix's management in parallel to seek and vet all opportunities for potential partnerships or strategic transactions.

On December 2, 2015, the CombiMatrix board of directors adopted the CombiMatrix Transaction Bonus Plan as a form of retention for senior management to actively assist in exploring a strategic transaction, and to motivate and align the participants' interest in negotiating for and maximizing stockholder value for a strategic transaction.

In January 2016, CombiMatrix's management engaged in initial high level discussions with Party O regarding potential partnership opportunities or a strategic transaction.

In January 2016, CombiMatrix's management engaged in initial high level discussions with Party G regarding a potential partnership or strategic transaction. Additional discussions occurred in April and May 2016.

On February 12, 2016, CombiMatrix's management had an initial meeting with Party A and continued to discuss a potential strategic transaction with Party A over the course of the following month. On April 11, 2016, CombiMatrix received a draft term sheet letter from Party A for a proposed stock-for-stock acquisition for approximately \$15 million. CombiMatrix's management had multiple synergy meetings and calls with Party A in March and April 2016.

In February 2016, CombiMatrix's management engaged in initial high level discussions with the chief executive officer of Party D regarding a potential partnership or strategic transaction.

In February 2016, CombiMatrix's management engaged in initial high level discussions with Party C regarding a potential partnership or strategic transaction.

In late March 2016, CombiMatrix's management began discussions and held a due diligence meeting with Party B regarding a possible partnership or strategic transaction. Discussions regarding a potential commercial partnership with Party B continued throughout the process.

In April 2016, CombiMatrix's management engaged in initial high level discussions with Party F regarding a potential partnership or strategic transaction.

In April 2016, CombiMatrix's management engaged in initial high level discussions with Invitae's President and Chief Operating Officer at the time (now Invitae's President and Chief Executive Officer) regarding a potential partnership or strategic transaction.

In May 2016, CombiMatrix's management engaged in initial high level discussions with Party E regarding a potential partnership or strategic transaction, followed by an in-person meeting on June 5, 2016.

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None of these eight companies, including Invitae, showed interest in a possible strategic transaction at the time CombiMatrix's management initially had contacted them. Given the muted responses, CombiMatrix's management considered the possibility of engaging an investment bank to assist with establishing a competitive process for exploring potential partnerships or strategic transactions.

In early April 2016, CombiMatrix's management had been in contact with several investment banks to discuss a potential engagement for exploring possible strategic transactions or other business development opportunities.

On April 5, 2016, the CombiMatrix board of directors held a telephonic meeting with representatives of CombiMatrix's senior management and CombiMatrix's then outside legal counsel Dorsey, at which CombiMatrix's senior management provided an update on the status of strategic discussions with Party A, Party B, Party C, Party D, Party E, Party F, Party G and Party O, and discussed the benefits of possibly engaging an investment bank to assist with establishing a competitive process for exploring potential partnerships or strategic transactions. The CombiMatrix board of directors authorized CombiMatrix's management to select and retain an investment bank for the purposes of exploring such possible strategic alternatives, including the potential sale of CombiMatrix.

Shortly after the CombiMatrix board of directors meeting on April 5, 2016, CombiMatrix's management selected Torrey a to serve as CombiMatrix's financial advisor based upon its reputation and experience with respect to the life sciences industry generally. CombiMatrix's management and Torrey a negotiated the terms of the prospective engagement and, on April 20, 2016, CombiMatrix entered into a written engagement letter with Torrey a to assist CombiMatrix in exploring strategic alternatives.

On April 21, 2016, the CombiMatrix board of directors held a meeting with representatives of CombiMatrix's senior management, CombiMatrix's then outside legal counsel Dorsey, and Torrey a, at which CombiMatrix's senior management provided an update on the status of strategic discussions with Party A, Party B, Party C, Party D, Party E, Party F, Party G, Party O and Invitae. Torrey a presented an outline of its plan to run a broad sale process for CombiMatrix and laid out a number of potential buyers and a preliminary timeline. Following the board meeting, CombiMatrix's senior management, with the help of representatives of Torrey a, and pursuant to the authorization of the CombiMatrix board of directors granted at its April 5, 2016 meeting, began to explore strategic alternatives, including potential investment and/or partnering activities with a strategic partner or the potential sale of CombiMatrix.

Between May 4, 2016 and September 24, 2016, representatives of Torrey a canvassed approximately 100 parties to gauge interest in potential partnerships or strategic transactions, and circulated a form confidentiality agreement. Torrey a contacted both financial buyers and strategic buyers during the initial phase of the process; however, the initial phase was acutely focused on strategic interest given the latest strategic discussions at CombiMatrix.

On May 6, 2016, CombiMatrix entered into a confidentiality agreement with Party G. The confidentiality agreement included a standstill provision, but permitted Party G to privately and confidentially explore a possible strategic transaction with CombiMatrix during the standstill period.

On May 9, 2016, CombiMatrix entered into a confidentiality agreement with Party D. The confidentiality agreement included a standstill provision, but permitted Party D to privately and confidentially explore a possible strategic transaction with CombiMatrix during the standstill period.

On May 9, 2016, CombiMatrix entered into a confidentiality agreement with Party H. The confidentiality agreement included a standstill provision, but permitted Party H to privately and confidentially explore a possible strategic transaction with CombiMatrix during the standstill period.

On May 11, 2016, CombiMatrix entered into a confidentiality agreement with Invitae. The confidentiality agreement included a standstill provision, but permitted Invitae to privately and confidentially explore a possible strategic transaction with CombiMatrix during the standstill period.

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On May 19, 2016, CombiMatrix entered into a confidentiality agreement with Party C. The confidentiality agreement included a standstill provision, but permitted Party C to privately and confidentially explore a possible strategic transaction with CombiMatrix during the standstill period.

On May 24, 2016, CombiMatrix entered into a confidentiality agreement with Party F. The confidentiality agreement included a standstill provision, but permitted Party F to privately and confidentially explore a possible strategic transaction with CombiMatrix during the standstill period.

On May 27, 2016, CombiMatrix entered into a confidentiality agreement with Party B. The confidentiality agreement included a standstill provision, but permitted Party B to privately and confidentially explore a possible strategic transaction with CombiMatrix during the standstill period.

On May 28, 2016, CombiMatrix entered into a confidentiality agreement with Party E. The confidentiality agreement included a standstill provision, but permitted Party E to privately and confidentially explore a possible strategic transaction with CombiMatrix during the standstill period.

On May 28, 2016, Party D indicated that it was declining to continue in the sale process due to its need to focus on cleaning up its capital structure.

From June 2016 to September 2016, CombiMatrix's senior management held several meetings and telephonic conferences with interested parties, which included Party F, Party G, Invitae, Party B and Party I.

On June 1, 2016, CombiMatrix entered into a confidentiality agreement with Party A. The confidentiality agreement included a standstill provision, but permitted Party A to privately and confidentially explore a possible strategic transaction with CombiMatrix during the standstill period.

During the week ended June 3, 2016, Torreyia sent a process letter to all interested parties requesting them to submit bids for CombiMatrix by June 15, 2016.

On June 6, 2016, CombiMatrix entered into a confidentiality agreement with Party J. The confidentiality agreement included a standstill provision, but permitted Party J to privately and confidentially explore a possible strategic transaction with CombiMatrix during the standstill period.

On June 15, 2016, Party B submitted an all-cash preliminary Indication of Interest, or IOI, providing a valuation range between \$10 and \$20 million.

On June 15, 2016, Party F submitted a preliminary IOI all-cash offer for \$18 million.

On June 15, 2016, Party H submitted a preliminary IOI contemplating a reverse merger at a 90% Party H—10% CombiMatrix equity ownership split. The CombiMatrix board of directors did not view the offer as viable given the potential need for additional capital infusion that presented closing risk.

On June 16, 2016, the CombiMatrix board of directors held a meeting with representatives of CombiMatrix's senior management, CombiMatrix's then outside legal counsel Dorsey, and Torreyia, to discuss the bids received to date, the remaining interested parties and likely bidders, as well as a general status update on the parties contacted and responses received. The CombiMatrix board of directors authorized that all bidders be allowed into the next round of the process and be granted further access to information in the Virtual Data Room, except for Party E due to concerns about competitive harm and Party H because its offer was not viewed as a serious one.

On June 17, 2016, Party E submitted a first round proposal of \$5 million of which \$1 million would be placed in an escrow holdback.

On June 19, 2016, both Party C and Party J indicated they were declining to continue in the sale process.

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On June 24, 2016, Party G submitted an offer for a reverse merger at a 67% Party G—33% CombiMatrix equity ownership split. The CombiMatrix board of directors did not view the offer as viable given the potential need for additional capital infusion that presented closing risk.

During the week ended June 24, 2016, a representative from Torrey spoke with Party H and Party E, and advised them their offers were not sufficient to enable them to continue into the second round of the process.

On June 30, 2016, Party I illustrated a proposed buyout structure in which Party I would acquire CombiMatrix for a de minimis upfront consideration. A representative from Torrey advised Party I that this upfront consideration would need to move up significantly in order to be considered by CombiMatrix.

On July 5, 2016, Party F provided a letter of intent requesting exclusivity, but maintained the pricing of \$18 million in the form of an all-cash transaction.

On July 5, 2016, Invitae provided a preliminary IOI for a stock-for-stock merger valued at two times CombiMatrix's stated 2015 revenues as disclosed in its most recent Form 10-K, or approximately \$20.2 million.

On July 6, 2016, CombiMatrix's management held a telephonic meeting with Party F to discuss the complexities of its capitalization table, more specifically the impact of the Series F warrants on potential transaction structures.

On July 6, 2016, Party A declined to continue in the sale process because it was unwilling to engage in a competitive process.

On July 13, 2016, CombiMatrix's management held a telephonic meeting with Party B to discuss its business and financial forecast, as well as additional business-related questions and the impacts of the challenging capitalization table.

On July 14, 2016, Party F responded to CombiMatrix's request to amend the structure of its offer to include both stock and cash components, however Party F was unable to adjust its initial offer and maintained its position with an \$18 million all-cash offer.

On July 23, 2016, CombiMatrix entered into a confidentiality agreement with Party K. The confidentiality agreement included a standstill provision, but permitted Party K to privately and confidentially explore a possible strategic transaction with CombiMatrix during the standstill period.

On July 25, 2016, Party G submitted a revised offer for a reverse merger at a 52.5% Party G – 47.5% CombiMatrix equity ownership split. The CombiMatrix board of directors did not view the offer as viable given the potential need for additional capital infusion that presented closing risk.

During the week ended August 5, 2016, Party B advised it declined to further participate in the sale process.

On August 10, 2016, CombiMatrix's management held an all-day onsite meeting at their offices in Irvine, California with Party G.

On August 16, 2016, CombiMatrix's management held an all-day meeting at their offices in Irvine, California with Invitae.

On August 19, 2016, CombiMatrix's senior management sent an email to the CombiMatrix board of directors providing an update on the process, including where the process stood with Invitae. CombiMatrix's management reported that there were a number of moving parts that needed to transpire ahead of receiving an updated offer, and a potential path forward with Invitae was thus uncertain. Party G and Party F were also still active in the process at that time.

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During the week ended August 19, 2016, a representative from Torreyia indicated to a senior executive at Party F that CombiMatrix would prefer a cash and stock transaction. Torreyia added that CombiMatrix would require a revised proposal with additional consideration in order to consider exclusivity with Party F.

During the week ended August 26, 2016, Invitae's President and Chief Operating Officer at the time (now Invitae's President and Chief Executive Officer) contacted CombiMatrix's chief executive officer and indicated Invitae declined to further participate in the sale process because it was going to focus on other priorities. Both CombiMatrix's management and representatives from Torreyia contacted several parties who had previously been contacted throughout the process across varied stages of stated interest to hone in on the remaining prospective buyers.

During the week ended September 9, 2016, Party L's chief executive officer notified CombiMatrix's management that it was not in a position to bid for CombiMatrix at the time. A representative from Torreyia contacted Party F and asked if it would move forward for \$19 million with exclusivity. Party F's senior executive said he would respond after communicating internally. A representative for Party G contacted Torreyia and indicated it was not able to put together a revised bid and declined to further participate in the sale process at that time because Party G needed to refocus on executing its near-term business plan.

During the week ended September 16, 2016, Invitae's then President and Chief Operating Officer at the time (now Invitae's President and Chief Executive Officer) confirmed to Torreyia that Invitae was not in a position to move forward in the process at that time. Party F's senior executive informed a representative from Torreyia that Party F declined to further participate in the sale process at that time due to a lack of internal support for a transaction.

During the week ended September 23, 2016, all other interested parties who had put forward IOIs had declined to further participate in the sale process. Torreyia presented CombiMatrix's management additional strategic options on how to move forward in the process, including broadening the call list to additional potential strategic and financial buyers and raising private debt to finance business operations.

From late September 2016 to January 2017, representatives at Torreyia contacted approximately 45 additional potential financial buyers, of which approximately 10 entered into confidentiality agreements that included standstill provisions, but permitted such potential financial buyers to privately and confidentially explore a possible strategic transaction with CombiMatrix during the standstill period.

On October 12, 2016, CombiMatrix entered into a confidentiality agreement with Party M. The confidentiality agreement included a standstill provision, but permitted Party M to privately and confidentially explore a possible strategic transaction with CombiMatrix during the standstill period.

During the week ended October 21, 2016, CombiMatrix's management held telephonic conferences with Party N and Party O. Shortly after the call, Party N indicated it declined to further participate in the sale process.

On October 27, 2016, CombiMatrix entered into a confidentiality agreement with Party P. The confidentiality agreement included a standstill provision, but permitted Party P to privately and confidentially explore a possible strategic transaction with CombiMatrix during the standstill period.

On October 28, 2016, CombiMatrix entered into a confidentiality agreement with Party Q. The confidentiality agreement included a standstill provision, but permitted Party Q to privately and confidentially explore a possible strategic transaction with CombiMatrix during the standstill period.

On November 4, 2016, CombiMatrix entered into confidentiality agreements with Party R, Party S, Party T, Party U, and Party V. The confidentiality agreements included a standstill provision, but permitted such companies to privately and confidentially explore a possible strategic transaction with CombiMatrix during the standstill period.

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During the week ended November 4, 2016, CombiMatrix's management held a telephonic conference with Party P.

During the week ended November 11, 2016, CombiMatrix entered into a confidentiality agreement with Party W. The confidentiality agreement included a standstill provision, but permitted Party W to privately and confidentially explore a possible strategic transaction with CombiMatrix during the standstill period.

During the week ended November 18, 2016, CombiMatrix entered into confidentiality agreements with Party X and Party Y. The confidentiality agreements included a standstill provision, but permitted the companies to privately and confidentially explore a possible strategic transaction with CombiMatrix during the standstill period. CombiMatrix management held telephonic conferences with Party X and Party M. Party Q indicated it declined to further participate in the sale process.

During the week ended November 25, 2016, CombiMatrix's management held a telephonic conference with Party U, a private equity firm.

During the week ended December 2, 2016, CombiMatrix entered into a confidentiality agreement with Party Z. The confidentiality agreement included a standstill provision, but permitted Party Z to privately and confidentially explore a possible strategic transaction with CombiMatrix during the standstill period. CombiMatrix management held a telephonic conference with Party S. Party P and Party O both indicated they declined to further participate in the sale process.

During the week ended December 9, 2016, CombiMatrix management held telephonic conferences with Party Y, Party S and Party U. Party X indicated it declined to further participate in the sale process.

On December 10, 2016, CombiMatrix entered into a confidentiality agreement with Party L. The confidentiality agreement included a standstill provision, but permitted Party L to privately and confidentially explore a possible strategic transaction with CombiMatrix during the standstill period.

On December 13, 2016, CombiMatrix entered into a confidentiality agreement with Party AA. The confidentiality agreement included a standstill provision, but permitted Party AA to privately and confidentially explore a possible strategic transaction with CombiMatrix during the standstill period.

During the week ended December 16, 2016 CombiMatrix's management hosted a site visit at their headquarters in Irvine, California with Party U and its portfolio company, Party UP. Party S and Party Y indicated they declined to further participate in the sale process.

During the week ended December 23, 2016, Party L spoke with a representative of Torrey and asked to speak to CombiMatrix's management at the JP Morgan conference in January 2017. Party F indicated for the final time that there was no interest internally in re-engaging in the sale process.

During the week ended January 6, 2017, a representative from Torrey contacted Invitae and Party B, asking if they would be interested in re-engaging in the sale process. Party Z indicated that it would be able to put together a bid only in the third week of January 2017, shortly after the JP Morgan conference.

During the week ended January 13, 2017, CombiMatrix's management met informally with Party B and Party L at the JP Morgan conference in San Francisco, California.

During the week ended January 20, 2017, Party Z indicated it would no longer continue in the sale process.

On January 23, 2017, Party U provided a preliminary IOI outlining an all-cash acquisition of CombiMatrix at a \$13.5 million valuation. Torrey advised CombiMatrix's management that in order to maximize the implied

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value to stockholders for a transaction with Party U, CombiMatrix could sell off the business in two separate transactions, with an asset sale to Party U in the first step followed by a sale of the remaining public company shell in a second step.

On January 26, 2017 CombiMatrix's management held a telephonic conference with Party U to discuss the offer and legal implications. In addition, a financial advisor for Party BB contacted a representative of Torreyia and indicated Party BB was interested in acquiring a public company shell as a method to go public.

On January 27, 2017 CombiMatrix's management held a telephonic conference with Party BB to discuss the concept and structure of a sale of a public company shell.

On January 27, 2017, Party U provided a revised preliminary IOI outlining an all-cash acquisition of CombiMatrix at a \$15.0 million valuation.

On January 31, 2017, the CombiMatrix board of directors held a telephonic meeting with representatives of CombiMatrix's senior management, CombiMatrix's current outside legal counsel Stradling Yocca Carlson & Rauth, P.C., or Stradling, and Torreyia. Torreyia provided an update on the process and the current field of bidders. Torreyia advised that CombiMatrix make a counter-offer to Party U in tandem with a pending offer from Party BB so that the clearing price of the consolidated transaction would net the stockholders at least \$20 million of cash consideration. In addition, Torreyia reported on the latest discussions and next steps with Party CC, Party DD, Party BB and Party L. The CombiMatrix board of directors instructed Torreyia to send Party L a draft Letter of Intent to begin conversations on a stock-for-stock merger and make a counter-offer to Party U in an effort to reach at least \$20 million of cash consideration.

On February 1, 2017, CombiMatrix entered into a confidentiality agreement with Party DD. The confidentiality agreement included a standstill provision, but permitted Party DD to privately and confidentially explore a possible strategic transaction with CombiMatrix during the standstill period.

On February 3, 2017, due to the muted responses from potential buyers and with guidance from the CombiMatrix board of directors, CombiMatrix's management suspended the sale process with Torreyia, but continued to explore on its own strategic options including a range of potential strategic transactions and business development opportunities. CombiMatrix's management indicated to Torreyia, however, that it would need Torreyia's continued support, including fairness opinion services, as CombiMatrix explored potential strategic transactions on its own. CombiMatrix negotiated with Torreyia the amendment of the fee terms of the engagement letter. On February 9, 2017, CombiMatrix and Torreyia amended the fee terms of their engagement letter pursuant to the agreed upon tail arrangement that if a strategic transaction resulted from a contact CombiMatrix's management initiated and asked Torreyia to assist on, including providing fairness opinion services, Torreyia would receive a flat fee instead of success fee compensation calculation based on a percentage of the transaction value.

On February 6, 2017, Party BB provided a preliminary IOI outlining an upfront cash consideration of \$1.3 million for the public company shell and 0.5% of the pro-forma equity ownership. Party BB's offer to buy the public company shell, however, was moot because Party U's offer was below what the CombiMatrix board of directors thought would be appropriate. Discussions with Party DD and Party L also ended.

On February 13, 2017, Party CC, a privately-held company, submitted an offer for a reverse merger at 83.3% Party CC—16.7% CombiMatrix equity ownership split, but that required CombiMatrix to find a way to extinguish the Series F warrants through a CombiMatrix exchange offer or eliminate their Black-Scholes buyback provision. The CombiMatrix board of directors did not view the offer as viable given the potential need for additional capital infusion that presented closing risk.

On February 17, 2017, Party CC's chief executive officer made a presentation to the CombiMatrix board of directors regarding Party CC's business and prospects.

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On February 23, 2017, Invitae re-engaged to explore the possibility of restarting strategic discussions with CombiMatrix when its President and Chief Executive Officer called CombiMatrix's President and Chief Executive Officer.

On March 6, 2017, Party CC submitted a revised offer for a reverse merger at 77.8% Party CC—22.2% CombiMatrix equity ownership split, but that required CombiMatrix to find a way to extinguish the Series F warrants through a CombiMatrix exchange offer or to eliminate the Black-Scholes buyback provision contained in such Series F warrants. The CombiMatrix board of directors did not view the offer as viable given the potential need for additional capital infusion that presented closing risk.

On March 10, 2017, Invitae indicated it was preparing to submit a proposal for a potential stock-for-stock merger valuing CombiMatrix at two times 2016 revenue as disclosed in its most recent form 10-K filing, or approximately \$25.7 million.

On March 14, 2017, Invitae submitted a preliminary IOI for a stock-for-stock merger valuing CombiMatrix at two times 2016 revenue as disclosed in its most recent form 10-K filing, or approximately \$25.7 million.

On March 15, 2017, the CombiMatrix board of directors held a telephonic meeting with representatives of CombiMatrix's senior management, Stradling, and Torrey. Torrey provided an analysis and guidance on the current bids from Party CC and Invitae. Torrey advised the CombiMatrix board of directors that the reverse merger opportunity with Party CC was a less attractive value proposition to its stockholders. After consideration of all relevant factors, the CombiMatrix board of directors determined that Invitae's proposal stood to maximize shareholder value because, among other factors: the total consideration offered by Invitae was higher in management's and the board of directors' view; in Party CC's offer, CombiMatrix's stockholders would receive a low percentage of the combined entity in a reverse merger and historically reverse mergers have not traded well; unlike Party CC's offer, Invitae's offer would not trigger the Black-Scholes buyout provision of CombiMatrix's Series F warrants and therefore would result in a higher amount of consideration being received by CombiMatrix's stockholders; there were greater synergies between Invitae's business and CombiMatrix's business, presenting better opportunities for post-merger growth; and Party CC was a pre-revenue startup in a different industry space, and the post-merger performance of the combined company would be uncertain. Torrey advised the CombiMatrix board of directors that it should make a counter-offer to Invitae.

On March 20, 2017, Invitae submitted a revised preliminary IOI for a stock-for-stock merger valuing CombiMatrix between \$25 million and \$30 million plus working capital to be defined.

On March 21, 2017, the CombiMatrix board of directors held a telephonic meeting with representatives of CombiMatrix's senior management, Stradling, and Torrey. Torrey presented a valuation analysis of CombiMatrix by analyzing recent comparable transactions, comparable public companies and discounted cash flow valuation methodologies, as well as how Invitae's latest offer fit relative to CombiMatrix's implied valuation. Based on input from Torrey, the CombiMatrix board of directors directed CombiMatrix's management to counter Invitae with a valuation range of \$28 million to \$33 million plus working capital to be defined.

On March 21, 2017, Invitae submitted a revised preliminary IOI for a stock-for-stock merger valuing CombiMatrix between \$28 million and \$33 million plus working capital to be defined. CombiMatrix executed the IOI and sent it back to Invitae starting a period of exclusivity expiring April 14, 2017.

On March 24, 2017, CombiMatrix's management and members of the CombiMatrix board of directors hosted a site visit at their headquarters in Irvine, California with Invitae. A representative of Torrey notified Party CC that CombiMatrix had moved into a period of exclusivity with another party and thus would not be moving forward with Party CC's offer at this time.

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On April 8, 2017, CombiMatrix's management sent an email to the CombiMatrix board of directors notifying them of CombiMatrix's first quarter financial results and updating them on the continuing Merger negotiations with Invitae.

From early April 2017 through late May 2017, Invitae and CombiMatrix exchanged several iterations and markups of a revised IOI and respective illustrative transaction terms until the summary of terms was orally agreed upon and an initial draft of the Merger Agreement was provided by Invitae on May 23, 2017. Also during this period Invitae, Invitae's outside legal counsel Pillsbury Winthrop Shaw Pittman LLP, or Pillsbury, CombiMatrix, Stradling, and other advisors continued to engage in diligence review, as well as exchanged comments on the draft IOI.

On April 13, 2017, Invitae submitted a proposal modifying the IOI that the parties had executed on March 21, 2017, or the Proposal. The Proposal indicated a purchase price for CombiMatrix of \$30 million, plus or minus "net cash" (defined broadly as current assets minus total liabilities at closing) to be paid in common stock of Invitae and calculated on a fully diluted basis of CombiMatrix securities, inclusive of outstanding Series F warrants.

On April 14, 2017, the CombiMatrix board of directors held a telephonic meeting with representatives of CombiMatrix's senior management and Stradling, to consider the new Proposal submitted by Invitae, which management estimated would translate into net consideration to CombiMatrix common stockholders of approximately \$6.10 per share (based on Invitae's then-current common stock price), or approximately \$17.8 million, taking into account the net cash formula in the Proposal and CombiMatrix's share count on a fully diluted basis. The CombiMatrix board of directors directed CombiMatrix's management to make a counterproposal that the "fully diluted" shares calculation exclude the outstanding Series F warrants.

On April 18, 2017, Invitae rejected CombiMatrix's counter-proposal to exclude the Series F warrants from the fully-diluted calculation of the proposed purchase price. The parties discussed alternative solutions to Invitae's concerns surrounding the Series F warrants and Invitae indicated that it would be open to the possibility of conducting a concurrent tender offer of Invitae common stock for the Series F warrants.

Later on April 18, 2017, the CombiMatrix board of directors held a telephonic meeting with representatives of CombiMatrix's senior management and Stradling, in which the CombiMatrix board of directors approved the proposed solution of Invitae making a concurrent tender offer of Invitae common stock for the Series F warrants.

On April 22, 2017, Invitae submitted a revised Proposal that indicated a purchase price for CombiMatrix of \$33 million, plus or minus net cash, and included a concurrent tender offer of Invitae common stock for the Series F warrants at a value of \$2.90 per warrant, but contained a cap on the purchase price (regardless of how much net cash would be increased by any warrant exercises). CombiMatrix's management estimated that the Proposal would approximate \$8.37 per share of CombiMatrix common stock if no Series F warrants were exercised and \$7.33 per share of CombiMatrix common stock if all of the Series F warrants were exercised.

On April 28, 2017, the CombiMatrix board of directors held a meeting with representatives of CombiMatrix's senior management and Stradling, in which it authorized management to continue discussions with Invitae. Because the exclusivity period with Invitae had expired on April 14, 2017, the CombiMatrix board of directors further authorized CombiMatrix's senior management to explore any other strategic alternatives that may become available.

During the week of May 1, 2017, CombiMatrix's chief executive officer contacted Party U to gauge its interest in revisiting the possible strategic transaction, but Party U expressed no interest in engaging in a bidding war for a strategic transaction.

On May 5, 2017, Invitae submitted a further revised Proposal that indicated a purchase price for CombiMatrix of \$25 million, plus or minus net cash, but without a cap, to be paid in common stock of Invitae and calculated on a

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fully diluted basis of CombiMatrix securities, but excluding outstanding Series D Warrants and also excluding any Series F warrants tendered in a tender exchange offer. Under the tender offer, Invitae would make a supplemental offer of \$2.90 per Series F warrant (approximately an additional \$6 million based on Invitae's then-current common stock price). The purchase price would be subject to a floor of \$7.00 per share of common stock (based on Invitae's then-current common stock price) regardless of how much dilution may occur if Series F warrants are exercised. The revised Proposal also required that the transaction bonus pursuant to CombiMatrix's Transaction Bonus Plan be paid with restricted stock units for Invitae common stock despite the fact that the transaction bonus is payable in cash pursuant to the terms of the Transaction Bonus Plan.

On May 8, 2017, the CombiMatrix board of directors held a telephonic meeting with representatives of CombiMatrix's senior management, Stradling, and Torrey. Torrey presented an updated valuation analysis of CombiMatrix by analyzing recent comparable transactions, comparable public companies and discounted cash flow valuation methodologies, along with a sensitivity analysis of Series F warrants tender versus exercise, as well as how Invitae's latest offer fit relative to CombiMatrix's implied valuation. Based on input from Torrey, the CombiMatrix board of directors directed CombiMatrix's management to make a counteroffer to Invitae for a \$27 million purchase price for the CombiMatrix common stock (subject to the net cash adjustment) and a floor of \$8.25 per share of CombiMatrix common stock (based on Invitae's then-current common stock price), or approximately \$42 million if all the Series F warrants exercised prior to closing the Merger.

On May 11, 2017, CombiMatrix received an unsolicited IOI by Party K for a reverse merger at a range between 75-81% Party K—19-25% CombiMatrix equity ownership split. The CombiMatrix board of directors did not view the offer as viable given the potential need for additional capital infusion that presented closing risk.

On May 12, 2017, the CombiMatrix board of directors held a telephonic meeting with representatives of CombiMatrix's senior management, Stradling, and Torrey. Torrey provided guidance on the IOI received from Party K and concluded that given the historical risk profile of Party K and its current capitalization, Invitae's offer reflected a superior value proposal for CombiMatrix's stockholders. However, Torrey also advised that CombiMatrix make a counter proposal back to Party K. Based on input from Torrey, the CombiMatrix board of directors directed CombiMatrix's management to counter Party K with a \$45 million all-cash offer plus a cash buyout of the Series F warrants (based upon the maximum value of the Invitae Proposal being approximately \$42 million if all the Series F warrants are exercised prior to closing the Merger), with proof of funds and ability to close within 30 days, and with no exclusivity.

On May 16, 2017, CombiMatrix's chief executive officer contacted the chief executive officer of Party K and presented the all-cash counterproposal, which Party K ultimately rejected later that week.

From late May 2017 through late July 2017, Invitae and CombiMatrix exchanged several iterations and markups of the draft Merger Agreement until terms were fully agreed upon and the Merger Agreement was signed on July 31, 2017. Also during this period Invitae, Pillsbury, CombiMatrix, Stradling, and other advisors continued to engage in diligence review, as well as exchanged comments on the draft Merger Agreement.

On June 9, 2017, the CombiMatrix board of directors held a telephonic meeting with representatives of CombiMatrix's senior management and Stradling, and discussed the terms of an interim draft of the Merger Agreement. The CombiMatrix board of directors directed CombiMatrix's management to negotiate with Invitae to, among other things, reduce the termination fee and expense reimbursement in the Merger Agreement from \$2,000,000 and \$500,000, respectively, down to \$1,000,000 and \$300,000, respectively. Later on June 9, 2017, CombiMatrix's management made a counter-offer to Invitae with a termination fee and expense reimbursement of \$1,000,000 and \$300,000, respectively.

On June 27, 2017, Invitae agreed to a termination fee and expense reimbursement in the Merger Agreement of \$1,400,000 and \$400,000, respectively, and on July 18, 2017, Invitae agreed that the termination fee would be reduced by any amount of expense reimbursement already paid.

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On July 14, 2017, the CombiMatrix board of directors held a meeting with representatives of CombiMatrix's senior management, Stradling, and Torrey to discuss an interim draft of the Merger Agreement. The CombiMatrix board of directors directed CombiMatrix's management to request that Invitae consider shifting a certain amount of Merger consideration from the Series F warrant exchange tender offer to the CombiMatrix common stockholders.

On July 15, 2017, CombiMatrix's chief executive officer contacted Invitae's chief executive officer to request that Invitae consider shifting a certain amount of Merger consideration from the Series F warrant exchange tender offer to the CombiMatrix common stockholders. Invitae's chief executive officer indicated that Invitae was unwilling to shift the consideration between common stockholders and Series F warrant holders.

On July 21, 2017, Invitae opened a discussion with CombiMatrix's senior management regarding their continued work for CombiMatrix post-Merger and provided an initial draft of consulting agreements for them.

On July 28, 2017, the CombiMatrix board of directors met telephonically, with representatives of CombiMatrix's senior management, Torrey and Stradling present, to consider the proposed transaction with Invitae. At the meeting, the CombiMatrix board of directors reviewed the key provisions of the near-final draft of the Merger Agreement and ancillary agreements, including structure and timing considerations, the exchange ratio, closing conditions, treatment of stock options, restricted stock units and warrants, the termination provisions and termination fees and circumstances under which the payment of termination fees would be triggered. The CombiMatrix board of directors was made aware of the consulting arrangements that Invitae was offering to CombiMatrix's chief executive officer and chief financial officer and of their respective financial interests in those arrangements.

During that meeting on July 28, 2017, representatives of Torrey delivered to the CombiMatrix board of directors its oral opinion, which was confirmed by delivery of a written opinion dated July 28, 2017, to the effect that, as of such date and based upon and subject to the assumptions made, matters considered and limits on the review undertaken by Torrey in preparing the opinion, the consideration to be paid in the Merger and in the proposed Warrant Exchange Offer was fair, from a financial point of view, to CombiMatrix's common stockholders. The CombiMatrix board of directors directed CombiMatrix's management to further negotiate the termination fee provision in the Merger Agreement so that the termination fee would not be triggered solely by an unsolicited bid.

Between July 28, 2017 and July 30, 2017, Invitae, Pillsbury, CombiMatrix, Stradling, and other advisors had continued discussions on the terms of the Merger Agreement.

On July 30, 2017, the CombiMatrix board of directors met telephonically, with representatives of CombiMatrix's senior management, Torrey and Stradling present, to consider the proposed transaction with Invitae. At the meeting, the CombiMatrix board of directors reviewed the revisions made to the near-final draft of the Merger Agreement and ancillary agreements since the versions of July 28, 2017, including Invitae's agreement that the termination fee would not be triggered solely by an unsolicited bid.

During that meeting on July 30, 2017, representatives of Torrey delivered to the CombiMatrix board of directors its oral opinion, which was confirmed by delivery of a written opinion dated July 30, 2017, to the effect that, as of such date and based upon and subject to the assumptions made, matters considered and limits on the review undertaken by Torrey in preparing the opinion, the consideration to be paid in the Merger and in the proposed Warrant Exchange Offer was fair, from a financial point of view, to CombiMatrix's common stockholders.

On July 31, 2017, the parties finalized the Merger Agreement and the Merger Agreement was executed.

On July 31, 2017, after the closing of the markets in the United States, CombiMatrix and Invitae announced the Transaction through separate press releases.

CombiMatrix's Reasons for the Merger; Recommendation of the CombiMatrix Board of Directors

At a meeting held on July 30, 2017, the CombiMatrix board of directors, by unanimous vote, determined that the Merger was in the best interest of CombiMatrix and its stockholders, approved the Merger Agreement and ancillary agreements and the transactions contemplated by the Merger Agreement and ancillary agreements, and recommended that CombiMatrix stockholders vote "FOR" the Merger Proposal.

The CombiMatrix board of directors believes that the businesses of CombiMatrix and Invitae are complementary and that a combination of CombiMatrix with Invitae presents a compelling strategic opportunity to enhance value for CombiMatrix stockholders. In reaching its decision to approve the Merger Agreement and transactions contemplated thereby, including the Merger, and to recommend that CombiMatrix stockholders vote "FOR" the Merger Proposal, the CombiMatrix board of directors, with the assistance of CombiMatrix's management and financial and legal advisors, considered and analyzed a number of factors and a number of potential risks, including those reviewed by the CombiMatrix board of directors at the meetings described in this proxy statement/prospectus in the section entitled "*The Merger Proposal — Background of the Merger*."

The following is a summary of the material factors considered by the CombiMatrix board of directors in determining to approve the Merger Agreement and the transactions contemplated thereby, including the Merger:

- the implied consideration per share of CombiMatrix's common stock to be paid by Invitae pursuant to the Merger Agreement ranged between \$8.00 and \$8.60, which reflects (i) a premium of 55.3% to 67.0% over the closing trading price of the CombiMatrix's common stock on July 28, 2017, (ii) a premium of 63.3% to 75.5% over the lowest trading price of the CombiMatrix's common stock over the thirty days prior to July 28, 2017, (iii) a premium of 47.8% to 58.9% over the volume weighted average stock price, or VWAP, of the CombiMatrix's common stock over the thirty days prior to July 28, 2017, (iv) a premium of 47.0% to 58.0% over the VWAP of the CombiMatrix's common stock over the ninety days prior to July 28, 2017, and (v) a premium of 98.8% to 113.7% over the VWAP of the CombiMatrix's common stock over the one hundred eighty days prior to July 28, 2017.
- the CombiMatrix board of directors' and management's understanding of CombiMatrix's and Invitae's respective business, operations, financial condition, earnings, prospects, competitive position and the nature of the industry in which CombiMatrix and Invitae compete, including the risks, uncertainties and challenges facing CombiMatrix, Invitae and such industry, and the risks that CombiMatrix would face if it continued to operate on a standalone basis;
- the fact that CombiMatrix's business and operations complement those of Invitae and, despite the similar nature of the businesses of CombiMatrix and Invitae and that certain customers and/or partners may overlap, the fact that the market opportunity for growth and the ability of the combined company to be better positioned to capitalize on the opportunities for growth than CombiMatrix would be able to accomplish alone is compelling;
- the expected synergies to be realized by the combined company and the expectation of the CombiMatrix board of directors that the future earnings and prospects of the combined company (and, relatedly, the value to CombiMatrix stockholders who receive the Merger consideration) would be superior to those of CombiMatrix on a standalone basis;
- the financial analyses reviewed and discussed with the CombiMatrix board of directors by representatives of Torreya as well as the oral opinion of Torreya rendered to the CombiMatrix board of directors on July 28, 2017 and July 30, 2017 as to the fairness, from a financial point of view, to the holders of shares of CombiMatrix common stock of the Merger consideration to be paid to such stockholders in the Merger pursuant to the Merger Agreement (which oral opinion was subsequently confirmed in writing on July 30, 2017 by delivery of Torreya's written opinion dated July 30, 2017), as more fully described below in the section entitled "*The Merger Proposal—Opinion of CombiMatrix Financial Advisor*";

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- the CombiMatrix board of directors' process for soliciting the parties (including both strategic and financial parties), prior to the entry into the Merger Agreement, that were believed to be the most able and willing to pay the highest price for CombiMatrix, including being given an opportunity to conduct due diligence and to make offers to acquire CombiMatrix, as described above in the section entitled "*The Merger Proposal—Background of the Merger*";
- the fact that CombiMatrix's management and the CombiMatrix board of directors believed that it was unlikely that another buyer would pay in excess of the Merger consideration, and if there was such a buyer that presented a superior proposal prior to the stockholder vote to approve the Merger Proposal, CombiMatrix would have certain rights in accordance with the terms of the Merger Agreement, as further described herein;
- the fact that holders of CombiMatrix common stock will have an opportunity to receive shares of Invitae common stock pursuant to the Merger, the perceived likelihood that the future value of a share of Invitae common stock will exceed the potential future value of a share of CombiMatrix common stock, the potential for shares of Invitae common stock to increase in value following completion of the Merger, the ability that CombiMatrix stockholders that receive and hold Invitae shares will have to participate in any such potential increase in value, and the expected tax treatment of the receipt of common stock of Invitae in the Merger;
- the fact that the Merger is not subject to approval by Invitae's stockholders;
- Invitae's track record, market capitalization and financial strength, and the absence of a financing condition in the Merger Agreement;
- the efforts made to negotiate a merger agreement that would be favorable to CombiMatrix's stockholders and the terms and conditions of the fully negotiated Merger Agreement, including the size of the termination fee of \$1,400,000 payable to Invitae in specified circumstances, and the parties' agreement on the circumstances under which such fee may become payable, as further discussed in the section entitled "*The Merger Agreement—Termination of the Merger Agreement and Termination Fee*";
- the ability of CombiMatrix under the terms of the Merger Agreement to negotiate with third parties concerning certain unsolicited competing acquisition proposals if CombiMatrix were to receive such proposals prior to the adoption of the Merger Agreement by the CombiMatrix stockholders, and the ability of CombiMatrix to terminate the Merger Agreement to accept a superior proposal under certain circumstances, each as further described in the section entitled "*The Merger Agreement—Non Solicitation*";
- the belief that the terms of the Merger Agreement, taken as a whole, including the parties' representations, warranties and covenants, and the conditions to the parties' respective obligations, are reasonable;
- the fact that a vote of the holders of CombiMatrix common stock is required under Delaware law to adopt the Merger Agreement;
- the risk that pursuing other potential alternatives, including continuing to operate on a standalone basis, could have resulted in the loss of an opportunity to consummate a transaction with Invitae;
- the fact that, as an all-stock transaction, the Merger would not be taxable to the holders of CombiMatrix common stock that are U.S. holders for U.S. federal income tax purposes; and
- the fact that the shares of Invitae common stock issuable as Merger consideration will be registered by Invitae under a Form S-4 Registration Statement and listed for trading on the NYSE.

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In the course of its deliberations, the CombiMatrix board of directors also considered a variety of risks and other countervailing factors related to the Merger Agreement and the Merger, including the following material factors:

- the possibility that the Merger might not be consummated in a timely manner or at all due to a failure of certain conditions, including with respect to the required approval of the transaction by antitrust regulatory authorities;
- the risks and costs to CombiMatrix if the Merger does not close in a timely manner or at all, including the potential negative impact on CombiMatrix's ability to retain key employees, the diversion of management and employee attention and the potential disruptive effect on CombiMatrix's day-to-day operations and CombiMatrix's relationships with customers, suppliers and other third parties;
- the fact that the holders of CombiMatrix common stock will have a much smaller ongoing equity interest in the surviving corporation following the Merger;
- the fact that the value of the Merger consideration could fluctuate prior to closing the Merger based on fluctuations in Invitae's stock price;
- the fact that the per share Merger consideration to common stockholders would decline due to dilution from any exercises of Series F warrants prior to closing the Merger;
- the restrictions on the conduct of CombiMatrix's business prior to the consummation of the Merger, which may delay or prevent CombiMatrix from undertaking business opportunities that may arise or any other action that it might otherwise take with respect to the operations of CombiMatrix;
- the risk that the parties may incur significant costs and delays resulting from seeking governmental consents and approvals necessary for completion of the Merger;
- the fact that the integration of CombiMatrix and Invitae may be complex and time-consuming and may require substantial resources and effort, and the risk that if Invitae does not successfully integrate CombiMatrix, the anticipated benefits of the Merger may not be realized fully or at all or may take longer to realize than expected;
- the possibility that strategic and other benefits expected to be created by the combination of CombiMatrix and Invitae following the completion of the Merger, including expected synergies, may not be realized by the combined company or will take longer to realize than expected;
- the provisions of the Merger Agreement that restrict CombiMatrix's ability to solicit or participate in discussions or negotiations regarding alternative business combination transactions;
- the possibility that CombiMatrix's obligation to pay Invitae a termination fee of up to \$1,400,000 upon the termination of the Merger Agreement under certain circumstances could discourage other potential acquirors from making an alternative proposal to acquire CombiMatrix;
- the possibility that CombiMatrix could be obligated to pay Invitae an expense reimbursement fee of up to \$400,000 upon the termination of the Merger Agreement under certain circumstances;
- the possibility that if the Merger is terminated due to certain circumstances and CombiMatrix has to pay termination fees and transaction expenses, CombiMatrix may not have sufficient funds to make such payments;
- the significant costs to be incurred by CombiMatrix in connection with the Merger; and
- the CombiMatrix stockholders will not receive cash from Invitae as part of the Merger consideration, other than cash for fractional shares.

In addition, the CombiMatrix board of directors was aware of and considered the fact that CombiMatrix's executive officers have financial interests in the Merger that may be different from, or in addition to, those of CombiMatrix's stockholders generally, including those interests that are a result of employment and compensation arrangements with CombiMatrix, as described more fully below in the section entitled "*The Merger Proposal—Interests of Certain CombiMatrix Directors and Officers in the Merger*."

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The foregoing discussion of the factors considered by the CombiMatrix board of directors is not intended to be exhaustive, but rather includes the material factors considered by the CombiMatrix board of directors. The CombiMatrix board of directors collectively reached the conclusion to approve the Merger Agreement and deem the Merger Agreement and the transactions contemplated thereby, including the Merger, to be advisable and in the best interests of CombiMatrix and its stockholders, in light of the various factors described above and other factors that the members of the CombiMatrix board of directors believed were appropriate. In view of the wide variety of factors considered by the CombiMatrix board of directors in connection with its evaluation of the Merger and the complexity of these matters, the CombiMatrix board of directors did not consider it practical, and did not attempt, to quantify, rank or otherwise assign relative weights to the specific factors it considered in reaching its decision and did not undertake to make any specific determination as to whether any particular factor, or any aspect of any particular factor, was favorable or unfavorable to the ultimate determination of the CombiMatrix board of directors. Rather, the CombiMatrix board of directors made its recommendation based on the totality of the information available to the CombiMatrix board of directors, including discussions with, and questioning of, CombiMatrix's management and its financial and legal advisors. In considering the factors discussed above, individual members of the CombiMatrix board of directors may have given different weights to different factors.

This explanation of the CombiMatrix board of directors' reasons for recommending the adoption of the Merger Agreement and other information presented in this section is forward-looking in nature and, therefore, should be read in light of the factors described in the section entitled "*Cautionary Statement Regarding Forward-Looking Statements*."

Invitae's Reasons for the Merger

The Invitae board of directors concluded that the Merger Agreement, the Merger, the stock issuance in connection therewith and the other transaction documents, and the transactions contemplated thereby or undertaken in connection therewith are advisable and in the best interests of Invitae and its stockholders and, accordingly, approved the Merger Agreement, the Merger, the stock issuance in connection therewith and the other transaction documents, and the transactions contemplated thereby or undertaken in connection therewith. In evaluating the transactions, the Invitae board of directors consulted with Invitae's management and legal advisors, and considered the following material factors that the Invitae board of directors believes favor the transactions:

- the transactions would not preclude Invitae from entering into possible future business combination transactions,
- the Invitae board of directors' belief that the Exchange Ratio added certainty to the proposed transactions without subjecting Invitae stockholders to the possibility of excessive dilution,
- the requirement that participation in the Warrant Exchange Offer by at least 90% of the CombiMatrix Series F warrants is a condition to Invitae's obligation to proceed with a closing of the Merger,
- the fact that CombiMatrix may be required, under certain circumstances, to pay a termination fee to Invitae of \$1,400,000 (net of expense reimbursement previously paid) and/or Invitae's expenses up to \$400,000, and
- the terms of the Merger Agreement, as described in the section entitled "*The Merger Agreement*" below, which the Invitae board of directors generally viewed as favorable to Invitae.

In the course of its deliberations regarding the transactions, the Invitae board of directors also identified and considered the following potentially negative factors:

- the potential disruption to Invitae's business that could result from the announcement of the transactions, including the diversion of management and employee attention, employee attrition and the effect on business and customer relationships,

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- the effect of the public announcement of the transactions on Invitae’s stock price if Invitae stockholders or CombiMatrix stockholders do not view the Merger positively,
- the possibility that the transactions might not be completed due to difficulties in satisfying the conditions to the Merger or the occurrence of a material adverse effect on either company’s business,
- the risks and costs to Invitae if the transactions do not close, and the potential effect of the resulting public announcement of termination of the Merger Agreement on, among other things, the market price for Invitae common stock, its operating results, its ability to attract and retain key personnel and its ability to complete an alternative transaction,
- the fact that Invitae may be required, under certain circumstances, to pay CombiMatrix’s expenses up to \$400,000, and
- the fact that, subject to compliance with certain obligations under the Merger Agreement, the CombiMatrix board of directors is permitted to change its recommendation to the CombiMatrix stockholders and the CombiMatrix stockholders may fail to approve the Merger Proposal; in addition, the CombiMatrix board of directors may explore and respond to an alternative transaction proposed by a third party that it concludes constitutes, or could reasonably be expected to constitute, a superior proposal.

The foregoing discussion of the information and factors considered by the Invitae board of directors is not intended to be exhaustive, but includes the material factors considered by the Invitae board of directors. In view of the variety of factors considered in connection with its evaluation of the Merger Agreement, the issuance of shares in the Merger and the other transactions contemplated by the Merger Agreement and other transaction documents, the Invitae board of directors did not find it practicable to, and did not, quantify or otherwise assign specific weights to the factors considered in reaching its determination and recommendation. In addition, each of the members of the Invitae board of directors may have given differing weights to different factors. On balance, the Invitae board of directors believed that the positive factors discussed above outweighed the negative factors discussed above.

Board of Directors and Management of Invitae Following Completion of the Merge r

Upon completion of the Merger, the board of directors of Invitae will continue to consist of the current five members, comprised of Eric Aguiar, M.D., Geoffrey S. Crouse, Sean E. George, Ph.D., Invitae’s President and Chief Executive Officer, Christine M. Gorjanc, and Randal W. Scott, Ph.D., Invitae’s Executive Chairman. Upon completion of the Merger, Randal W. Scott, Ph.D. will continue serve as Executive Chairman and Sean E. George, Ph.D. will continue to serve as President and Chief Executive Officer of Invitae. The other executive officers of Invitae will continue to serve in their current capacities, including Lee Bendekgey, Chief Operating Officer, Shelly D. Guyer, Chief Financial Officer, and Robert L. Nussbaum, Chief Medical Officer.

Information about the current Invitae and CombiMatrix directors and executive officers can be found in the documents listed under the headings “Invitae SEC Filings” and “CombiMatrix SEC Filings” in the section entitled “*Where You Can Find More Information.*”

Ownership of Invitae Following the Merge r

Based on the number of shares of CombiMatrix common stock and the number of CombiMatrix Series F warrants outstanding as of September 4, 2017, and assuming 100% of the CombiMatrix Series F warrants are tendered in the Warrant Exchange Offer, Invitae expects to issue in the Merger approximately 4.0 million shares of Invitae common stock, including common stock underlying warrants and restricted stock units. Based on the number of CombiMatrix securities and the number of shares of Invitae common stock outstanding on the record date and assuming 100% of the CombiMatrix Series F warrants are tendered in the Warrant Exchange Offer, upon completion of the Merger the CombiMatrix securityholders are expected to own approximately 6.9% of the fully-diluted common stock of the combined company.

Public Trading Markets

Invitae common stock is currently listed on the NYSE under the symbol “NVTA.” CombiMatrix common stock is currently listed on the NASDAQ Capital Market under the symbol “CBMX” and CombiMatrix Series F warrants are currently listed on the NASDAQ Capital Market under the symbol “CBMXW.” Upon completion of the Merger, CombiMatrix common stock and Series F warrants will be delisted from the NASDAQ Capital Market and deregistered under the Exchange Act. The newly issued Invitae common stock issuable pursuant to the Merger Agreement will be listed on the NYSE.

Appraisal Rights

Appraisal rights are statutory rights that enable stockholders to dissent from an extraordinary transaction, such as a Merger, and to demand that the corporation pay the fair value for their shares as determined by a court in a judicial proceeding instead of receiving the consideration offered to stockholders in connection with the extraordinary transaction. Under Delaware law, neither the holders of Invitae common stock nor the holders of CombiMatrix capital stock are entitled to appraisal rights in connection with the Merger.

Regulatory Approvals Required for the Merger

Invitae and CombiMatrix have agreed to cooperate and use commercially reasonable efforts to obtain all regulatory approvals required to complete the transactions contemplated by the Merger Agreement. Invitae must comply with applicable federal and state securities laws and the rules and regulations of the NYSE in connection with the issuance of shares of Invitae common stock and restricted stock units and the filing of this proxy statement/prospectus with the SEC.

The Merger Agreement also provides that CombiMatrix and Invitae will file any notification and report forms required to be filed under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended, and respond as promptly as practicable to any inquiries or requests received from the Federal Trade Commission or the Department of Justice for information or documentation or any inquiries or requests received from any other governmental body in connection with antitrust or competition matters.

Opinion of CombiMatrix Financial Advisor

Pursuant to an engagement letter dated April 20, 2016, as amended, CombiMatrix retained Torreya to act as financial advisor in connection with the Merger and to render an opinion to the CombiMatrix board of directors as to the fairness, from a financial point of view, to the stockholders of CombiMatrix of the total Merger consideration.

As more specifically set forth in the Merger Agreement, Invitae intends to merge its wholly owned subsidiary with and into CombiMatrix, with all of the outstanding equity of CombiMatrix being exchanged for the total Merger consideration, which is referred to in this section as the Consideration. The terms and conditions of the Merger are more fully set forth in the Merger Agreement.

Torreya rendered to CombiMatrix’s board of directors at its meetings on July 28, 2017 and July 30, 2017, Torreya’s oral opinion, subsequently confirmed by delivery of a written opinion dated July 30, 2017, that, as of such dates, and based upon and subject to the various assumptions, considerations, qualifications and limitations set forth therein, the consideration to be paid in the Merger and in the proposed Warrant Exchange Offer pursuant to the Merger Agreement was fair, from a financial point of view, to CombiMatrix’s stockholders.

The full text of the written opinion of Torreya, dated July 30, 2017, is attached as *Annex B* to this proxy statement/prospectus and is incorporated herein by reference. CombiMatrix encourages CombiMatrix stockholders to read the opinion in its entirety for the assumptions made, procedures followed, other

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matters considered and limits of the review by Torreya. The summary of the written opinion of Torreya set forth herein is qualified by reference to the full text of such opinion. Torreya's analyses and opinion were prepared for and addressed to the CombiMatrix board of directors and are directed only to the fairness, from a financial point of view, of the aggregate transaction value to be paid in the Merger. Torreya's opinion is not a recommendation to any stockholder as to how to vote with respect to the proposed Merger or to take any other action in connection with the Merger or otherwise.

In connection with its opinion, Torreya reviewed and considered, among other things:

- the final draft of the Merger Agreement dated July 29, 2017;
- certain publicly available financial and other information for CombiMatrix and certain other relevant financial and operating data furnished to Torreya by CombiMatrix management;
- certain internal financial analyses, reports and other information concerning CombiMatrix prepared by the management of CombiMatrix and certain financial forecasts concerning CombiMatrix prepared by the management of CombiMatrix, which are collectively referred to as the CombiMatrix Forecast;
- certain stock market data of CombiMatrix and certain publicly traded companies Torreya deemed relevant;
- certain acquisition premia paid to other publicly traded companies in the life sciences sector in the last three years Torreya deemed relevant;
- certain financial terms of the Merger as compared to the financial terms of certain selected business acquisitions Torreya deemed relevant; and
- such other information, financial studies, academic reports, analyst reports, market research, and such other factors that Torreya deemed relevant for the purposes of its opinion.

Torreya also held discussions with certain members of the management of CombiMatrix and Invitae with respect to certain aspects of the proposed transaction, the past and current business operations of CombiMatrix and Invitae, the financial condition and future prospects and operations of CombiMatrix and Invitae, the effects of the proposed transaction on the financial condition and future prospects of CombiMatrix and Invitae, and certain other matters Torreya believed necessary or appropriate to its inquiry.

In conducting its review and arriving at its opinion, Torreya, with CombiMatrix's consent, assumed and relied upon, without independent investigation, the accuracy and completeness in all material respects of all financial and other information provided to it by CombiMatrix, or which was publicly available or was otherwise reviewed by Torreya. Torreya did not undertake any responsibility for the accuracy, completeness or reasonableness of, or independent verification of, such information. Torreya relied upon, without independent verifications, the assessment of CombiMatrix management as to the existing services of CombiMatrix and the viability of, and risks associated with, the future services of CombiMatrix (including without limitation, the development, testing and marketing of such services, the receipt of all necessary governmental and other regulatory approvals for the development, testing and marketing thereof, and the life and enforceability of all relevant patents and other intellectual and other property rights associated with such services).

In addition, Torreya did not conduct or assume any obligation to conduct any physical inspection of the properties or facilities of CombiMatrix. Torreya, with CombiMatrix's consent, assumed that the CombiMatrix Forecast was reasonably prepared by the management of CombiMatrix on bases reflecting the best currently available estimates and good faith judgments of such management as to the future performance of CombiMatrix, and such projections provide a reasonable basis for Torreya's opinion. Torreya expresses no opinion as to the CombiMatrix Forecast or the assumptions on which it was made. Torreya further relied upon the assurance of the management of CombiMatrix that they are unaware of any facts that would make the information provided to Torreya incomplete or misleading in any material respect. Torreya expressly disclaims any undertaking or obligations to advise any person of any change in any fact or matter affecting its opinion of which Torreya becomes aware after the date of its opinion.

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Torreyya did not make or obtain any independent evaluations, valuations or appraisals of the assets or liabilities of CombiMatrix, nor was Torreyya furnished with such materials. Torreyya relied, with CombiMatrix's consent, on the assessments by CombiMatrix and its advisors as to all legal, regulatory and tax matters with respect to CombiMatrix. Torreyya's services to CombiMatrix in connection with the Merger Agreement have been comprised solely of rendering an opinion from a financial point of view with respect to the Consideration. Torreyya expressed no view as to any other aspect or implication of the Merger Agreement or any other agreement, arrangement or understanding entered into in connection with the Merger Agreement or otherwise. Torreyya's opinion is necessarily based upon economic and market conditions and other circumstances as they existed and could be evaluated by Torreyya as of the date of its opinion. It should be understood that although subsequent developments may affect Torreyya's opinion, Torreyya does not have any obligation to update, revise or reaffirm its opinion and Torreyya expressly disclaims any responsibility to do so.

For purposes of rendering its opinion, Torreyya assumed in all respects material to its analysis that the final form of the Merger Agreement when signed would be substantially similar to the last draft reviewed by Torreyya. Torreyya also assumed that all governmental, regulatory and other consents and approvals contemplated by the Merger Agreement will be obtained and that in the course of obtaining any of those consents no restrictions will be imposed or waivers made that would have an adverse effect on the contemplated benefits of the Merger Agreement.

Torreyya's opinion does not constitute a recommendation to any CombiMatrix stockholder as to how such stockholder should vote with respect to the Merger Agreement or to take any other action in connection with the Merger Agreement or otherwise. Torreyya was not requested to opine as to, and Torreyya's opinion does not in any manner address, CombiMatrix's underlying business decision to enter into the Merger Agreement or the relative merits of the transactions contemplated by the Merger Agreement as compared to other business strategies or transactions that might be available to CombiMatrix. Furthermore, Torreyya expressed no view as to the price or trading range for shares of Invitae common stock following the execution of the Merger Agreement or the consummation of the transactions contemplated by the Merger Agreement. The issuance of Torreyya's opinion was approved by an authorized internal fairness committee of Torreyya in accordance with its customary practice.

Summary of Material Financial Analysis

The following is a summary of the material financial analyses performed by Torreyya to arrive at its opinion. Some of the summaries of financial analyses include information presented in tabular format. In order to fully understand the financial analyses, the tables must be read together with the text of each summary. The tables alone do not constitute a complete description of the financial analyses. Considering the data set forth in the tables without considering the full narrative description of the financial analyses, including the methodologies and assumptions underlying the analyses, could create a misleading or incomplete view of the financial analyses. Torreyya performed certain procedures, including each of the financial analyses described below, and reviewed with the management of CombiMatrix the assumptions on which such analyses were based and other factors, including the historical and projected financial results of CombiMatrix.

Certain Definitions . Throughout this Summary of Valuation and Financial Analyses, the following financial terms are used in connection with Torreyya's various valuation and financial analyses:

- VWAP: means the relevant company's volume weighted average stock price over a specified period.
- FV: means the relevant company's firm value, comprised of the market value of common equity (based on the company's share price and estimated fully diluted share count) plus (i) the principal or face amount of total debt and preferred stock less (ii) cash, cash equivalents, short- and long-term marketable investments and certain other cash-like items.
- LTM: means last twelve months.
- DCF: means discounted cash flow.

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- Unlevered free cash flow: means the relevant company's after-tax unlevered operating cash flow minus capital expenditures.

Implied Enterprise Value . Torrey notes that the proposed Merger implies a total enterprise value for CombiMatrix of \$33 million relative to its latest enterprise value of roughly \$12 million according to its most recent SEC filings and public market trading data as of market close on July 28, 2017.

Historical Trading Range Analysis . Torrey reviewed the historical trading range of shares of CombiMatrix's common stock for the 52 week period ending July 28, 2017. Torrey observed that, as of July 28, 2017, the closing price of CombiMatrix's common stock was \$5.15 per share and that, for the 52 weeks ended July 28, 2017, the maximum trading price for shares of CombiMatrix's common stock was \$6.63 and the minimum trading price for shares of CombiMatrix's common stock was \$2.15.

Torrey further observed that the implied consideration per share of CombiMatrix's common stock ranging between \$8.60 and \$8.00 offered by Invitae pursuant to the Merger Agreement and certain operating financial assumptions made by CombiMatrix management, as well as other assumptions related to the potential exercise or tendering outcomes of Series F warrants, reflected the following premiums based on the respective values of CombiMatrix's common stock price on July 28, 2017, the 30, 90 and 180-day VWAPs, and stock prices for other periods ending on July 28, 2017:

Reference Date/Period for CombiMatrix Common Stock	Share Price for Such Date/Period	Implied Premium Based on \$8.60 Offer Price	Implied Premium Based on \$8.00 Offer Price ("Floor")
At 07/28/17	\$5.15	67.0%	55.3%
30-Days Prior	\$4.90	75.5%	63.3%
30-Day VWAP	\$5.41	58.9%	47.8%
90-Day VWAP	\$5.44	58.0%	47.0%
180-Day VWAP	\$4.02	113.7%	98.8%

Analysis of Selected Publicly Traded Companies . Torrey performed a comparable companies analysis, which is designed to provide an implied trading value of a company by comparing it to selected companies with similar characteristics to the subject company. Torrey compared certain financial information of CombiMatrix with publicly available information for the selected companies. The selected companies were chosen based on Torrey's knowledge of the industry and because the selected companies have businesses that may be considered similar to CombiMatrix's. Although none of the selected companies are identical or directly comparable to CombiMatrix, all of the selected companies are publicly traded companies in the Life Sciences Laboratory Services sector with enterprise values between \$15.7 million and \$1.6 billion. These companies, which are referred to as the Selected Publicly Traded Life Sciences Laboratory Services Companies, were:

- Myriad Genetics
- Natera
- Harvard Bioscience
- CareDx
- Interpace Diagnostics

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With respect to the Selected Publicly Traded Life Sciences Laboratory Services Companies, the Torreyra opinion utilized the following information:

<u>Company</u>	<u>FV/LTM Revenue</u>
Myriad Genetics	2.1x
Natera	1.9x
Harvard Bioscience	1.0x
CareDx	1.1x
Interpace Diagnostics	1.2x

Based on the analysis of the relevant metrics for the selected companies, Torreyra selected ranges of multiples of 1.0x to 2.0x for LTM revenue and applied this valuation range to the relevant financial statistics for CombiMatrix and used such information to calculate a range of potential values per share of CombiMatrix common stock.

Selected Publicly Traded Life Sciences Laboratory Services Companies range of potential values per share of CombiMatrix common stock:

25 th Percentile:	\$4.74
Mean:	\$6.56
Median:	\$5.28
75 th Percentile:	\$9.01

Although the companies referred to above were used for comparison purposes, none of those companies is identical to CombiMatrix. Accordingly, an analysis of the results of such a comparison is not purely mathematical, but instead involves complex considerations and judgments concerning differences in historical and projected financial and operating characteristics of the Selected Publicly Traded Life Sciences Laboratory Services Companies and other factors that could affect the public trading value of such companies and CombiMatrix to which they are being compared.

Select Precedent M&A Transactions Analysis . Using publicly available information, Torreyra reviewed the terms of selected public and private company precedent transactions announced since February 7, 2011 in which the targets were Life Sciences Laboratory Services companies that operate in and/or were exposed to similar lines of business as CombiMatrix, and also where the total equity consideration was less than \$100 million upfront. The following precedent transactions, which are referred to as the Selected Life Sciences Laboratory Services Transactions, were considered, including their respective dates of announcement:

<u>Buyer / Target</u>	<u>Announcement Date</u>
Agilux Labs / Charles River	09/28/2016
PharmaCore / Cambrex	09/26/2016
Recombine / The Cooper Companies*	05/25/2016
Genesis Genetics / The Cooper Companies	04/04/2016
Reprogenetics / The Cooper Companies	08/10/2015
Diatherix Laboratories / Eurofins	06/01/2015
LipoScience / Lab Corp	11/21/2014
SeraCare Life Sciences / Linden	04/24/2012
Orchid Cellmark / Lab Corp	04/06/2011
Central Coast Pathology / PAL (Sonic Healthcare)	02/07/2011

* Transaction included for reference purposes only and not as a component of Torreyra's fairness analysis.

Torreyra reviewed for the transactions listed above, among other things, the firm value of the transaction, the premium to the unaffected target stock price, the premium to the unaffected target stock price as of one month

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prior to the applicable transaction's announcement date, and the multiple of firm value relative to the LTM revenue prior to the applicable transaction's announcement date. Financial data of the Selected Life Sciences Laboratory Services Transactions were based on publicly available research analysts' estimates, public filings and other publicly available information at the time of announcement of the relevant transaction.

With respect to the Selected Life Sciences Laboratory Services Transactions, the Torrey a opinion utilized the following information:

Buyer / Target	FV / LTM Revenue
Agilux Labs / Charles River	2.4x
PharmaCore / Cambrex	1.5x
Recombine / The Cooper Companies*	4.3x
Genesis Genetics / The Cooper Companies	2.5x
Reprogenetics / The Cooper Companies	2.3x
Diatherix Laboratories / Eurofins	1.3x
LipoScience / Lab Corp	1.3x
SeraCare Life Sciences / Linden	1.4x
Orchid Cellmark / Lab Corp	1.1x
Central Coast Pathology / PAL (Sonic Healthcare)	1.4x

* Transaction included for reference purposes only and not as a component of Torrey a's fairness analysis.

Based on the analysis of the relevant metrics for the selected companies, Torrey a selected a range of multiples of 1.3x to 2.3x for LTM revenue and applied these ranges of multiples to the relevant financial statistics for CombiMatrix and used such information to calculate a range of potential values per share of CombiMatrix common stock.

Selected Life Sciences Laboratory Services Transactions range of values per share of CombiMatrix common stock:

25 th Percentile:	\$ 5.87
Mean:	\$ 7.60
Median:	\$ 6.37
75 th Percentile:	\$ 10.55

No company or transaction utilized as a comparison in the selected precedent transactions analysis is identical to CombiMatrix, nor are the transactions identical to the transactions contemplated by the Merger Agreement. In evaluating the transactions listed above, Torrey a made judgments and assumptions with regard to industry performance, general business, economic, market and financial conditions and other matters, many of which are beyond the control of CombiMatrix, such as the impact of competition on the business of CombiMatrix or the industry generally, industry growth and the absence of any adverse material change in the financial condition or property of CombiMatrix or the industry or in the financial markets in general. Accordingly, mathematical analysis, such as determining the average or median, is not in itself a meaningful method of using comparable transaction data.

Premia Paid Analysis . Using publicly available information relating to (i) several public U.S. and E.U. target transactions sized between \$20 million and \$16.4 billion between January 24, 2011 and June 6, 2017 across the life sciences laboratory services industry, which are referred to as the Life Sciences Laboratory Services Transactions, and (ii) the aforementioned Selected Life Sciences Laboratory Services Transactions for which the target was a public company, Torrey a reviewed the premia paid in connection with such precedent transactions. Based on the analysis of the premia paid in connection with the selected precedent transactions, Torrey a formulated a range of premiums and applied these ranges of premiums to the relevant financial statistics for

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CombiMatrix at market close on July 27, 2017. Based on the application of such ranges of premiums to the relevant financial statistics of CombiMatrix, Torrey a calculated a range of potential values per share of CombiMatrix common stock of \$6.33 to \$7.35 based on the 25th—75th percentiles.

CombiMatrix DCF Analysis . Torrey a performed a DCF analysis to determine a range of potential values per share of CombiMatrix common stock, using the CombiMatrix Forecast. Torrey a calculated a range of implied prices per share of CombiMatrix common stock based on the sum of the discounted after-tax net present values of (i) annual free cash flows that CombiMatrix is estimated to generate for the fiscal years ending December 31, 2017 through December 31, 2027, and (ii) a projected terminal value of CombiMatrix common stock as of December 31, 2027 extrapolated using the Perpetuity Growth Method. Torrey a then discounted the cash flows back to July 27, 2017 using discount rates of 21%—24%, which represented a range around CombiMatrix’s weighted average cost of capital of 22.0%, as well as perpetuity growth rate from 2.5%—3.5%, which represented a range around CombiMatrix’s assumed perpetuity growth rate of 3%, which was found using selected public traded companies historical financials and industry analyses. Based on this analysis, Torrey a calculated a range of potential values of \$7.78 to \$9.71 per share of CombiMatrix common stock.

General . The summary set forth above does not purport to be a complete description of all the analyses performed by Torrey a. The preparation of a fairness opinion involves various determinations as to the most appropriate and relevant methods of financial analysis and the application of these methods to the particular circumstances and, therefore, such an opinion is not readily susceptible to partial analysis or summary description. Torrey a did not attribute any particular weight to any analysis or factor considered by it, but rather made qualitative judgments as to the significance and relevance of each analysis and factor. Accordingly, notwithstanding the separate factors summarized above, Torrey a believes, and has advised the CombiMatrix board of directors, that its analyses must be considered as a whole and that selecting portions of its analyses and the factors considered by it, without considering all analyses and factors, could create an incomplete view of the process underlying its opinion. In performing its analyses, Torrey a made numerous assumptions with respect to industry performance, business and economic conditions and other matters, many of which are beyond the control of CombiMatrix. These analyses performed by Torrey a are not necessarily indicative of actual values or future results, which may be significantly more or less favorable than suggested by such analyses. In addition, analyses relating to the value of businesses do not purport to be appraisals or to reflect the prices at which businesses or securities may actually be sold. Accordingly, such analyses and estimates are inherently subject to uncertainty, being based upon numerous factors or events beyond the control of the parties or their respective advisors. None of CombiMatrix, Torrey a or any other person assumes responsibility if future results are materially different from those projected. The analyses supplied by Torrey a and its opinion were among several factors taken into consideration by the CombiMatrix board of directors in making its decision to enter into the Merger Agreement and should not be considered as determinative of such decision.

Except in connection with Torrey a’s current engagement by CombiMatrix, where Torrey a acted as exclusive financial advisor and provided a fairness opinion to the CombiMatrix board of directors pursuant to its engagement, Torrey a has not provided any investment banking or other services to CombiMatrix or any of its affiliates. Torrey a may provide investment banking and other services to or with respect to CombiMatrix or its affiliates in the future, for which Torrey a may receive compensation.

The CombiMatrix board of directors selected Torrey a as its financial advisor in connection with the Merger based on Torrey a’s reputation and experience with respect to the life sciences industry generally. Torrey a is an internationally recognized investment banking firm that has substantial experience in transactions similar to the Merger.

Pursuant to Torrey a’s engagement letter with CombiMatrix dated April 20, 2016, and subsequent fee adjustment correspondence on both February 9, 2017 and July 11, 2017, Torrey a will receive a flat transaction fee equal to \$600,000 paid in connection with the Merger, or the Success Fee. Payment of the Success Fee is contingent upon the successful completion of the Merger. In addition, CombiMatrix has agreed to indemnify Torrey a against

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certain liabilities that may arise out of its engagement and to reimburse Torrey's reasonable out-of-pocket expenses, subject to an agreed maximum amount. Torrey will not receive any other significant payment of compensation contingent upon the successful completion of the Merger other than the Success Fee.

Interests of Certain CombiMatrix Directors and Officers in the Merger

When you consider the recommendations of CombiMatrix's board of directors in favor of approval of the Merger Proposal, you should keep in mind that the directors and officers of CombiMatrix have interests in the Merger as individuals that are different from, or in addition to, your interests as a stockholder. The CombiMatrix board of directors was aware of these interests and considered them, among other matters, in approving the Merger Agreement and the transactions it contemplates.

In addition, the exercise of CombiMatrix's directors' and officers' discretion in agreeing to changes or waivers in the terms of the Merger may result in a conflict of interest when determining whether such changes or waivers are appropriate and in the best interests of CombiMatrix's stockholders.

As of September 4, 2017, directors and executive officers of CombiMatrix owned or controlled 1.43% of the outstanding shares of CombiMatrix common stock.

Restated Executive Change of Control Severance Plan

CombiMatrix provides certain severance benefits such that if any of its executive officers is terminated for other than cause, death or disability, the executive will receive payments equal to three months' base salary plus medical and dental benefits. In addition, CombiMatrix has a Restated Executive Change of Control Severance Plan (as amended, the "Severance Plan") that affects certain senior management-level employees who are classified as "Section 16 Officers" of CombiMatrix. Pursuant to the Severance Plan, if a participating employee is involuntarily terminated (other than for death, disability or for cause) or resigns for "good reason" (as defined in the Severance Plan) during the two-year period following a "change of control" (as defined in the Severance Plan) of CombiMatrix, then, subject to execution of a release of claims against CombiMatrix, the employee will be entitled to receive: (i) one-half times annual base salary (one times annual base salary for the chief executive officer); (ii) immediate vesting of outstanding compensatory equity awards; and (iii) payment of COBRA premiums for the participating employee and eligible dependents for a pre-determined period of time. Payment of benefits under the Severance Plan will be limited by provisions contained in Section 409A of the U.S. Internal Revenue Code. The Severance Plan is administered by a plan administrator, which initially is the compensation committee of the CombiMatrix board of directors. In order to participate in the Severance Plan, an eligible employee must waive any prior retention or severance agreements. The Severance Plan automatically renews annually unless terminated upon 12 months prior written notice. It is anticipated that Mr. McDonough, CombiMatrix's chief executive officer, and Mr. Burell, CombiMatrix's chief financial officer, will receive approximately \$380,000 and \$141,000, respectively, in benefits (inclusive of payment of COBRA premiums) under the Severance Plan as a result of any consummation of the Merger.

Transaction Bonus Payout Agreements

The CombiMatrix board of directors and compensation committee adopted a Transaction Bonus Plan on December 2, 2015, or the Transaction Bonus Plan, as a form of retention for senior management to actively assist in exploring a strategic transaction, and to motivate and align the participants' interest in negotiating for and maximizing stockholder value for a strategic transaction. The Transaction Bonus Plan provides for certain bonus payments to be made, upon any consummation of a qualifying change of control transaction such as the Merger, to certain participants as shall be determined from time to time by the compensation committee of the CombiMatrix board of directors. The aggregate value of the bonuses payable under the Transaction Bonus Plan shall be the greater of (i) \$1,000,000 or (ii) ten percent of the net proceeds received in connection with a qualifying change of control transaction such as the Merger, and the percentage of such bonus pool awarded to

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each eligible participant shall be determined from time to time by the compensation committee of the CombiMatrix board of directors. Although the total amount of the bonuses payable under the Transaction Bonus Plan will not be known until immediately prior to the closing of the Merger, and the participants and the allocation of bonus amounts payable under the Transaction Bonus Plan have not yet been determined by the compensation committee of the CombiMatrix board of directors, it is anticipated that CombiMatrix's executive officers will receive a substantial portion of the bonus pool and that CombiMatrix's non-employee members of the board of directors will receive a small portion of the bonus pool.

In connection with the execution of the Merger Agreement, certain officers of CombiMatrix entered into a transaction bonus payout agreement, or the Executive Officer Transaction Bonus Payout Agreement. The form of the Executive Officer Transaction Bonus Payout Agreement, dated July 31, 2017, is attached as Exhibit B-1 to *Annex A* to this proxy statement/prospectus and is incorporated herein by reference. In accordance with the terms of the Executive Officer Transaction Bonus Payout Agreement, CombiMatrix's executive officers and a vice president of CombiMatrix have agreed to accept restricted stock units for Invitae common stock, or Invitae RSUs, in lieu of cash payments under the Transaction Bonus Plan, which Invitae RSUs will be subject to the terms of an Invitae RSU award agreement. The number of shares of Invitae common stock subject to such Invitae RSUs shall be equal to the dollar amount of the transaction bonus awarded to the participant under the Transaction Bonus Plan divided by the Invitae Trailing Average Share Value.

If the applicable executive has a Consulting Agreement (as defined and described below) with Invitae as of the closing of the Merger, then the Invitae RSUs granted under the Executive Officer Transaction Bonus Payout Agreement shall vest and be settled as follows: (a) Invitae RSUs represented by the dollar amount of the transaction bonus awarded to the executive under the Transaction Bonus Plan minus \$817,834 in the case of Mr. McDonough and \$40,000 in the case of Mr. Burell, divided by the Invitae Trailing Average Share Value, shall vest and be settled on the closing of the Merger; and (b) Invitae RSUs represented by \$817,834 in the case of Mr. McDonough and \$40,000 in the case of Mr. Burell, divided by the Invitae Trailing Average Share Value, shall vest and be settled on the eight-month anniversary of the closing of the Merger, so long as the executive has rendered services as required by the Consulting Agreement through the eight-month anniversary of the closing of the Merger (subject to acceleration for a change in control of Invitae or a termination of the Consulting Agreement without cause, for good reason or due to death or permanent disability). To the extent that the applicable executive does not have a Consulting Agreement in effect as of the closing of the Merger, the Invitae RSUs granted under the Executive Officer Transaction Bonus Payout Agreement shall vest on the closing of the Merger and be settled in three equal monthly installments, subject to acceleration of settlement upon a change in control of Invitae.

In connection with the execution of the Merger Agreement, non-employee members of the CombiMatrix board of directors entered into a transaction bonus payout agreement, or the Board Transaction Bonus Payout Agreement. The form of the Board Transaction Bonus Payout Agreement, dated July 31, 2017, is attached as Exhibit B-2 to *Annex A* to this proxy statement/prospectus and is incorporated herein by reference. In accordance with the terms of the Board Transaction Bonus Payout Agreement, CombiMatrix's non-employee directors have agreed to accept unrestricted Invitae common stock at the closing of the Merger in lieu of cash payments under the Transaction Bonus Plan. The number of shares of Invitae common stock shall be equal to the dollar amount of the transaction bonus awarded to the participant under the Transaction Bonus Plan divided by the Invitae Trailing Average Share Value.

Consulting Agreements

In connection with the execution of the Merger Agreement and in order to satisfy one of the conditions to closing of the Merger, Mr. McDonough and Mr. Burell each entered into an eight-month consulting agreement with Invitae to become effective as of the closing of the Merger, each of which is referred to as a Consulting Agreement, and, collectively as the Consulting Agreements. The Consulting Agreements require such individuals to provide strategic management and leadership services of CombiMatrix as the operations of CombiMatrix

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integrate into Invitae. The Consulting Agreements provide for monthly compensation of \$30,333.33 and \$22,150, respectively, for Messrs. McDonough and Burell and monthly reimbursement of COBRA premiums. In addition, the Consulting Agreements provide that (a) within 75 days after December 31, 2017, and assuming that no portion of any such bonus amount has been previously paid to the contractor, Invitae will pay the contractor any applicable annual bonus amount for actual achievement of second half and year-end targets under that certain CombiMatrix Amended and Restated 2017 Executive Performance Bonus Plan and (b) Invitae will reimburse all reasonable and otherwise unreimbursed transportation and hotel expenses for the contractor and his spouse for the CombiMatrix 2017 President’s Club. The Consulting Agreements are terminable by Invitae or the contractor, but in the event of termination without cause or for good reason, all compensation will continue to be paid through the eight-month anniversary and the performance bonus also will be paid in the event of termination due to death or permanent disability.

Indemnification and Other Interests

In connection with the closing of the Merger, all CombiMatrix RSUs and in-the-money stock options held by the CombiMatrix executive officers and members of the board of directors will be accelerated in full and converted into the right to receive Merger consideration (less the exercise price of the in-the-money stock options).

CombiMatrix is party to indemnification agreements with each of its directors and executive officers that require CombiMatrix, among other things, to indemnify the directors and executive officers against certain liabilities that may arise by reason of their status or service as directors or officers. In addition, pursuant to the terms of the Merger Agreement, CombiMatrix’s directors and executive officers will be entitled to certain ongoing indemnification from the surviving corporation in the Merger and coverage under directors’ and officers’ liability insurance policies. Such indemnification and insurance coverage is further described in the section entitled “*The Merger Agreement—Indemnification and Insurance for CombiMatrix Directors and Officers*.”

Merger-Related Compensation for CombiMatrix’s Named Executive Officers

In accordance with Item 402(t) of Regulation S-K, the tables below present the estimated amounts of compensation that each named executive officer of CombiMatrix could receive that are based on or otherwise relate to the Merger. This compensation is referred to as “golden parachute” compensation by the applicable SEC disclosure rules, and in this section such term is used to describe the Merger-related compensation that may become payable to CombiMatrix’s named executive officers. This Merger-related compensation will be the subject of a non-binding advisory vote of CombiMatrix stockholders at the special meeting. See the section entitled “*Matters Being Submitted to a Vote of CombiMatrix Stockholders—CombiMatrix Proposal No. 2: The Non-Binding Advisory Merger-Related Compensation Proposal*.”

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The amounts set forth below have been calculated assuming completion of the Merger on _____, 2017, the latest practicable date prior to the filing of this proxy statement/prospectus, and, where applicable, assuming each named executive officer experiences a qualifying termination as of _____, 2017. In addition, for purposes of determining equity award values, the amounts below are determined using the per-share Merger consideration. The amounts indicated below are estimates of amounts that would be payable to CombiMatrix's named executive officers, and the estimates are based on multiple assumptions that may or may not actually occur, including assumptions described in this proxy statement/prospectus. Some of the assumptions are based on information not currently available, and as a result, the actual amounts, if any, to be received by a named executive officer may differ in material respects from the amounts set forth below. The amounts set forth in the table below do not reflect any reduction that might apply by reason of the applicable limits on paying amounts subject to a golden parachute excise tax; it is not expected that any payments would be grossed up in respect of such taxes. In addition, consistent with SEC guidance, the amounts below do not take into account the effect of the new Consulting Agreements between Invitae and Messrs. McDonough and Burell, which are described above. All dollar amounts set forth below have been rounded to the nearest whole number.

<u>Name</u>	<u>Golden Parachute Payment(1)</u>			<u>Total (\$)</u>
	<u>Cash Severance (\$)</u> <u>(2)</u>	<u>Equity (\$)</u> <u>(3)</u>	<u>Perquisites/ Benefits (\$)</u> <u>(4)</u>	
Mark McDonough	364,000	600,234	1,313,440	2,277,674
Scott Burell	132,600	195,806	661,220	989,626

- (1) All amounts reflected in the table, other than estimated amounts pertaining to the Transaction Bonus Plan, are attributable to "double-trigger" arrangements (i.e., the amounts are triggered by (a) the change in control that will occur upon completion of the Merger and (b) the officer's qualifying termination in connection with the change in control).
- (2) The amounts reflect cash severance benefits that are payable under the Severance Plan in connection with the Merger. The severance benefits payable under the Severance Plan are described in more detail above.
- (3) The amounts reflect the aggregate value of time-based restricted stock unit awards held by each of CombiMatrix's named executive officers that will be accelerated in connection with the Merger. The terms of equity acceleration are described in more detail above. All stock options held by each of CombiMatrix's named executive officers are out-of-the-money and, accordingly, will be terminated in connection with the Merger.
- (4) The amounts reflect the payment of (i) estimated amounts of \$1,291,000 and \$650,000 provided to Messrs. McDonough and Burell, respectively, under the Transaction Bonus Plan (in the form of Invitae RSUs) and (ii) COBRA premiums of \$22,440 and \$11,220 provided to Messrs. McDonough and Burell, respectively, under the Severance Plan. The Transaction Bonus Plan payments and COBRA premiums are described in more detail above. The Transaction Bonus Plan payments reflected in the table are only estimates based on an assumed aggregate Merger consideration of \$26 million, and allocations of amounts under the Transaction Bonus Plan are subject to approval of the compensation committee of the CombiMatrix board of directors.

THE MERGER AGREEMENT

The following describes certain aspects of the Merger, including material provisions of the Merger Agreement. The following description of the Merger Agreement is subject to, and qualified in its entirety by, reference to the Merger Agreement, which is attached to this proxy statement/prospectus as Annex A and is incorporated by reference into this document. You are urged to carefully read the Merger Agreement in its entirety.

Structure

Under the Merger Agreement, Merger Sub will merge with and into CombiMatrix, with CombiMatrix surviving as a wholly owned subsidiary of Invitae.

Completion and Effectiveness of the Merger

The Merger will be completed as promptly as practicable after all of the conditions to completion of the Merger are satisfied or waived, including the approval of the stockholders of CombiMatrix and the successful completion of the Warrant Exchange Offer for CombiMatrix Series F warrants. Invitae and CombiMatrix are working to complete the Merger as quickly as practicable. However, Invitae and CombiMatrix cannot predict the exact timing of the completion of the Merger because it is subject to various conditions.

Merger Consideration and Exchange Ratio

At the effective time of the Merger,

- each share of CombiMatrix common stock outstanding immediately prior to completion of the Merger (other than shares of CombiMatrix common stock held by CombiMatrix as treasury or held by CombiMatrix, Merger Sub or any subsidiary of CombiMatrix) automatically will be converted into the right to receive a fraction of a share of Invitae common stock equal to the Exchange Ratio described in more detail below;
- each share of CombiMatrix Series F preferred stock outstanding immediately prior to completion of the Merger (other than shares of CombiMatrix Series F preferred stock held by CombiMatrix as treasury or held by CombiMatrix, Merger Sub or any subsidiary of CombiMatrix) automatically will be converted into the right to receive a number of shares of Invitae common stock equal the Exchange Ratio multiplied by the number of shares of CombiMatrix common stock issuable upon conversion of one share of Series F preferred stock on the date immediately prior to the Merger;
- each CombiMatrix RSU outstanding immediately prior to completion of the Merger will be fully accelerated to the extent of any applicable vesting period and converted into the right to receive a number of shares of Invitae common stock determined by multiplying the number of shares of CombiMatrix common stock that were subject to such CombiMatrix RSU by the Exchange Ratio;
- each in-the-money CombiMatrix stock option that is outstanding and unexercised immediately prior to completion of the Merger, whether or not vested or exercisable, will be fully accelerated to the extent of any applicable vesting period and converted into the right to receive a number of shares of Invitae common stock determined by multiplying the number of shares of CombiMatrix common stock underlying such CombiMatrix stock option by the Exchange Ratio, minus the number of shares of Invitae common stock determined by dividing the aggregate exercise price for such option by the Invitae Trailing Average Share Value;
- each out-the-money CombiMatrix stock option that is outstanding and unexercised immediately prior to completion of the Merger, whether or not vested or exercisable, will be cancelled and terminated without the right to receive any consideration; and
- although Invitae's obligation to proceed with the Merger is subject to achieving 90% participation in the Warrant Exchange Offer as described in this proxy statement/prospectus, each outstanding Series D

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warrant and Series F warrant to purchase shares of CombiMatrix common stock (other than those Series F warrants exchanged in the Warrant Exchange Offer or previously exercised) will be assumed by Invitae and will be converted into a warrant to purchase shares of Invitae common stock, with the exercise price and the number of shares of Invitae common stock subject to such warrants being adjusted appropriately to account for the Exchange Ratio.

If any shares of CombiMatrix common stock, CombiMatrix RSUs, or options to purchase shares of CombiMatrix common stock outstanding prior to the Merger are invested or are subject to a repurchase option or the risk of forfeiture, then the shares of Invitae common stock issued in exchange for such shares of CombiMatrix common stock, RSUs or options will be issued without regard to such vesting, restrictions, repurchase options or risk of forfeiture.

No fractional shares of Invitae common stock will be issued in connection with the Merger. Instead, each CombiMatrix stockholder, holder of CombiMatrix RSUs or holder CombiMatrix stock options who otherwise would be entitled to receive a fractional share of Invitae common stock (after aggregating all fractional shares of Invitae common stock issuable to such holder) will be entitled to payment in cash of the dollar amount (rounded to the nearest whole cent), without interest, determined by multiplying such fraction by the Invitae Trailing Average Share Value.

The Exchange Ratio is calculated using a formula intended to allocate to existing CombiMatrix securityholders a percentage of the combined company. Based on CombiMatrix's and Invitae's capitalization as of September 4, 2017, the Exchange Ratio is currently estimated to be between approximately 0.91 and 0.84 shares of Invitae's common stock. This estimate is subject to adjustment prior to closing of the Merger, including (i) adjustments to account for the issuance of any additional shares of CombiMatrix common stock prior to the consummation of the Merger, (ii) adjustments to account for CombiMatrix's net cash at the effective time of the Merger and (iii) adjustments to account for the number of CombiMatrix Series F warrants exchanged in the Warrant Exchange Offer, assumed by Invitae, or exercised prior to the closing of the Merger. For example, the estimated Exchange Ratio of 0.91 was calculated assuming that 100% of the CombiMatrix Series F warrants are exchanged in the Warrant Exchange Offer. Based on the average closing price of \$9.491 per share of Invitae common stock on the NYSE for the 30 trading days prior to July 31, 2017, the date on which the Merger Agreement was executed, and estimated CombiMatrix net cash of negative \$0.8 million (the calculation of which includes a reduction for CombiMatrix transaction bonuses payable), the estimated Exchange Ratio represented \$8.60 in value for each share of CombiMatrix common stock. These dollar values may fluctuate higher or lower prior to the closing of the Merger depending on fluctuations in the price of Invitae common stock on the NYSE. Also, a portion or all of the Series F warrants could be exercised prior to the closing of the Merger, which affects the computations of the Exchange Ratio. If, instead of being exchanged, 100% of the CombiMatrix Series F warrants were exercised prior to the Merger, the Exchange Ratio would be reduced to 0.84, representing \$8.00 in value for each share of CombiMatrix common stock, based on estimated CombiMatrix net cash of negative \$2.3 million (which excludes warrant exercise proceeds). Alternatively, if none of the CombiMatrix Series F warrants are exchanged in the Warrant Exchange Offer or exercised prior to the Merger and all such warrants are assumed by Invitae, although Invitae's obligation to proceed with the Merger is subject to a participation level in the Warrant Exchange Offer of at least 90% as described in this proxy statement/prospectus, the Exchange Ratio would be reduced to 0.87, representing \$8.25 in value for each share of CombiMatrix common stock, based on estimated CombiMatrix net cash of negative \$0.7 million.

Based on the estimates set forth above, in connection with the Merger and the Warrant Exchange Offer, Invitae expects to issue a maximum of 3,985,812 shares of common stock, including common stock underlying warrants and Invitae RSUs, to CombiMatrix securityholders, who, immediately after the Merger, are expected to own approximately 6.9% of the fully-diluted common stock of the combined company, with Invitae securityholders, whose shares of Invitae capital stock will remain outstanding after the Merger, owning approximately 93.1% of the fully-diluted common stock of the combined company. These estimates are based on the assumption that 100% of the CombiMatrix Series F warrants are exchanged in the Warrant Exchange Offer and subject to adjustment.

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The Exchange Ratio is the *greater of X or Y* , where:

Calculation of X

X = The quotient obtained by dividing the Invitae Merger Shares by the CombiMatrix Outstanding Shares, where:

- a. “CombiMatrix Outstanding Shares” is the total number of shares of CombiMatrix capital stock outstanding immediately prior to the effective time of the Merger on a fully-diluted and an as-converted to common stock basis, assuming (i) the settlement of all CombiMatrix RSUs, whether unvested or vested, (ii) the cash exercise of each outstanding CombiMatrix option (to the extent such option is not an out-of-the-money option terminated in connection with the Merger), (iii) the cash exercise of all CombiMatrix Series F warrants (to the extent such warrants are not exchanged in the Warrant Exchange Offer or exercised prior to consummation of the Warrant Exchange Offer), (iv) the conversion of all CombiMatrix Series F preferred stock, and (v) the issuance of shares of CombiMatrix common stock in respect of all other options, warrants, convertible securities or rights to receive such shares; provided, however, that all shares of CombiMatrix common stock issuable upon exercise of CombiMatrix Series D warrants (so long as the terms of such warrants have not been modified following the date of the Merger Agreement), shares of CombiMatrix common stock issuable upon exercise of CombiMatrix Series F warrants that are exchanged in the Warrant Exchange Offer, and terminated CombiMatrix options will be excluded from this amount.
- b. “Adjusted Aggregate Value” is the sum of (i) \$27,000,000, plus or minus (ii) CombiMatrix’s Net Cash (as defined below) at the effective time of the Merger.
- c. “Invitae Merger Shares” is the total number of shares of Invitae common stock determined by dividing (i) the Adjusted Aggregate Value by (ii) the Invitae Trailing Average Share Value.
- d. “Invitae Trailing Average Share Value” means the average closing price for shares of Invitae common stock on the NYSE for the immediately preceding period of 30 trading days prior to the date of the Merger Agreement.

Example

As an example, if Net Cash is \$0.00, the CombiMatrix Outstanding Shares amount is 3,750,000 and the Invitae Trailing Average Share Value is \$9.491, then **X** would be determined as follows:

$$X = \frac{\left(\frac{\text{Adjusted Aggregate Value}}{\text{Invitae Trailing Average Share Value}} \right)}{\text{CombiMatrix Outstanding Shares}} = \frac{\left(\frac{\$27,000,000 \pm \text{Net Cash}}{\text{Invitae Trailing Average Share Value}} \right)}{\text{CombiMatrix Outstanding Shares}}$$
$$X = \frac{\left(\frac{[\$27,000,000 \pm \$0]}{\$9.491} \right)}{3,750,000} = \frac{2,844,800}{3,750,000} = 0.7586$$

The Exchange Ratio calculated under **X** would thus be 0.7586 shares of Invitae common stock issuable per share of CombiMatrix common stock. However, if the calculation of **Y** (below) is greater than **X** , then **Y** will be used as the Exchange Ratio.

Calculation of Y

Y = The quotient obtained by dividing (i) the sum of \$8.25 minus the Adjustment Amount by (ii) the Invitae Trailing Average Share Value, where:

- a. “Adjustment Amount” means the quotient of:
 1. The sum of (i) the amount, if any, by which Net Cash (not taking into account any gross proceeds from exercises of CombiMatrix Series F warrants after the date of the Merger Agreement) is below (x) negative \$1 million if the aggregate payouts in shares of Invitae common stock (calculated using the Invitae Trailing Average Share Value) pursuant to the Transaction Bonus Payout Agreements will be greater than \$2,000,000, and otherwise (y) \$0.00, plus (ii) the product of \$8.25 multiplied by the sum, if any, of (x) any shares of CombiMatrix common stock that are issued or that become issuable (including upon any conversion or exercise of any securities) after the date of the Merger Agreement (other than pursuant to conversion or exercise of any securities outstanding as of the date of the Merger Agreement) plus (y) the excess, if any, of (A) the total number of shares of CombiMatrix common stock actually outstanding as of the date of the Merger Agreement over (B) the total number of shares of CombiMatrix common stock represented to be outstanding as of the date of the Merger Agreement by CombiMatrix, calculated in each instance on a fully diluted and as-converted/as-exercised to CombiMatrix common stock basis but excluding shares issuable upon the exercise of terminated CombiMatrix stock options or CombiMatrix warrants subject to the CombiMatrix Warrant Repurchase; divided by
 2. The CombiMatrix Outstanding Shares.

Example

As an example, if Net Cash (excluding CombiMatrix Series F warrant proceeds) is negative \$1,285,000 (and the aggregate payouts in shares of Invitae common stock (calculated using the Invitae Trailing Average Share Value) pursuant to the CombiMatrix Transaction Bonus Payout Agreements will be greater than \$2,000,000), there are 20,000 shares of CombiMatrix common stock issued or that become issuable after the date of this Agreement (other than pursuant to conversion or exercise of any securities outstanding as of the date of this Agreement), the Invitae Trailing Average Share Value is \$9.491 and the CombiMatrix Outstanding Shares amount is 3,000,000, then Y would be determined as follows:

$$Y = \frac{\$8.25 - \text{Adjustment Amount}}{\text{Invitae Trailing Average Share Value}} = \frac{\$8.25 - \left(\frac{C}{\text{CombiMatrix Outstanding Shares}} \right)}{\text{Invitae Trailing Average Share Value}}$$
$$Y = \frac{\$8.25 - \left[\frac{(\$1,285,000 - \$1,000,000) + (20,000)(\$8.25)}{3,000,000} \right]}{\$9.491}$$
$$Y = \frac{\$8.25 - \left[\frac{\$285,000 + \$165,000}{3,000,000} \right]}{\$9.491} = \frac{\$8.25 - \left[\frac{\$450,000}{3,000,000} \right]}{\$9.491} = \frac{\$8.25 - \$0.15}{\$9.491} = \frac{\$8.10}{\$9.491} = 0.8534$$

The Exchange Ratio calculated under Y would thus be 0.8534 shares of Invitae common stock issuable per share of CombiMatrix common stock. However, if the calculation of X (above) is greater than Y, then X will be used as the Exchange Ratio.

The “X” method of calculation values CombiMatrix at \$27,000,000 in the aggregate, with adjustments for Net Cash, CombiMatrix RSU settlements, option exercises, outstanding preferred stock and warrant exercises. The “Y” method of calculation imputes an \$8.25 per share valuation, with adjustments thereafter for Net Cash and

any new share issuances after the date of the Merger Agreement. One of the functions of the two separate Exchange Ratio calculations is that the “Y” calculation acts as a floor price (although still subject to certain adjustments, including for working capital) preventing extraordinary reduction in the per share Merger consideration if less than 90% of the CombiMatrix Series F warrants are tendered or exercised and Invitae elects to effect the Merger notwithstanding that the closing condition was not fulfilled, or if certain Series F warrants are exercised, both of which would cause dilution to existing CombiMatrix common stockholders.

Determination of CombiMatrix’s Net Cash; Merger Consideration Sensitivity Analysis

For purposes of determining the Exchange Ratio, adjustments will be made to account for CombiMatrix’s Net Cash (as calculated pursuant to the terms of the Merger Agreement) at the effective time of the Merger. CombiMatrix’s Net Cash will be calculated shortly before the closing date of the Merger; provided, however, that current assets, current liabilities not triggered by the closing of the Merger, and long-term capital lease obligations may be calculated as of an earlier month-end date if the Merger closes mid-month and a mid-month calculation of such liabilities and assets would be impractical. The closing of the Merger could be delayed if Invitae and CombiMatrix are not able to agree upon the amount of CombiMatrix’s Net Cash as of CombiMatrix’s cash determination date.

Under the Merger Agreement, CombiMatrix’s “Net Cash” is defined as the sum of (i) CombiMatrix’s cash and cash equivalents (inclusive of any cash resulting from exercises of CombiMatrix options or Series F warrants), marketable securities, short-term investments, accounts receivable (less allowance for doubtful accounts), deposits (to the extent refundable to CombiMatrix), supplies, prepaid expenses, and other current assets (excluding deferred tax assets), in each case determined in a manner consistent with the Merger Agreement or the manner in which such items were historically determined and in accordance with CombiMatrix’s audited financial statements and CombiMatrix’s unaudited interim balance sheet, minus (ii) the sum of CombiMatrix’s accounts payable, accrued expenses and other current liabilities (other than accrued expenses listed below, deferred rent and deferred tax liabilities), capital lease obligations, and all other liabilities (including any amounts payable for the CombiMatrix Warrant Repurchase, any amounts payable in satisfaction of CombiMatrix’s obligations to purchase a “tail” insurance policy for directors and officers prior to closing of the Merger, and any amounts that will become payable to participants pursuant to the CombiMatrix severance plan), in each case as of such date and determined in a manner consistent with the Merger Agreement or the manner in which such items were historically determined and in accordance with CombiMatrix’s audited financial statements and CombiMatrix’s unaudited interim balance sheet, minus (iii) \$250,000 (representing CombiMatrix’s normalized working capital), minus (iv) without double counting if otherwise included above, any unpaid fees and expenses (including any attorney’s, accountant’s, financial advisor’s or finder’s fees) incurred by CombiMatrix or any of its subsidiaries in connection with the Merger Agreement and the Merger and other transactions contemplated by the Merger Agreement or for which CombiMatrix or any of its subsidiaries is otherwise liable, minus (v) without double counting if otherwise included above, all amounts payable to any of CombiMatrix’s employees, officers, directors, consultants, advisors and representatives in connection with the Merger Agreement and the Merger and other transactions contemplated by the Merger Agreement (including pursuant to the Transaction Bonus Plan), regardless of whether any recipient agrees to accept any portion of any such payment in equity or cash, minus (vi) any fees and expenses payable by CombiMatrix in connection with the resolution of disagreements regarding Net Cash by an independent auditor, plus or minus (as applicable) (vii) the amount of any transaction expense reimbursements owed to, or owed by, CombiMatrix pursuant to the Merger Agreement.

CombiMatrix’s Net Cash balance at the determination date is subject to numerous factors, many of which are outside of CombiMatrix’s control.

Any warrants exercised prior to the consummation of the Merger would increase the number of CombiMatrix Outstanding Shares and the related cash proceeds from such exercises would increase the Net Cash adjustment calculated under the “X” scenario above (but not the “Y” scenario). Similarly, Series F warrants that are not exchanged in the Warrant Exchange Offer would also increase the CombiMatrix Outstanding Shares (meaning

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the full amount of shares underlying Series F warrants not tendered would be added to the amount of CombiMatrix Outstanding Shares) and thus potentially adjust the aggregate Merger consideration. Below is a table showing how the participation percentage by the holders of the Series F warrants in the Warrant Exchange Offer and the amount of warrants separately exercised impacts the implied per share Merger consideration based on estimated CombiMatrix Net Cash of \$1.8 million (before taking into account in such Net Cash amount any transaction bonus payments or, as applicable, warrant exercise proceeds).

		Warrants Tendered %										
		0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Warrants Exercised %	0%	\$8.25	\$8.25	\$8.25	\$8.25	\$8.25	\$8.25	\$8.25	\$8.25	\$8.25	\$8.25	\$8.60
	10%	\$8.25	\$8.25	\$8.25	\$8.25	\$8.25	\$8.25	\$8.25	\$8.25	\$8.25	\$8.25	\$8.35
	20%	\$8.24	\$8.24	\$8.24	\$8.24	\$8.24	\$8.24	\$8.24	\$8.24	\$8.24	\$8.24	\$8.24
	30%	\$8.21	\$8.21	\$8.21	\$8.20	\$8.20	\$8.20	\$8.20	\$8.20	\$8.19		
	40%	\$8.18	\$8.18	\$8.17	\$8.17	\$8.17	\$8.16	\$8.16				
	50%	\$8.15	\$8.14	\$8.14	\$8.14	\$8.13	\$8.12					
	60%	\$8.12	\$8.11	\$8.11	\$8.10	\$8.09						
	70%	\$8.09	\$8.08	\$8.07	\$8.07							
	80%	\$8.06	\$8.05	\$8.04								
	90%	\$8.03	\$8.02									
	100%	\$8.00										

A condition to the closing of the Merger is that at least 90% of the Series F warrants are tendered in the Warrant Exchange Offer; however, the table above includes scenarios where less than 90% have tendered, which presumes Invitae has waived this closing condition under that circumstance. To the extent Series F warrants neither tender nor exercise and the Merger occurs, the shares underlying those warrants are included in the fully diluted shares of CombiMatrix common stock issued and outstanding for the purpose of the table computations.

Invitae Common Stock

Each share of Invitae common stock issued and outstanding at the closing of the Merger will remain issued and outstanding and those shares will be unaffected by the Merger. Invitae stock options, restricted stock units and warrants issued and outstanding at the closing of the Merger will also remain issued and outstanding and unaffected by the Merger. Immediately after the Merger, Invitae securityholders are expected to own approximately 93.1% of the fully-diluted common stock of the combined company.

Procedures for Exchanging CombiMatrix Stock Certificates

At the effective time of the Merger, American Stock Transfer & Trust Company, LLC, as the exchange agent for the Merger, will establish an exchange fund to hold the shares of Invitae common stock to be issued to CombiMatrix stockholders in connection with the Merger.

Promptly after the effective time of the Merger, the exchange agent will mail to each holder of record of CombiMatrix capital stock a letter of transmittal and instructions for surrendering the record holder’s stock certificates in exchange for the shares of Invitae common stock. Upon proper surrender of CombiMatrix stock certificates together with a properly completed and duly executed letter of transmittal in accordance with the exchange agent’s instructions, the holder of such CombiMatrix stock certificates will be entitled to receive shares representing the number of whole shares of Invitae common stock issuable to such holder pursuant to the Merger and cash in lieu of any fractional share of Invitae common stock issuable to such holder. The surrendered certificates representing CombiMatrix capital stock will be cancelled.

After the effective time of the Merger, each certificate representing shares of CombiMatrix capital stock that has not been surrendered will represent only the right to receive shares of Invitae common stock issuable pursuant to the Merger and cash in lieu of any fractional share of Invitae common stock to which the holder of any such certificate is entitled. No interest will be paid or accrued on any cash in lieu of fractional shares payable to holders of CombiMatrix stock certificates.

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Any holder or former holder of CombiMatrix capital stock may be subject to withholding under the Code, or under another provision of state, local or foreign tax law. To the extent such amounts are withheld and paid to the appropriate governmental entity, they will be treated as having been paid to the person to whom such amounts would otherwise have been paid.

HOLDERS OF COMBIMATRIX CAPITAL STOCK SHOULD NOT SEND IN THEIR COMBIMATRIX STOCK CERTIFICATES UNTIL THEY RECEIVE A LETTER OF TRANSMITTAL FROM THE EXCHANGE AGENT WITH INSTRUCTIONS FOR THE SURRENDER OF COMBIMATRIX STOCK CERTIFICATES.

Fractional Shares

No fractional shares of Invitae common stock will be issuable pursuant to the Merger to CombiMatrix stockholders, holders of CombiMatrix RSUs or holders of CombiMatrix stock options. Instead, each CombiMatrix stockholder, holder of CombiMatrix RSUs or holder of CombiMatrix stock options who would otherwise be entitled to receive a fraction of a share of Invitae common stock, after aggregating all fractional shares of Invitae common stock issuable to such holder, will be entitled to receive a cash payment in lieu of such fractional shares equal to the dollar amount (rounded to the nearest whole cent), without interest, determined by multiplying such fraction by the Invitae Trailing Average Share Value.

Representations and Warranties

The Merger Agreement contains customary representations and warranties made by Invitae, Merger Sub and CombiMatrix relating to their respective businesses, as well as other facts pertinent to the Merger. These representations and warranties are subject to materiality, knowledge and other similar qualifications in many respects and expire at the effective time of the Merger or termination of the Merger Agreement, as further described below. The representations and warranties of each of Invitae, Merger Sub and CombiMatrix have been made solely for the benefit of the other parties and those representations and warranties should not be relied on by any other person. In addition, those representations and warranties may be intended not as statements of actual fact, but rather as a way of allocating risk among the parties, may have been modified by the disclosure schedules delivered in connection with the Merger Agreement, are subject to the materiality standard described in the Merger Agreement, which may differ from what may be viewed as material by you, will not survive completion of the Merger and cannot be the basis for any claims under the Merger Agreement by the other parties after termination of the Merger Agreement, and were made only as of the date of the Merger Agreement or another date as is specified in the Merger Agreement.

CombiMatrix made a number of representations and warranties to Invitae and Merger Sub in the Merger Agreement, including representations and warranties relating to the following matters:

- subsidiaries; due organization;
- certificate of incorporation; bylaws; charters; codes of conduct;
- capitalization;
- SEC filings; financial statements;
- absence of changes;
- title to assets;
- real property; leaseholds;
- intellectual property;
- agreements, contracts and commitments;

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- undisclosed liabilities;
- compliance; permits; restrictions; regulatory matters;
- tax matters;
- employee and labor matters; benefit plans;
- environmental matters;
- insurance;
- legal proceedings; orders;
- authority; binding nature of agreement;
- inapplicability of anti-takeover statutes;
- vote required;
- non-contravention; consents;
- bank accounts; receivables;
- financial advisor;
- opinion of financial advisor;
- shell company status;
- transactions with affiliates;
- code of ethics;
- disclosure; and
- exclusivity of representations.

Significant portions of CombiMatrix’s representations and warranties are qualified as to “materiality” or “material adverse effect.” Under the Merger Agreement, a material adverse effect with respect to CombiMatrix means any effect, change, event, circumstance or development that has occurred prior to the date of determination of the occurrence of such material adverse effect, that is or could reasonably be expected to be materially adverse to or has or could reasonably be expected to have or result in a material adverse effect on (i) the business, condition (financial or otherwise), capitalization, assets (including intellectual property), operations or financial performance of CombiMatrix and its subsidiaries, taken as a whole or (ii) the ability of CombiMatrix to consummate the Merger or the other transactions contemplated by the Merger Agreement or perform any of its covenants or obligations under the Merger Agreement in all material respects, except that none of the following, as they apply to CombiMatrix and its subsidiaries, will be taken into account in determining whether there has been a material adverse effect (except as expressly provided):

- any rejection by a governmental body of a registration or filing by CombiMatrix relating to CombiMatrix’s intellectual property rights;
- any change in the cash position of CombiMatrix that results from operations in the ordinary course of business;
- conditions generally affecting the industries in which CombiMatrix and its subsidiaries participate or the U.S. or global economy or capital markets as a whole, to the extent that such conditions do not have a disproportionate impact on CombiMatrix and its subsidiaries, taken as a whole;
- any failure by CombiMatrix or any of its subsidiaries to meet internal projections or forecasts or third-party revenue or earnings predictions for any period ending (or for which revenues or earnings are released) on or after the date of the Merger Agreement, provided that any such effect, change, event,

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circumstance or development causing or contributing to any such failure to meet projections or predictions or any change in stock price or trading volume may constitute a material adverse effect of CombiMatrix and may be taken into account in determining whether a material adverse effect has occurred;

- the execution, delivery, announcement or performance of obligations under the Merger Agreement or the announcement, pendency or anticipated consummation of the Merger;
- any natural disaster or any acts of terrorism, sabotage, military action or war or any escalation or worsening thereof, to the extent that any such event does not have a disproportionate impact on CombiMatrix and its subsidiaries taken as a whole;
- changes in regulatory, legislative or political conditions in the United States or any other country or region in the world, to the extent that such changes do not have a disproportionate impact on CombiMatrix and its subsidiaries taken as a whole;
- changes in conditions in the financial markets, credit markets or capital markets in the United States or any other country or region in the world, to the extent that such changes do not have a disproportionate impact on CombiMatrix and its subsidiaries taken as a whole, including (i) changes in interest rates or credit ratings in the United States or any other country, (ii) changes in exchange rates for the currencies of any country, or (iii) any suspension of trading in securities (whether equity, debt, derivative or hybrid securities) generally on any securities exchange or over-the-counter market operating in the United States or any other country or region in the world; or
- any changes after the date of the Merger Agreement in U.S. GAAP or applicable laws, to the extent that such changes do not have a disproportionate impact on CombiMatrix and its subsidiaries taken as a whole.

Invitae and Merger Sub made a number of representations and warranties to CombiMatrix in the Merger Agreement, including representations and warranties relating to the following subject matters:

- organization; authority; enforceability;
- non-contravention; governmental consents;
- SEC documents;
- compliance; permits;
- no financial advisor;
- legal proceedings; orders;
- shares of common stock;
- no vote of Invitae stockholders;
- lack of ownership of shares;
- Merger Sub capitalization;
- disclosure; and
- exclusivity of representations.

Significant portions of Invitae’s representations and warranties are qualified as to “materiality” or “material adverse effect.” Under the Merger Agreement, a material adverse effect with respect to Invitae means any effect, change, event, circumstance or development that has occurred prior to the date of determination of the occurrence of such material adverse effect, that is or could reasonably be expected to be materially adverse to or has or could reasonably be expected to have or result in a material adverse effect on (i) the business, condition

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(financial or otherwise), capitalization, assets, operations or financial performance of Invitae or (ii) the ability of Invitae to consummate the Merger or the other transactions contemplated by the Merger Agreement or perform any of its covenants or obligations under the Merger Agreement in all material respects, except that none of the following, as they apply to Invitae, will be taken into account in determining whether there has been a material adverse effect (except as expressly provided):

- conditions generally affecting the industries in which Invitae participates or the U.S. or global economy or capital markets as a whole, to the extent that such conditions do not have a disproportionate impact on Invitae;
- any failure by Invitae to meet internal projections or forecasts or third-party revenue or earnings predictions for any period ending (or for which revenues or earnings are released) on or after the date of the Merger Agreement or any change in the price or trading volume of Invitae common stock, provided that any such effect, change, event, circumstance or development causing or contributing to any such failure to meet projections or predictions or any change in stock price or trading volume may constitute a material adverse effect of Invitae and may be taken into account in determining whether a material adverse effect has occurred;
- the execution, delivery, announcement or performance of obligations under the Merger Agreement or the announcement, pendency or anticipated consummation of the Merger;
- any natural disaster or any acts of terrorism, sabotage, military action or war or any escalation or worsening thereof, to the extent that any such event does not have a disproportionate impact on Invitae;
- changes in regulatory, legislative or political conditions in the United States or any other country or region in the world, to the extent that such changes do not have a disproportionate impact on Invitae;
- changes in conditions in the financial markets, credit markets or capital markets in the United States or any other country or region in the world, to the extent that such changes do not have a disproportionate impact on Invitae, including (i) changes in interest rates or credit ratings in the United States or any other country, (ii) changes in exchange rates for the currencies of any country, or (iii) any suspension of trading in securities (whether equity, debt, derivative or hybrid securities) generally on any securities exchange or over-the-counter market operating in the United States or any other country or region in the world; or
- any changes after the date of the Merger Agreement in U.S. GAAP or applicable laws, to the extent that such changes do not have a disproportionate impact on Invitae.

Covenants; Conduct of Business Pending the Merger

During the period commencing on July 31, 2017 and ending at the earlier of the date of termination of the Merger Agreement and the effective time of the Merger, CombiMatrix agreed that it will conduct its business in the ordinary course and in compliance with all applicable laws, rules, regulations, permits and certain material contracts and will provide Invitae with prompt notice upon the occurrence of certain events or discovery of certain conditions, facts or circumstances.

CombiMatrix also agreed that prior to the earlier of termination and the effective time of the Merger, subject to certain limited exceptions set forth in the Merger Agreement, without the consent of Invitae, it would not and would not permit any of its subsidiaries to:

- declare, accrue, set aside or pay any dividend or make any other distribution in respect of any shares of CombiMatrix capital stock or repurchase, redeem or otherwise reacquire any shares of its capital stock or other securities except for shares of CombiMatrix stock from terminated employees;
- sell, issue or grant, or authorize the issuance of any capital stock or other security (except for shares of CombiMatrix common stock issued upon the valid exercise of CombiMatrix options, CombiMatrix

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- RSUs or CombiMatrix warrants outstanding as of the date of the Merger Agreement), any option, warrant or right to purchase any capital stock or any other security, or any instrument convertible into or exchangeable for any capital stock or other security;
- amend the certificate of incorporation, bylaws or other charter or organizational documents of CombiMatrix, or effect or be a party to any merger, consolidation, share exchange, business combination, recapitalization, reclassification of shares, stock split, reverse stock split or similar transaction except as related to the transactions contemplated by the Merger Agreement;
 - form any subsidiary or acquire any equity interest or other interest in any other entity;
 - lend money to any person other than in the ordinary course of business, incur or guarantee any indebtedness for borrowed money, issue or sell any debt securities or options, warrants, calls or other rights to acquire any debt securities, guarantee any debt securities of others, or, other than in the ordinary course of business, make any capital expenditure or commitment;
 - adopt, establish or enter into any CombiMatrix employee benefit plan, cause or permit any CombiMatrix employee benefit plan to be amended other than as required by law or in order to make amendments for the purposes of compliance with Section 409A of the Code, pay any bonus or make any profit-sharing or similar payment to, or increase the amount of the wages, salary, commissions, fringe benefits or other compensation or remuneration payable to, any of its directors, employees or consultants, or pay or increase the severance or change of control benefits offered to any current or new employee or consultant, subject to certain exceptions.
 - enter into any material transaction outside the ordinary course of business;
 - purchase, lease, license or otherwise acquire, or sell, lease, license or otherwise dispose of, any of its assets, rights or properties, or grant any encumbrance with respect to such assets, rights or properties, in each case, other than in the ordinary course of business consistent with past practices;
 - make, change or revoke any material tax election, file any material amendment to any tax return, adopt or change any accounting method in respect of taxes, change any annual tax accounting period, enter into any tax allocation agreement, tax sharing agreement or tax indemnity agreement, other than commercial contracts entered into in the ordinary course of business with vendors, customers or landlords, enter into any closing agreement with respect to any tax, settle or compromise any claim, notice, audit report or assessment in respect of material taxes, apply for or enter into any ruling from any tax authority with respect to taxes, surrender any right to claim a material tax refund, or consent to any extension or waiver of the statute of limitations period applicable to any material tax claim or assessment;
 - enter into, amend or terminate any material contract;
 - materially change pricing, royalties or other payments set or charged to its customers or licensees, or materially increase pricing, royalties or other payments set or charged by vendors or persons who have licensed intellectual property to CombiMatrix; or
 - agree, resolve or commit to do any of the foregoing.

Non-Solicitation

The Merger Agreement contains provisions prohibiting CombiMatrix from seeking a competing transaction, subject to specified exceptions described below. Under these “non-solicitation” provisions, CombiMatrix has agreed that neither it nor its subsidiaries, nor any of their officers, directors, employees, representatives, advisors, attorneys, accountants or agents will directly or indirectly: (i) solicit, initiate, respond to or take any action to facilitate or encourage any inquiries or the communication, making, submission or announcement of any competing proposal or inquiry or take any action that could reasonably be expected to lead to a competing proposal or inquiry; (ii) enter into or participate in any discussions or negotiations with any person with respect

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to any competing proposal or inquiry; (iii) furnish any information regarding CombiMatrix or any of its subsidiaries to any person in connection with, in response to, relating to or for the purpose of assisting with or facilitating a competing proposal or inquiry; (iv) approve, endorse or recommend any competing proposal (subject to the terms and conditions of the Merger Agreement); (v) execute or enter into any letter of intent or similar document or any contract contemplating or otherwise relating to any competing proposal; or (vi) grant any waiver or release under any confidentiality, standstill or similar agreement (other than to Invitae).

However, prior to the approval of the Merger Proposal, (i) CombiMatrix may enter into discussions or negotiations with any person that has made (and not withdrawn) a bona fide, unsolicited, competing proposal, which CombiMatrix's board of directors determines in good faith, after consultation with its independent financial advisor, if any, and its outside legal counsel, constitutes, or would reasonably be expected to result in, a superior competing proposal, and (ii) thereafter furnish to such person non-public information regarding CombiMatrix pursuant to an executed confidentiality agreement containing provisions (including nondisclosure provisions, use restrictions, non-solicitation provisions, no hire provisions and "standstill" provisions) at least as favorable to CombiMatrix as those contained in the confidentiality agreement existing between CombiMatrix and Invitae, but in each case of the foregoing clauses (i) and (ii), only if: (A) neither CombiMatrix nor any representative of CombiMatrix has breached its non-solicitation obligations; (B) the board of directors of CombiMatrix determines in good faith based on the advice of outside legal counsel, that the failure to take such action would reasonably be expected to result in a breach of the fiduciary duties of the CombiMatrix board of directors under applicable laws; (C) at least five business days prior to furnishing any such non-public information to, or entering into discussions with, such person, CombiMatrix gives Invitae written notice of the identity of such person, the terms and conditions of any proposals or offers (including, if applicable, copies of any written requests, proposals or offers, including proposed agreements) made thereby, and of CombiMatrix's intention to furnish nonpublic information to, or enter into discussions with, such person; and (D) at least five business days prior to furnishing any such non-public information to such person, CombiMatrix furnishes such non-public information to Invitae (to the extent such non-public information has not been previously furnished by CombiMatrix to Invitae). Without limiting the generality of the foregoing, CombiMatrix has acknowledged and agreed that, in the event any representative of CombiMatrix (whether or not such representative is purporting to act on behalf of CombiMatrix) takes any action that, if taken by CombiMatrix, would constitute a breach of the non-solicitation obligations of CombiMatrix, the taking of such action by such representative shall be deemed to constitute a breach of the non-solicitation obligations of CombiMatrix for purposes of the Merger Agreement.

CombiMatrix will notify Invitae no later than 24 hours after receipt of any competing proposal or inquiry, and any such notice will be made orally and in writing and will include the identity of the person making or submitting such competing proposal or inquiry, the terms thereof, and any written materials submitted therewith. CombiMatrix will keep Invitae fully informed, on a current basis, of the status and material developments (including any changes to the terms) of such competing proposal or inquiry and will deliver to Invitae copies of any written materials submitted with such competing proposal or inquiry.

A competing proposal is any of the following proposals, indications of interest or offers, other than transactions contemplated by the Merger Agreement:

- any merger, consolidation, amalgamation, share exchange, business combination, issuance of securities, acquisition of securities, reorganization, recapitalization, tender offer, exchange offer or other similar transaction in which (i) CombiMatrix is a constituent corporation, (ii) a person or "group" (as defined in the Exchange Act and the rules promulgated thereunder) of persons directly or indirectly acquires beneficial or record ownership of securities representing more than 20% of the outstanding securities of any class of voting securities of CombiMatrix or any of its subsidiaries, or (iii) CombiMatrix or any of its subsidiaries issues securities representing more than 20% of the outstanding securities of any class of voting securities of CombiMatrix or any of its subsidiaries;

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- any sale, lease, exchange, transfer, license, acquisition or disposition of any business or businesses or assets that constitute or account for 20% or more of the consolidated book value or the fair market value of the assets of CombiMatrix and its subsidiaries, taken as a whole; or
- any liquidation or dissolution of CombiMatrix.

A superior competing proposal is any unsolicited bona fide competing proposal at a 50% threshold (and excluding a dissolution or liquidation of CombiMatrix) made by a third party that the board of directors of CombiMatrix determines, in its reasonable, good faith judgment, after obtaining and taking into account such matters that it deems relevant following consultation with its outside legal counsel and financial advisor, if any (i) is reasonably likely to be more favorable, from a financial point of view, to the CombiMatrix stockholders than the terms of the Merger; and (ii) is reasonably capable of being consummated; provided, however, that any such offer shall not be deemed to be a superior competing proposal if (A) any financing required to consummate the transaction contemplated by such offer is not committed and is not reasonably capable of being obtained or (B) if the consummation of such transaction is contingent on any such financing being obtained.

Invitae may terminate the Merger Agreement if the CombiMatrix board of directors (each such action, a “change of recommendation” by the CombiMatrix board of directors):

- failed to recommend that the CombiMatrix stockholders vote to adopt and approve the Merger Proposal or has for any reason withdrawn or modified in a manner adverse to Invitae its recommendation that the CombiMatrix stockholders vote to adopt and approve the Merger Proposal;
- failed to include its recommendation that the CombiMatrix stockholders vote to adopt and approve the Merger Proposal in this proxy statement/prospectus;
- approved, endorsed or recommended a competing proposal; or
- entered into a letter of intent or similar document or a definitive agreement for a competing proposal.

If the Merger Agreement is terminated in connection with these provisions and a bona fide competing proposal had been publicly announced or disclosed or otherwise communicated to the CombiMatrix board of directors prior to the CombiMatrix special meeting, CombiMatrix has agreed to pay Invitae a fee of \$1,400,000 (net of expense reimbursement previously paid). See the section entitled “*The Merger Agreement—Termination of the Merger Agreement and Termination Fee*” below for a more complete discussion of the termination fees.

Disclosure Documents

As promptly as practicable following the date of the Merger Agreement, Invitae and CombiMatrix agreed to prepare and cause to be filed with the SEC this proxy statement/prospectus and Invitae agreed to prepare and cause to be filed with the SEC a registration statement on Form S-4, of which this proxy statement/prospectus is a part, in connection with the registration under the Securities Act of the shares of Invitae common stock to be issued pursuant to the Merger. Each of Invitae and CombiMatrix agreed to use commercially reasonable efforts to cause the registration statement to become effective as promptly as practicable. Prior to the registration statement on Form S-4, of which this proxy statement/prospectus is a part, being declared effective, CombiMatrix and Invitae each agreed to (i) deliver tax representation letters to Stradling and Pillsbury, and (ii) use its commercially reasonable efforts to cause its respective counsel to deliver to it a tax opinion satisfying the requirements of Item 601(b)(8) of Regulation S-K under the Securities Act. Each of Invitae and CombiMatrix agreed to use their commercially reasonable efforts to cause the registration statement on Form S-4, of which this proxy statement/prospectus is a part, and this proxy statement/prospectus to comply with the applicable rules and regulations promulgated by the SEC. Invitae and CombiMatrix each agreed to ensure that this proxy statement/prospectus will not, at the time that this proxy statement/prospectus or any amendment or supplement hereto is filed with the SEC or is first mailed to the stockholders of CombiMatrix, at the time of the CombiMatrix stockholders’ meeting and at the effective time of the Merger, contain any untrue statement of a material fact or

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omit to state any material fact required to be stated herein or necessary in order to make the statements made herein, in light of the circumstances under which they were made, not misleading; provided, that Invitae did not make such assurances with respect to statements made in this proxy statement/prospectus by CombiMatrix or based on information furnished by CombiMatrix for inclusion herein, and that CombiMatrix did not make such assurances with respect to statements made in this proxy statement/prospectus by Invitae or based on information furnished by Invitae for inclusion herein. Each of Invitae, Merger Sub and CombiMatrix agreed to furnish all information concerning itself and its subsidiaries, as applicable, to the other parties as the other parties may reasonably request in connection with such actions and the preparation of the registration statement on Form S-4 and this proxy statement/prospectus. CombiMatrix agreed to use commercially reasonable efforts to cause this proxy statement/prospectus to be mailed to its stockholders as promptly as practicable after the registration statement on Form S-4 is declared effective by the SEC.

In connection with the Warrant Exchange Offer, Invitae and CombiMatrix agreed to cooperate with each other regarding, and to prepare, offering documents, and to cause such offering to comply as to form in all material respects with the applicable provisions of the Securities Act and the Exchange Act, for the purpose of effecting and consummating the Warrant Exchange Offer. Invitae and CombiMatrix agreed that the offering documents will include (i) an offer to exchange document describing the material terms of the Warrant Exchange Offer, (ii) a statement on Schedule TO with respect to the Warrant Exchange Offer, if required, (iii) a registration statement on Form S-4 registering the Warrant Exchange Offer, (iv) a statement by the CombiMatrix board of directors describing its recommendation that the CombiMatrix stockholders vote to adopt and approve the Merger Proposal and the requirement that at least 90% of the CombiMatrix Series F warrants outstanding immediately prior to the date of the Merger Agreement must be either exchanged in the Warrant Exchange Offer or exercised (solely for cash pursuant to their terms), including that such requirement is a condition to the obligations of Invitae and Merger Sub to effect the Merger, and (v) all ancillary documents related to the Warrant Exchange Offer, including exhibits, press releases, letters of transmittal, notices and announcements.

Invitae agreed, substantially contemporaneously with, or as promptly as practicable after, the filing of the registration statement on Form S-4, of which this proxy statement/prospectus is a part, to file with the SEC the registration statement on Form S-4 registering the Warrant Exchange Offer. Each of Invitae and CombiMatrix agreed to use commercially reasonable efforts to cause the registration statement to become effective as promptly as practicable. Prior to the registration statement on Form S-4 registering the Warrant Exchange Offer being declared effective, CombiMatrix and Invitae each agreed to (i) deliver tax representation letters to Stradling and Pillsbury and (ii) use its commercially reasonable efforts to cause its respective counsel to deliver to it a tax opinion satisfying the requirements of Item 601(b)(8) of Regulation S-K under the Securities Act. Each of Invitae and CombiMatrix agreed use commercially reasonable efforts to cause the registration statement on Form S-4 registering the Warrant Exchange Offer and the other offering documents to comply with the applicable rules and regulations promulgated by the SEC. Invitae and CombiMatrix each agreed to ensure that the offering documents will not, as of the date any offering document is first mailed to holders of CombiMatrix Series F warrants and at the effective time of the Merger, contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary in order to make the statements made therein, in light of the circumstances under which they were made, not misleading; provided, that Invitae did not make such assurances with respect to statements made in any offering document by CombiMatrix or based on information furnished by CombiMatrix for inclusion therein, and that CombiMatrix did not make such assurances with respect to statements made in any offering document by Invitae or based on information furnished by Invitae for inclusion therein. Each of Invitae, Merger Sub and CombiMatrix agreed to furnish all information concerning itself and its subsidiaries, as applicable, to the other parties as the other parties may reasonably request in connection with such actions and the preparation of the registration statement on Form S-4 registering the Warrant Exchange Offer. The parties agreed to cause the offering documents to be mailed to the holders of the CombiMatrix Series F warrants when appropriate after the registration statement on Form S-4 registering the Warrant Exchange Offer becomes effective, in order to permit Invitae to conduct the Warrant Exchange Offer in a timely manner and consistent with applicable regulations and requirements under securities laws, including the Exchange Act.

Regulatory Approvals Required for the Merger

Invitae and CombiMatrix have agreed to cooperate and use commercially reasonable efforts to obtain all regulatory approvals required to complete the transactions contemplated by the Merger Agreement. Invitae must comply with applicable federal and state securities laws and the rules and regulations of the NYSE in connection with the issuance of shares of Invitae common stock and RSUs and the filing of this proxy statement/prospectus with the SEC.

The Merger Agreement also provides that CombiMatrix and Invitae will file any notification and report forms required to be filed under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended, and respond as promptly as practicable to any inquiries or requests received from the Federal Trade Commission or the Department of Justice for information or documentation or any inquiries or requests received from any other governmental body in connection with antitrust or competition matters.

Although neither Invitae nor CombiMatrix knows of any reason why these regulatory approvals cannot be obtained in a timely manner, neither Invitae nor CombiMatrix can be certain when or if they will be obtained. Invitae's and CombiMatrix's obligations under the Merger Agreement are subject to certain conditions. See the section entitled "*The Merger Agreement—Conditions to the Completion of the Merger.*"

CombiMatrix Stock Options, RSUs and Warrants

At the effective time of the Merger, (i) each in-the-money CombiMatrix stock option that is outstanding and unexercised immediately prior to completion of the Merger, whether or not vested or exercisable, will be fully accelerated to the extent of any applicable vesting period and converted into the right to receive a number of shares of Invitae common stock determined by multiplying the number of shares of CombiMatrix common stock underlying such CombiMatrix stock option by the Exchange Ratio, minus the number of shares of Invitae common stock determined by dividing the aggregate exercise price for such option by the Invitae Trailing Average Share Value, (ii) each out-the-money CombiMatrix stock option that is outstanding and unexercised immediately prior to completion of the Merger, whether or not vested or exercisable, will be cancelled and terminated without the right to receive any consideration, (iii) each CombiMatrix RSU outstanding immediately prior to completion of the Merger will be fully accelerated to the extent of any applicable vesting period and converted into the right to receive a number of shares of Invitae common stock determined by multiplying the number of shares of CombiMatrix common stock that were subject to such CombiMatrix RSU by the Exchange Ratio, and (iv) each outstanding Series D warrant and Series F warrant to purchase shares of CombiMatrix capital stock (other than those warrants exchanged in the Warrant Exchange Offer or previously exercised) will be assumed by Invitae and will be converted into a warrant to purchase shares of Invitae common stock, although Invitae's obligation to proceed with the Merger is subject to a participation level in the Warrant Exchange Offer of at least 90% as described in this proxy statement/prospectus.

Although Invitae's obligation to proceed with the Merger is subject to a participation level in the Warrant Exchange Offer of at least 90% as described in this proxy statement/prospectus, all rights and obligations with respect to each CombiMatrix Series D warrant or Series F warrant outstanding at the closing of the Merger will be assumed by Invitae in accordance with their terms, with the number of underlying shares and exercise price as adjusted for the Exchange Ratio. Invitae stockholders will continue to own and hold their existing shares of Invitae common stock. Accordingly, from and after the effective time of the Merger each Series D warrant or Series F warrant assumed by Invitae may be exercised solely for shares of Invitae common stock. The number of shares of Invitae common stock subject to each outstanding CombiMatrix Series D warrant or Series F warrant, as applicable, assumed by Invitae will be determined by multiplying the number of shares of CombiMatrix common stock that were subject to such CombiMatrix Series D warrant or Series F warrant by the Exchange Ratio. The per share exercise price for the Invitae common stock issuable upon exercise of each CombiMatrix Series D warrant or Series F warrant assumed by Invitae will be determined by dividing the per share exercise price of CombiMatrix common stock subject to such CombiMatrix Series D warrant or Series F warrant, as

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applicable, by the Exchange Ratio. Any restriction on any CombiMatrix Series D warrant or Series F warrant assumed by Invitae will continue in full force and effect and the term and other provisions of such CombiMatrix Series D warrant or Series F warrant will otherwise remain unchanged.

Immediately after the announcement of the Merger, CombiMatrix repurchased one-half of the outstanding and unexercised CombiMatrix Series A warrants, Series B warrants, Series C warrants, Series E warrants and PIPE warrants pursuant to the terms of that certain CombiMatrix Common Stock Purchase Warrants Repurchase Agreement dated July 11, 2016. Upon the closing of the Merger, CombiMatrix will repurchase the remainder of the outstanding and unexercised CombiMatrix Series A warrants, Series B warrants, Series C warrants, Series E warrants and PIPE warrants. From and after the effective time of the Merger, holders of CombiMatrix Series A warrants, Series B warrants, Series C warrants, Series E warrants and PIPE warrants will have no further rights with respect thereto.

Indemnification and Insurance for CombiMatrix Directors and Officers

Under the Merger Agreement, from the closing of the Merger through the sixth anniversary of the closing, the surviving corporation in the Merger will indemnify and hold harmless each person who was at the time of signing the Merger Agreement, or was at any time prior to the date of the Merger Agreement, or who becomes prior to the effective time of the Merger, a director or officer of CombiMatrix, against all claims, losses, liabilities, damages, judgments, fines and reasonable fees, costs and expenses, including attorneys' fees and disbursements incurred in connection with any claim, action, suit, proceeding or investigation, whether civil, criminal, administrative or investigative, arising out of or pertaining to the fact that such person is or was a director or officer of CombiMatrix, whether asserted or claimed prior to, at or after the effective time of the Merger, to the fullest extent permitted under the DGCL for directors or officers of Delaware corporations. In addition, each such person will be entitled to advancement of expenses incurred in the defense of any such claim, action, suit, proceeding or investigation from the surviving corporation upon receipt by the surviving corporation from such person of a request for such advancement; provided, that any person to whom expenses are advanced provides an undertaking, to the extent then required by the DGCL, to repay such advances if it is ultimately determined that such person is not entitled to indemnification.

Under the Merger Agreement, the certificate of incorporation and bylaws of the surviving corporation in the Merger will contain provisions no less favorable with respect to indemnification, advancement of expenses and exculpation of present and former directors and officers of CombiMatrix than are presently set forth in the certificate of incorporation and bylaws of CombiMatrix, which provisions may not be amended, modified or repealed for a period of six years' time from the closing of the Merger in a manner that would adversely affect the rights thereunder of individuals who, at or prior to the closing, were officers or directors of CombiMatrix.

The Merger Agreement also provides that prior to the closing of the Merger, CombiMatrix will purchase an insurance policy with an effective date as of the effective date of the Merger which maintains in effect for six years from the effective date of the Merger the current directors' and officers' liability insurance policies maintained by CombiMatrix.

CombiMatrix Transaction Bonus Payout Agreements

Under the Merger Agreement, Invitae and CombiMatrix agreed that (i) bonus payments under the CombiMatrix Transaction Bonus Plan will be paid in cash to all participants in accordance with the terms of the CombiMatrix Transaction Bonus Plan, other than the executive officers, the vice president of billing and reimbursement and the directors of CombiMatrix, (ii) pursuant to the Transaction Bonus Payout Agreements entered into with each of the executive officers and the vice president of billing and reimbursement of CombiMatrix concurrently with the execution of the Merger Agreement, the bonus payments for each such executive officer and vice president of billing and reimbursement will be paid in Invitae RSUs (to be settled in shares of Invitae common stock) calculated using the Invitae Trailing Average Share Value and subject to time-based vesting and/or settlement

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with acceleration upon a change in control of Invitae and/or certain other events as set forth in the applicable Transaction Bonus Payout Agreement, and (iii) pursuant to the Transaction Bonus Payout Agreements entered into with each of the outside directors of CombiMatrix concurrently with the execution of the Merger Agreement, the bonus payments for each such director will be paid in unrestricted shares of Invitae Common Stock calculated using the Invitae Trailing Average Share Value. To the extent such shares of common stock are not covered by a registration statement that is effective before the closing date, Invitae also covenanted to use commercially reasonable efforts to register for resale such unrestricted shares of common stock or shares of common stock underlying RSUs.

Additional Agreements

Each of CombiMatrix and Invitae has agreed to, among other things:

- use its commercially reasonable efforts to cause to be taken all actions necessary to consummate the Merger and any other transaction contemplated by the Merger Agreement;
- reasonably cooperate with the other parties and provide the other parties with such assistance as may be reasonably requested for the purpose of facilitating the performance by each party of its respective obligations under the Merger Agreement and to enable the combined entity to continue to meet its obligations under the Merger Agreement following the closing;
- make all filings and other submissions (if any) and give all notices (if any) required to be made and given by such party in connection with the Merger and any other transaction contemplated by the Merger Agreement;
- use its commercially reasonable efforts to obtain each consent (if any) reasonably required to be obtained pursuant to any applicable law, contract or otherwise by such party in connection with the Merger or any other transaction contemplated by the Merger Agreement or for any such contract to remain in full force and effect;
- use its commercially reasonable efforts to lift any injunction prohibiting, or any other legal bar to, the Merger and any other transaction contemplated by the Merger Agreement;
- use its commercially reasonable efforts to satisfy the conditions precedent to the consummation of the Merger Agreement; and
- use its commercially reasonable efforts to cause the Merger, together with the Warrant Exchange Offer, to qualify, and has agreed not to, and not to permit or cause any affiliate or any subsidiary to, take any actions or cause any action to be taken which would reasonably be expected to prevent the Merger, together with the Warrant Exchange Offer, from being qualified, as a “reorganization” under Section 368(a) of the Code.

Conditions to the Completion of the Merger

The respective obligations of Invitae and CombiMatrix to complete the Merger and the other transactions contemplated by the Merger Agreement are subject to the satisfaction or waiver of various conditions that include, in addition to other customary closing conditions, the following:

- the registration statement on Form S-4, of which this proxy statement/prospectus is a part and the registration statement on Form S-4 registering the Warrant Exchange Offer must have been declared effective by the SEC in accordance with the Securities Act and must not be subject to any stop order or proceeding, or any proceeding threatened by the SEC, seeking a stop order;
- there must not have been issued any temporary restraining order, preliminary or permanent injunction or other order preventing the consummation of the Merger or the Warrant Exchange Offer by any court of competent jurisdiction or other governmental entity of competent jurisdiction that remains in effect, and there must be no law, statute, rule, regulation, ruling or decree in effect which has the effect of making the consummation of the Merger or the Warrant Exchange Offer illegal;

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- the holders of a majority of the outstanding CombiMatrix common stock must have adopted and approved the Merger Proposal;
- any waiting period applicable to the consummation of the Merger and the Warrant Exchange Offer under the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended, or HSR Act, must have expired or been terminated, and there must not be in effect any voluntary agreement by any party to the Merger Agreement and the U.S. Federal Trade Commission, the U.S. Department of Justice or any foreign governmental body, pursuant to which such party has agreed not to consummate the Merger or the Warrant Exchange Offer for any period of time;
- there must not be any legal proceeding pending or threatened by an official of a government or governmental entity in which such government or governmental entity indicates that it intends to conduct any legal proceeding or take any other action (i) challenging or seeking to restrain or prohibit the consummation of the Merger, the Warrant Exchange Offer or any of the other transactions contemplated by the Merger Agreement, (ii) relating to the Merger, the Warrant Exchange Offer or any of the other transactions contemplated by the Merger Agreement and seeking to obtain from Invitae, Merger Sub or CombiMatrix any material damages or other relief, (iii) seeking to materially prohibit or limit the ability to vote, transfer, receive dividends or otherwise exercise ownership rights with respect to any Invitae common stock to be issued in the Merger or the Warrant Exchange Offer, (iv) that would materially affect the right or ability of Invitae or CombiMatrix to own the assets or operate their businesses, or (v) seeking to compel Invitae or CombiMatrix to dispose of or hold separate any material assets as a result of the Merger, the Warrant Exchange Offer or any of the other transactions contemplated by the Merger Agreement; and
- the shares of Invitae common stock to be issued in the Merger and the Warrant Exchange Offer must be approved for listing on the NYSE as of the effective time of the Merger.

In addition, each of CombiMatrix's and Invitae's obligation to complete the Merger is further subject to the satisfaction or waiver by that party of the following additional conditions:

- certain representations and warranties of the other party in the Merger Agreement must be true and correct in all material respects on the date of the Merger Agreement and on the closing date of the Merger with the same force and effect as if made on the closing date, or, if such representations and warranties address matters as of a particular date, then as of that particular date;
- all other representations and warranties of the other party in the Merger Agreement must be true and correct on the date of the Merger Agreement and on the closing date of the Merger with the same force and effect as if made on the closing date, or, if such representations and warranties address matters as of a particular date, then as of that particular date, except where the failure of these representations and warranties to be true and correct would not have a material adverse effect on the other party;
- the other party to the Merger Agreement must have performed or complied with in all material respects all covenants and obligations in the Merger Agreement required to be performed or complied with by it on or before the closing of the Merger;
- the other party must not have experienced a material adverse effect that is continuing as of the closing of the Merger; and
- the other party must have delivered certain certificates and other documents required under the Merger Agreement for the closing of the Merger.

In addition, the obligation of Invitae and Merger Sub to complete the Merger is further subject to the satisfaction or waiver of the following conditions:

- Invitae must have consummated the Warrant Exchange Offer and at least 90% of the CombiMatrix Series F warrants outstanding immediately prior to the date of the Merger Agreement must have been

tendered in the Warrant Exchange Offer; provided that Invitae has offered shares of Invitae common stock with a value of at least \$2.90 (based on the Invitae Trailing Average Share Value) per CombiMatrix Series F warrant;

- CombiMatrix must have completed the repurchase of all CombiMatrix Series A, Series B, Series C, Series E and PIPE warrants pursuant to the terms of that certain CombiMatrix Common Stock Purchase Warrants Repurchase Agreement dated July 11, 2016;
- the Transaction Bonus Payout Agreements with CombiMatrix's directors and executives must remain in full force and effect;
- consulting agreements with each of Mark McDonough and Scott Burell shall have been executed and become effective immediately at the effective time;
- Invitae must have received any required consent under its existing loan and security agreement with Oxford Capital, LLC to the Merger, the Warrant Exchange Offer and the other transactions contemplated by the Merger Agreement; and
- CombiMatrix must have delivered a certificate setting forth the allocation of the Merger consideration to its securityholders.

Termination of the Merger Agreement and Termination Fee

The Merger Agreement may be terminated at any time before the closing of the Merger, whether before or after the required stockholder approvals to complete the Merger have been obtained, as set forth below:

- (1) by mutual agreement of CombiMatrix and Invitae;
- (2) by either CombiMatrix or Invitae if the Merger has not closed by January 31, 2018 (other than in cases in which such failure to close is due to a breach by the party wishing to terminate), which date may be extended in certain circumstances;
- (3) by either CombiMatrix or Invitae if there is any final and nonappealable order, decree or ruling that prohibits the completion of the Merger;
- (4) by either CombiMatrix or Invitae if the CombiMatrix special meeting has been held and completed and the Merger Proposal not been approved (other than by CombiMatrix in cases in which such failure has been caused by CombiMatrix's action or failure to act and such action or failure to act is a material breach by CombiMatrix);
- (5) by Invitae if (i) the CombiMatrix board of directors fails to recommend, withdraws or modifies in a manner adverse to Invitae that CombiMatrix's stockholders vote to adopt and approve the Merger Proposal, (ii) the CombiMatrix board fails to include its board recommendation of the Merger Proposal in this proxy statement/prospectus, (iii) the CombiMatrix board has approved, endorsed or recommended any competing proposal, (iv) CombiMatrix has entered into any letter of intent or definitive agreement for a competing proposal or (v) CombiMatrix or any of its representatives has breached the non-solicitation obligations in the Merger Agreement;
- (6) by CombiMatrix if Invitae breaches any of its representations, warranties, covenants or agreements in the Merger Agreement or if a material adverse effect has occurred with respect to Invitae, in each case that would prevent Invitae from satisfying its closing conditions (with a 30 calendar day cure period); and
- (7) by Invitae if CombiMatrix breaches any of its representations, warranties, covenants or agreements in the Merger Agreement or if a material adverse effect has occurred with respect to CombiMatrix, in each case that would prevent CombiMatrix from satisfying its closing conditions (with a 30 calendar day cure period).

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CombiMatrix is required to pay Invitae a termination fee of \$1,400,000 (net of expense reimbursement previously paid) and/or Invitae's expenses up to \$400,000, if the Merger Agreement is terminated by CombiMatrix or Invitae pursuant to clause 4 or by Invitae pursuant to clause 5 above, but only if (i) at any time before the CombiMatrix stockholders' meeting a bona fide competing proposal with respect to CombiMatrix has been publicly announced, disclosed or, in the event the Merger Agreement is terminated pursuant to clause 5 above, otherwise communicated to CombiMatrix's board of directors and (ii) in the event the Merger Agreement is terminated pursuant clause 4 above, within twelve months after the date of such termination, CombiMatrix enters into a definitive agreement with respect to a competing transaction or consummates a competing transaction. CombiMatrix is also required to pay Invitae expense reimbursements of up to \$400,000 if the Merger Agreement is terminated pursuant to clause 7 above (except as it relates to a material adverse effect) or if Invitae fails to consummate the Merger solely as a result of a material adverse effect with respect to CombiMatrix.

Invitae is required to pay CombiMatrix expense reimbursements of up to \$400,000 if the Merger Agreement is terminated by CombiMatrix pursuant to clause 6 above (except as it relates to a material adverse effect) or if CombiMatrix fails to consummate the Merger solely as a result of a material adverse effect with respect to Invitae.

Any termination of the Merger Agreement shall not relieve any party for its fraud or of liability for any willful and material breach of any representation, warranty, covenant, obligation or other provision contained in the Merger Agreement.

Amendment

The Merger Agreement may be amended by an instrument in writing signed on behalf of each of Invitae, Merger Sub and CombiMatrix with the approval of the respective boards of directors of Invitae, Merger Sub and CombiMatrix at any time, except that after the Merger Proposal has been adopted by the stockholders of CombiMatrix, no amendment which by law requires further approval by the stockholders of CombiMatrix shall be made without such further approval.

Expenses

The Merger Agreement provides all fees and expenses incurred in connection with the Merger Agreement and the transactions contemplated thereby shall be paid by the party incurring such expenses, except as described above in the section entitled "*The Merger Agreement—Termination of the Merger Agreement and Termination Fee*" and except that CombiMatrix and Invitae shall share equally all filing fees and expenses, other than attorneys' and accountants' fees and expenses, incurred in relation to any filings required by the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended, and shall share equally any fees and expenses, other than attorneys' and accountants' fees and expenses, incurred by the engagement of the exchange agent and in relation to printing, filing and mailing with the SEC of the registration statements on Form S-4 for the Merger and the Warrant Exchange Offer and for the related proxy statement/prospectus and offer documents.

Special Meeting of CombiMatrix Stockholders

CombiMatrix is obligated under the Merger Agreement to hold its stockholders meeting for the purpose of adopting and approving the Merger Proposal as promptly as practicable after the registration statement on Form S-4, of which this proxy statement/prospectus is a part, being declared effective by the SEC.

MATTERS BEING SUBMITTED TO A VOTE OF COMBIMATRIX STOCKHOLDERS

CombiMatrix Proposal No. 1: Approval and Adoption of the Agreement and Plan of Merger and Reorganization, dated as of July 31, 2017, by and among Invitae Corporation, Coronado Merger Sub, Inc. and CombiMatrix Corporation, as such agreement may be amended from time to time, and the transactions contemplated thereby, including the merger of Coronado Merger Sub, Inc. with and into CombiMatrix Corporation, with CombiMatrix Corporation surviving as a wholly owned subsidiary of Invitae Corporation.

At the CombiMatrix special meeting, CombiMatrix stockholders will be asked to approve and adopt the Merger Agreement and the transactions contemplated thereby, including the Merger.

CombiMatrix stockholders should read this proxy statement/prospectus carefully in its entirety, including the *annexes*, for more detailed information concerning the Merger Agreement and the Merger. After careful consideration, the CombiMatrix board of directors, by a unanimous vote of all directors, approved the Merger Agreement and declared the Merger Agreement to be advisable and in the best interests of CombiMatrix and the stockholders of CombiMatrix. The terms of, reasons for, other aspects of the Merger Agreement and the Merger, and a detailed discussion of the CombiMatrix board of directors' recommendation are described in detail in the sections entitled "*The Merger Proposal*" and "*The Merger Agreement*." CombiMatrix stockholders are also directed to the Merger Agreement, a copy of which is attached as *Annex A* to this proxy statement/prospectus.

Required Vote

The affirmative vote of holders of a majority of the outstanding shares of CombiMatrix common stock entitled to vote on the record date for the CombiMatrix special meeting is required to approve CombiMatrix Proposal No. 1.

Recommendation of Board of Directors

COMBIMATRIX'S BOARD OF DIRECTORS RECOMMENDS THAT THE COMBIMATRIX STOCKHOLDERS VOTE "FOR" COMBIMATRIX PROPOSAL NO. 1 TO APPROVE AND ADOPT THE MERGER AGREEMENT AND THE TRANSACTIONS CONTEMPLATED THEREBY, INCLUDING THE MERGER.

CombiMatrix Proposal No. 2: The Non-Binding Advisory Merger-Related Compensation Proposal

Section 14A of the Exchange Act, which was enacted as part of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, requires that CombiMatrix provide its stockholders with the opportunity to vote to approve, on a non-binding advisory basis, specified compensation that may be paid or become payable to CombiMatrix's named executive officers in connection with the Merger, as disclosed in the section entitled "*The Merger Proposal—Interests of Certain CombiMatrix Directors and Officers in the Merger—Merger-Related Compensation for CombiMatrix's Named Executive Officers*." This non-binding advisory proposal gives CombiMatrix stockholders the opportunity to express their views on the Merger-related compensation of CombiMatrix's named executive officers.

The CombiMatrix Board encourages you to review carefully the named executive officer Merger-related compensation information disclosed in this proxy statement/prospectus. The CombiMatrix Board unanimously recommends that you vote "FOR" the following resolution:

"RESOLVED, that the stockholders of CombiMatrix approve, on a non-binding advisory basis, specified compensation that may be paid or become payable to CombiMatrix's named executive officers in connection with the Merger as disclosed pursuant to Item 402(t) of Regulation S-K in the section entitled "*The Merger Proposal—Interests of Certain CombiMatrix Directors and Executive Officers in the Merger—Merger-Related Compensation for CombiMatrix's Named Executive Officers*" in CombiMatrix's proxy statement for the special meeting."

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CombiMatrix stockholders should note that this proposal is not a condition to completion of the Merger and, as an advisory vote, the result will not be binding on CombiMatrix or the CombiMatrix board of directors. Further, the underlying plans and arrangements are contractual in nature and payments under them are, by their terms, not subject to stockholder approval. Accordingly, regardless of the outcome of the advisory vote, if the Merger is consummated CombiMatrix's named executive officers will be entitled to receive the compensation that is based on or that otherwise relates to the Merger, subject to and in accordance with the terms and conditions applicable to those payments.

Required Vote

The votes cast in favor of this proposal at the CombiMatrix special meeting must exceed the votes cast opposing the proposal, assuming a quorum is present, to approve, on a non-binding advisory basis, CombiMatrix Proposal No. 2.

Recommendation of Board of Directors

COMBIMATRIX'S BOARD OF DIRECTORS RECOMMENDS THAT THE COMBIMATRIX STOCKHOLDERS VOTE "FOR" COMBIMATRIX PROPOSAL NO. 2 TO APPROVE, ON A NON-BINDING ADVISORY BASIS, THE COMPENSATION THAT MAY BE PAID OR BECOME PAYABLE TO COMBIMATRIX'S NAMED EXECUTIVE OFFICERS IN CONNECTION WITH THE MERGER.

CombiMatrix Proposal No. 3 : Approval of Possible Adjournment of the CombiMatrix Special Meeting

If CombiMatrix fails to receive a sufficient number of votes to approve CombiMatrix Proposal No. 1 or CombiMatrix Proposal No. 2, or CombiMatrix does not have a quorum at the CombiMatrix special meeting, CombiMatrix may propose to adjourn the CombiMatrix special meeting, for a period of not more than 30 days, for the purpose of soliciting additional proxies to approve CombiMatrix Proposal No. 1 and CombiMatrix Proposal No. 2. CombiMatrix currently does not intend to propose adjournment at the CombiMatrix special meeting a quorum is present at the CombiMatrix special meeting and there are sufficient votes to approve CombiMatrix Proposal No. 1.

Required Vote

The affirmative vote of holders of a majority of the shares of CombiMatrix common stock having voting power present in person or by proxy at the CombiMatrix special meeting, whether or not a quorum is present, is required to approve CombiMatrix Proposal No. 3.

Recommendation of Board of Directors

CombiMatrix'S BOARD OF DIRECTORS RECOMMENDS THAT THE COMBIMATRIX STOCKHOLDERS VOTE "FOR" COMBIMATRIX PROPOSAL NO. 3 TO APPROVE THE POSSIBLE ADJOURNMENT OF THE COMBIMATRIX SPECIAL MEETING .

THE WARRANT EXCHANGE OFFER

As of September 4, 2017, there were outstanding CombiMatrix Series F warrants held by public warrant holders to acquire a total of 2,066,976 shares of CombiMatrix common stock at an exercise price of \$5.17 per share, which were issued pursuant to common stock purchase warrants as part of an underwritten public offering by CombiMatrix that closed on March 24, 2016. The Series F warrants were immediately exercisable upon issuance and have a term of five years. In the Merger Agreement, Invitae and CombiMatrix agreed that Invitae would conduct an exchange offer for the CombiMatrix Series F warrants held by the public warrant holders of CombiMatrix.

In the Warrant Exchange Offer, holders of CombiMatrix Series F warrants may exchange their outstanding CombiMatrix Series F warrants for shares of Invitae common stock with a value calculated to represent at least \$2.90 (based on the Invitae Trailing Average Share Value) per Series F warrant.

The completion of the Warrant Exchange Offer is conditioned, among other things, on the participation in the Warrant Exchange Offer of holders of at least 90% of the CombiMatrix Series F warrants outstanding immediately prior to the date of the Merger Agreement. If the Warrant Exchange Offer is completed, the CombiMatrix Series F warrants held by warrant holders that do not participate in the Warrant Exchange Offer will, in accordance with the terms of each Series F warrant, be assumed by Invitae in accordance with their terms and converted into warrants to purchase the number of shares of Invitae common stock as such warrant holder would have received in the Merger had the Series F warrants been converted to shares of CombiMatrix common stock immediately prior to the completion of the Merger, although Invitae's obligation to proceed with the Merger is subject to a participation level in the Warrant Exchange Offer of at least 90% as described in this proxy statement/prospectus. The number of shares of Invitae common stock underlying such warrant and the exercise price would be adjusted to reflect the Exchange Ratio. Invitae does not currently intend to list such warrants for trading on any exchange.

The Warrant Exchange Offer will be conducted pursuant to a registration statement on Form S-4, which Invitae intends to file with the SEC substantially contemporaneously with or as promptly as practicable after the filing of the registration statement on Form S-4 of which this proxy statement/prospectus statement is a part. The Warrant Exchange Offer is expected to be completed at or immediately prior to the completion of the Merger, if the conditions to the Warrant Exchange Offer are satisfied. The completion of the Merger is conditioned upon the successful completion of the Warrant Exchange Offer on the terms and conditions set forth in the Merger Agreement and described in this proxy statement/prospectus.

ACCOUNTING TREATMENT

Invitae prepares its financial statements in accordance with U.S. GAAP. In determining the accounting treatment of the Merger, management has evaluated all pertinent facts and circumstances and has concluded that business combination accounting would apply to the transaction.

The Merger will be accounted for using the acquisition method of accounting, which requires the determination of which entity is the accounting acquirer. The accounting acquirer is the entity that obtains control of the acquiree. The determination of the acquirer considers many factors, including but not limited to the relative voting rights in the combined entity after the business combination, the existence of a large minority interest in the combined entity if no other owner or organized group of owners has a significant voting interest, the composition of the governing body of the combined entity, the composition of the senior management of the combined entity, the terms of the exchange of equity securities, and the relative size of the combining entities and which of the combining entities initiated the combination. There is no hierarchical guidance on determining the acquirer in a business combination effected through an exchange of equity interests.

Invitae has concluded that Invitae is the accounting acquirer based on its evaluation of the facts and circumstances of the acquisition. The purpose of the Merger is to expand Invitae's business through the acquisition of the products and services that CombiMatrix offers. Invitae is the larger of the two entities and will be the operating company within the combining companies. Invitae's board members will continue to hold all of the seats on the Invitae board of directors and CombiMatrix stockholders do not have any board appointment rights. Invitae's senior management will be continuing as senior management of the combined company.

The Merger will be accounted for using the acquisition method of accounting in accordance with FASB ASC 805, "*Business Combinations*." Invitae will recognize and measure the assets acquired and liabilities assumed at their fair values at the acquisition date. Acquisition-related costs, which include advisory, legal, accounting, valuation, and other professional or consulting fees, will be expensed in the period incurred. As of the date of this proxy statement/prospectus, the valuation studies necessary to estimate the fair values of the assets acquired and liabilities assumed are preliminary and have been performed based on publicly available benchmarking information as well as a variety of other assumptions, including market participant assumptions, as there are limitations on the type of information that can be exchanged between Invitae and CombiMatrix at this time. Until the Merger is complete, all the relevant information will not be known. Differences between preliminary estimates and the final acquisition accounting will occur.

The financial condition and results of operations of Invitae after completion of the Merger will reflect CombiMatrix after completion of the Merger, but will not be restated retroactively to reflect the historical financial condition or results of operations of CombiMatrix. The earnings of Invitae following completion of the Merger will reflect acquisition accounting adjustments, including the effect of changes in the carrying value for assets and liabilities on depreciation expense, amortization expense and interest expense. Goodwill will not be amortized but will be tested for impairment at least annually, and all tangible and intangible assets including goodwill will be tested for impairment when certain indicators are present. If, in the future, Invitae determines that tangible or intangible assets (including goodwill) are impaired, Invitae would record an impairment charge at that time.

MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES OF THE MERGER

The following is a discussion of material U.S. federal income tax consequences of the Merger applicable to U.S. Holders (as defined below) who exchange their CombiMatrix capital stock for Invitae common stock in the Merger. The effects of other U.S. federal tax laws, such as estate and gift tax laws, and any applicable state, local, or non-U.S. tax laws are not discussed. This discussion is based on the Code, U.S. Treasury Regulations promulgated thereunder, judicial decisions, and published rulings and administrative pronouncements of the Internal Revenue Service, or the IRS, each as in effect as of the date of this proxy statement/prospectus. These authorities are subject to differing interpretations or change. Any such change, which may or may not be retroactive, could alter the tax consequences to holders of CombiMatrix capital stock as described herein.

This discussion does not address all U.S. federal income tax consequences relevant to the particular circumstances of each CombiMatrix stockholder. In addition, it does not address consequences relevant to CombiMatrix stockholders that are subject to particular U.S. tax rules, including, without limitation:

- persons who hold shares of CombiMatrix stock in a functional currency other than the U.S. dollar;
- persons who hold shares of CombiMatrix stock that constitute “qualified small business stock” under Section 1202 of the Code or “Section 1244 stock” under Section 1244 of the Code;
- persons who hold shares of CombiMatrix stock as part of an integrated investment (including a “straddle,” pledge against currency risk, “constructive” sale or “conversion” transaction or other integrated or risk reduction transactions) consisting of shares of CombiMatrix stock and one or more other positions;
- persons who are not U.S. Holders as defined below;
- persons who are U.S. expatriates;
- banks, insurance companies, mutual funds, tax-exempt entities, financial institutions, broker-dealers, real estate investment trusts or regulated investment companies;
- persons who do not hold their shares of CombiMatrix stock as a “capital asset” within the meaning of Section 1221 of the Code;
- partnerships or other entities classified as partnerships or disregarded entities for U.S. federal income tax purposes, S corporations or other pass-through entities (including hybrid entities);
- persons who acquired shares of CombiMatrix stock pursuant to the exercise of compensatory options or in other compensatory transactions;
- persons who acquired shares of CombiMatrix stock pursuant to the exercise of warrants or conversion rights under the CombiMatrix Series F convertible preferred stock or other convertible instruments;
- persons who acquired shares of CombiMatrix stock in a transaction subject to the gain rollover provisions of Section 1045 of the Code; and
- persons who hold shares of CombiMatrix stock through individual retirement accounts or other tax-deferred accounts.

For purposes of this discussion, a “U.S. Holder” is a beneficial owner of CombiMatrix stock that, for U.S. federal income tax purposes, is or is treated as:

- an individual who is a citizen or resident of the United States;
- a corporation (or other entity taxable as a corporation for U.S. federal income tax purposes) created or organized in or under the laws of the United States, any state thereof, or the District of Columbia;
- an estate, the income of which is subject to U.S. federal income taxation regardless of its source; or

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- a trust if either (i) a court within the United States is able to exercise primary supervision over the administration of such trust and one or more United States persons (within the meaning of Section 7701(a)(30) of the Code) are authorized or have the authority to control all substantial decisions of such trust, or (ii) the trust was in existence on August 20, 1996 and has a valid election in effect under applicable Treasury Regulations to be treated as a United States person for U.S. federal income tax purposes.

If an entity treated as a partnership for U.S. federal income tax purposes holds CombiMatrix stock, the tax treatment of a partner in the partnership will depend on the status of the partner, the activities of the partnership and certain determinations made at the partner level. If you are a partnership or a partner of a partnership holding CombiMatrix stock or any other person excluded from this discussion, you should consult your tax advisor regarding the tax consequences of the Merger.

In addition, the following discussion does not address (i) any U.S. federal non-income tax consequences of the Merger, including estate, gift or other tax consequences, (ii) any state, local or non-U.S. tax consequences of the Merger, (iii) the Medicare contribution tax on net investment income or the alternative minimum tax, (iv) the tax consequences of transactions effectuated before, after or at the same time as the Merger (whether or not they are in connection with the Merger), including, without limitation, transactions in which CombiMatrix stock is acquired or CombiMatrix Series F preferred stock is converted to CombiMatrix common stock, and (v) the tax consequences to holders of options, warrants or similar rights to purchase CombiMatrix stock.

IN LIGHT OF THE FOREGOING, COMBIMATRIX STOCKHOLDERS SHOULD CONSULT THEIR OWN TAX ADVISORS REGARDING THE TAX CONSEQUENCES TO THEM OF THE MERGER, INCLUDING THE APPLICABLE U.S. FEDERAL, STATE, LOCAL AND NON-U.S. INCOME AND OTHER TAX CONSEQUENCES, AND ANY TAX REPORTING REQUIREMENTS OF THE MERGER AND RELATED TRANSACTIONS IN LIGHT OF THEIR PARTICULAR CIRCUMSTANCES.

In connection with the filing of the registration statement of which this proxy statement/prospectus is a part, Pillsbury will deliver to Invitae and Stradling will deliver to CombiMatrix opinions that the statements under the caption “ *Material U.S. Federal Income Tax Consequences of the Merger* ” constitute the opinions of Pillsbury and Stradling, respectively. In rendering their opinions, counsel assume that the statements and facts concerning the Merger and the Warrant Exchange Offer set forth in this proxy statement/prospectus, in the prospectus/offer to exchange relating to the Warrant Exchange Offer, and in the Merger Agreement, are true and accurate in all respects, and that the Merger and the Warrant Exchange Offer will be completed in accordance with this proxy statement/prospectus, the prospectus/offer to exchange relating to the Warrant Exchange Offer, and the Merger Agreement. Counsels’ opinions also assume the truth and accuracy of certain representations and covenants as to factual matters made by Invitae, CombiMatrix and Merger Sub in tax representation letters provided to counsel. In addition, counsel base their tax opinions on the law in effect on the date of the opinions and assume that there will be no change in applicable law between such date and completion of the Warrant Exchange Offer and the Merger. If any of these assumptions is inaccurate, the tax consequences of the Merger could differ from those described in this proxy statement/prospectus.

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No ruling from the IRS has been or will be requested with respect to the tax consequences of the Merger. Opinions of counsel do not bind the courts or the IRS, nor will they preclude the IRS from adopting a position contrary to those expressed in the opinions. Subject to the qualifications and assumptions described in this proxy statement/prospectus, the Merger, together with the Warrant Exchange Offer, will be treated for U.S. federal income tax purposes as a reorganization within the meaning of Section 368(a) of the Code. Accordingly, but subject to the discussion below under the caption “— *Possible Alternative Characterization for U.S. Holders Also Holding Repurchased Warrants*,” the tax consequences to U.S. Holders of CombiMatrix capital stock will be as follows:

- a U.S. Holder will not recognize gain or loss upon the exchange of CombiMatrix stock for Invitae common stock pursuant to the Merger, except with respect to cash received in lieu of a fractional share of Invitae common stock as described below;
- a U.S. Holder who receives cash in lieu of a fractional share of Invitae common stock in the Merger will recognize capital gain or loss in an amount equal to the difference between the amount of cash received instead of a fractional share and the U.S. Holder’s tax basis allocable to such fractional share;
- a U.S. Holder’s aggregate tax basis for the shares of Invitae common stock received in the Merger (including any fractional share interest for which cash is received) will equal the U.S. Holder’s aggregate tax basis in the shares of CombiMatrix stock surrendered in the Merger; and
- the holding period of the shares of Invitae common stock received by a U.S. Holder in the Merger will include the holding period of the shares of CombiMatrix stock surrendered in exchange therefor.

Gain or loss recognized by a U.S. Holder who receives cash in lieu of a fractional share of Invitae common stock will constitute capital gain or loss and any such gain or loss will constitute long-term capital gain or loss if the U.S. Holder’s holding period in the CombiMatrix stock surrendered in the Merger is more than one year as of the effective date of the Merger. Under current law, long-term capital gains of non-corporate taxpayers are taxed at a reduced U.S. federal income tax rate. Under current law, the deductibility of capital losses is subject to limitations. In addition, for purposes of the above discussion regarding the determination of the bases and holding periods for shares of Invitae common stock received in the Merger, U.S. Holders who acquired different blocks of CombiMatrix stock at different times for different prices must calculate their bases and holding periods in their shares of CombiMatrix stock separately for each identifiable block of such stock exchanged in the Merger.

As provided in Treasury Regulations Section 1.368-3(d), each U.S. Holder who receives shares of Invitae common stock in the Warrant Exchange Offer or the Merger is required to retain permanent records pertaining to the Warrant Exchange Offer and the Merger, and make such records available to any authorized IRS officers and employees. Such records should specifically include information regarding the amount, basis, and fair market value of all transferred property, and relevant facts regarding any liabilities assumed or extinguished as part of such reorganization. Additionally, U.S. Holders who owned immediately before completion of the Warrant Exchange Offer and the Merger at least five percent (by vote or value) of the total outstanding stock of CombiMatrix, or Series D warrants or Series F warrants (including Series F warrants participating in the Warrant Exchange Offer) the aggregate federal income tax basis of which was at least \$1 million, are required to attach a statement to their tax returns for the year in which the Warrant Exchange Offer and the Merger are completed that contains the information listed in Treasury Regulation Section 1.368-3(b). Such statement must include the U.S. Holder’s tax basis in and fair market value of such U.S. Holder’s shares of CombiMatrix stock, Series D warrants and Series F warrants surrendered in the Warrant Exchange Offer or the Merger, the date of completion of the Warrant Exchange Offer and the Merger and the name and employer identification number of each of CombiMatrix and Invitae. Holders of CombiMatrix Series F convertible preferred stock should consult their tax advisors regarding application of these requirements to their particular circumstances.

If the Warrant Exchange Offer and the Merger, together, fail to qualify as a reorganization within the meaning of Section 368(a) of the Code, then a U.S. Holder would recognize gain or loss upon the exchange of the

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stockholder's shares of CombiMatrix stock for shares of Invitae common stock equal to the difference between the fair market value, at the time of the exchange, of the Invitae common stock received in the Merger (including any cash received in lieu of a fractional share of Invitae common stock) and such U.S. Holder's tax basis in the shares of CombiMatrix stock surrendered in the Merger. Such gain or loss would be long-term capital gain or loss if the CombiMatrix stock was held for more than one year at the time of the Merger. In addition, the U.S. Holder's aggregate tax basis in the shares of Invitae common stock received in the Merger would equal their fair market value at the time of the closing of the Merger, and the U.S. Holder's holding period of such shares of Invitae common stock would commence the day after the closing of the Merger.

Possible Alternative Characterization for U.S. Holders Also Holding Repurchased Warrants

CombiMatrix has repurchased half of the outstanding and unexercised CombiMatrix Series A warrants, Series B warrants, Series C warrants, Series E warrants and PIPE warrants pursuant to the terms of that certain CombiMatrix Common Stock Purchase Warrants Repurchase Agreement dated July 11, 2016 and, upon the closing of the Merger, will repurchase the remainder of such outstanding and unexercised warrants. See the section entitled "*The Merger Agreement—CombiMatrix Stock Options, RSUs and Warrants.*" The discussion above assumes that any cash received by a U.S. Holder in respect of any such repurchase of warrants by CombiMatrix should not be integrated with the exchange of CombiMatrix stock for Invitae common stock pursuant to the Merger; however, the IRS may assert that cash received pursuant to any such repurchase from a U.S. Holder should be integrated with such exchange of CombiMatrix stock for Invitae common stock pursuant to the Merger (and, if relevant, with the exchange of CombiMatrix Series F warrants for Invitae common stock in the Warrant Exchange Offer). If the IRS prevailed in such an assertion, the federal income tax consequences to U.S. Holders could differ from the consequences described above. In general, U.S. Holders would not be able to recognize any loss in the integrated transaction and any cash received would be treated as capital gain in an amount equal to the lesser of the overall gain recognized in the integrated transaction and the cash received. Holders of shares of CombiMatrix capital stock and of CombiMatrix warrants should consult their tax advisors as to the federal income tax consequences to them of any such alternative characterization.

Information Reporting and Backup Withholding

A U.S. Holder of CombiMatrix stock may be subject to information reporting and backup withholding for U.S. federal income tax purposes on cash paid in lieu of fractional shares in connection with the Merger. The current backup withholding rate is 28 percent. Backup withholding will not apply, however, to a U.S. Holder who (i) furnishes a correct taxpayer identification number and certifies the U.S. Holder is not subject to backup withholding on IRS Form W-9 or a substantially similar form or (ii) certifies the U.S. Holder is otherwise exempt from backup withholding. U.S. Holders of shares of CombiMatrix stock should consult their tax advisors regarding their qualification for an exemption from backup withholding and the procedures for obtaining such an exemption. If a U.S. Holder does not provide a correct taxpayer identification number on IRS Form W-9 or other proper certification, the U.S. Holder may be subject to penalties imposed by the IRS. Any amounts withheld under the backup withholding rules may be refunded or allowed as a credit against a U.S. Holder's U.S. federal income tax liability, if any, provided the required information is timely furnished to the IRS. In the event of backup withholding, consult with your tax advisor to determine if you are entitled to any tax credit, tax refund or other tax benefit as a result of such backup withholding.

THE PRECEDING DISCUSSION IS A SUMMARY OF THE MATERIAL U.S. FEDERAL INCOME TAX CONSEQUENCES OF THE MERGER AND DOES NOT PURPORT TO BE A COMPLETE ANALYSIS OR DISCUSSION OF ALL POTENTIAL TAX EFFECTS RELEVANT THERETO. U.S. HOLDERS OF SHARES OF COMBIMATRIX STOCK SHOULD CONSULT THEIR TAX ADVISORS AS TO THE SPECIFIC TAX CONSEQUENCES TO THEM OF THE MERGER, INCLUDING THE APPLICABLE U.S. FEDERAL, STATE, LOCAL AND NON-U.S. INCOME AND OTHER TAX CONSEQUENCES, AND ANY TAX REPORTING REQUIREMENTS OF THE MERGER AND RELATED TRANSACTIONS IN LIGHT OF THEIR PARTICULAR CIRCUMSTANCES.

DESCRIPTION OF INVITAE CAPITAL STOCK

For a description of Invitae's capital stock, please see Invitae's periodic reports and other documents incorporated by reference into this document. See the section entitled "Where You Can Find More Information."

COMPARISON OF RIGHTS OF INVITAE AND COMBIMATRIX STOCKHOLDERS

The following is a summary of certain material differences between the rights of holders of CombiMatrix common stock and the rights of holders of Invitae common stock, but it is not a complete description of those differences. These differences arise from the governing documents of the two companies, including Invitae's amended and restated certificate of incorporation, as amended (referred to as Invitae's certificate of incorporation), and amended and restated bylaws (referred to as Invitae's bylaws), and CombiMatrix's amended and restated certificate of incorporation (referred to as CombiMatrix's certificate of incorporation) and second amended and restated bylaws (referred to as CombiMatrix's bylaws). Invitae and CombiMatrix are each Delaware corporations and are governed by the DGCL. After completion of the Merger, the rights of CombiMatrix stockholders who become Invitae stockholders will be governed by the DGCL and Invitae's certificate of incorporation and bylaws. The following is a comparison of the material rights of the holders of shares of Invitae common stock and the holders of shares of CombiMatrix common stock, but it is not a complete description of those rights. You are urged to read each of the Invitae certificate of incorporation and bylaws and the CombiMatrix certificate of incorporation and bylaws in its entirety. For additional information, see the section entitled " *Where You Can Find More Information* " below.

Capitalization

Invitae . The total number of shares of all classes of stock authorized under Invitae's certificate of incorporation is 420,000,000 shares, consisting of 400,000,000 shares of common stock, par value \$0.0001 per share, and 20,000,000 shares of preferred stock, par value \$0.0001 per share, of which 3,458,823 shares are designated Series A convertible preferred stock. As of September 4, 2017, there were 50,076,140 shares of Invitae common stock issued and outstanding and 3,458,823 shares of Series A convertible preferred stock issued and outstanding.

CombiMatrix . The total number of shares of all classes of stock authorized under CombiMatrix's certificate of incorporation is 55,000,000 shares, consisting of 50,000,000 shares of common stock, par value \$0.001 per share, and 5,000,000 shares of preferred stock, par value \$0.001 per share, of which 4,000 shares are designated Series A 6% convertible preferred stock, 2,000 shares are designated Series B 6% convertible preferred stock, 2,500 shares are designated Series C 6% convertible preferred stock, 12,000 shares are designated Series D convertible preferred stock, 2,202 shares are designated Series E 6% convertible preferred stock and 8,000 shares are designated Series F convertible preferred stock. As of September 4, 2017, there were 2,918,251 shares of CombiMatrix common stock issued and outstanding, no shares of CombiMatrix Series A 6% convertible preferred stock issued and outstanding, no shares of CombiMatrix Series B 6% convertible preferred stock issued and outstanding, no shares of CombiMatrix Series C 6% convertible preferred stock issued and outstanding, no shares of CombiMatrix Series D convertible preferred stock issued and outstanding, no shares of CombiMatrix Series E 6% convertible preferred stock issued and outstanding, and 92 shares of CombiMatrix Series F convertible preferred stock issued and outstanding.

Voting Rights

Invitae . Invitae's bylaws provide that at every meeting of the stockholders each stockholder shall be entitled to one vote for each share of the capital stock having voting power held by such stockholder. The holders of preferred stock have no voting rights, except as otherwise required by law.

CombiMatrix . Pursuant to CombiMatrix's certificate of incorporation, each holder of CombiMatrix common stock is entitled to one vote for each share of CombiMatrix common stock held of record by such holder on all matters on which stockholders generally are entitled to vote. The holders of preferred stock have no voting rights, except as required by law. However, as long as any shares of a class of preferred stock are outstanding, CombiMatrix may not, without the affirmative vote of the holders of a majority of the then outstanding shares of such class of preferred stock, (i) alter or change adversely the powers, preferences or rights given to such class of

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preferred stock or alter or amend the certificate of designation setting forth such powers, preferences and rights, (ii) authorize or create any class of stock ranking as to dividends, redemption or distribution of assets upon a liquidation senior to, or otherwise pari passu with, such class of preferred stock, (iii) amend its certificate of incorporation or other charter documents in any manner that adversely affects any rights of such class of preferred stock, (iv) increase the number of authorized shares of such class of preferred stock, or (v) enter into any agreement with respect to any of the foregoing; provided that the foregoing clause (ii) does not apply to the outstanding Series F convertible preferred stock.

Stockholder Action by Written Consent

The DGCL allows actions to be taken by stockholders by written consent to be made by the holders of the minimum number of votes that would be needed to approve a matter at an annual or special meeting of stockholders, unless this right to act by written consent is denied in the certificate of incorporation.

Invitae. The *Invitae* certificate of incorporation specifically prohibits stockholders from taking action by written consent.

CombiMatrix. The *CombiMatrix* certificate of incorporation specifically prohibits stockholders from taking action by written consent.

Dividends

The DGCL permits a corporation to declare and pay dividends out of “surplus” or, if there is no “surplus,” out of its net profits for the fiscal year in which the dividend is declared and/or the preceding fiscal year. “Surplus” is defined as the excess of the net assets of the corporation over the amount determined to be the capital of the corporation by the board of directors. The capital of the corporation is typically calculated to be (and cannot be less than) the aggregate par value of all issued shares of capital stock. The calculation of net assets equals the fair value of the total assets minus total liabilities. The DGCL also provides that dividends may not be paid out of net profits if, after the payment of the dividend, capital is less than the capital represented by the outstanding stock of all classes having a preference upon the distribution of assets.

Invitae. Pursuant to *Invitae*’s certificate of incorporation, the holders of shares of *Invitae* common stock are entitled to receive dividends, when, as and if declared by the board of directors from time to time. Dividends are payable in cash, property or shares of capital stock. *Invitae* shall not declare, pay or set aside dividends on shares of any other class or series of *Invitae*’s capital stock (other than dividends in the form of *Invitae*’s common stock) unless the holders of *Invitae*’s Series A convertible preferred stock then outstanding shall first receive, or simultaneously receive, a dividend on each outstanding share of preferred stock in an amount at least equal to that dividend per share of preferred stock as would equal the product of (i) the dividend payable on each share of *Invitae*’s common stock and (ii) the number of shares of common stock issuable upon conversion of a share of *Invitae*’s Series A convertible preferred stock, in each case as calculated on the record date for determination of holders entitled to receive such dividend.

CombiMatrix. *CombiMatrix*’s certificate of incorporation provides that the holders of *CombiMatrix*’s Series F convertible preferred stock will be entitled to dividends equal to and in the same form as dividends actually paid on shares of *CombiMatrix*’s common stock when, as and if such dividends are paid on shares of the common stock. *CombiMatrix*’s certificate of incorporation also provides dividends for certain other classes of preferred stock which are not outstanding as of the date of this proxy statement/prospectus.

Number of Directors

Under the DGCL, the board of directors of a corporation must consist of one or more members, each of whom must be a natural person.

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Invitae . The bylaws of *Invitae* state that the number of directors that shall constitute the entire board of directors shall be fixed from time to time by resolution adopted by a majority of the directors then in office. There are currently five members of the *Invitae* board of directors.

CombiMatrix. *CombiMatrix*'s certificate of incorporation provides that the number of directors of *CombiMatrix* will be fixed from time to time by action of at least a majority of the directors then in office, and that such number will be no less than five and no more than nine. There are currently six members of the *CombiMatrix* board of directors.

Classification of Directors

The DGCL permits the directors of any corporation to be divided into one, two or three classes, with the term of office of those directors of the first class expiring at the first annual meeting held after such classification becomes effective, of the second class one year thereafter, and of the third class two years thereafter, with directors being chosen for a full term to replace those whose terms expire at each annual election thereafter.

Invitae . The members of *Invitae*'s board of directors are classified into three classes, the members of one class of which are elected at each meeting of the stockholders. Each board class is elected to hold office for a three-year term and until the successors of such class have been elected and qualified. Newly created directorships resulting from any increase in the authorized number of directors or any vacancies in the board of directors shall be filled solely by a majority vote of the directors then in office, although less than a quorum, or by a sole remaining director, and such newly appointed directors shall hold office until the next annual election at which the term of the class to which he or she has been elected expires and until such director's successor is duly elected and qualified, or until such director's earlier death, resignation, removal or incapacity.

CombiMatrix . The board of directors of *CombiMatrix* is not classified. All *CombiMatrix* directors are elected annually to serve one-year terms.

Election of Directors

The DGCL provides that directors shall be elected by a plurality of the votes of the shares present in person or represented by proxy at the meeting and entitled to vote on the election of directors, and that a bylaw amendment adopted by stockholders which specifies the votes that shall be necessary for the election of directors shall not be further amended or repealed by the board of directors.

Invitae . *Invitae* directors are elected by a plurality of the votes of the shares present in person or represented by proxy at the meeting and entitled to vote on the election of directors. Each director so elected shall hold office until the next annual meeting of stockholders in which such director's class stands for election and until such director's successor is duly elected and qualified, or until such director's earlier death, resignation, removal or incapacity.

CombiMatrix . The *CombiMatrix* bylaws provide that directors shall be elected by a plurality of the votes of the shares present in person or represented by proxy at the meeting and entitled to vote on the election of directors. Each director so elected shall hold office until the next annual meeting of stockholders and until such director's successor is duly elected and qualified, or until such director's earlier death, resignation, retirement, disqualification or removal.

Removal of Directors

The DGCL provides that in the absence of cumulative voting or a classified board, any director or the entire board of directors may be removed, with or without cause, by the holders of a majority of the shares then entitled to vote in an election of directors.

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Invitae . *Invitae*'s certificate of incorporation provides that any or all of the *Invitae* directors may be removed from office, but only for cause and only by the holders of a majority of the voting power of the capital stock issued and outstanding then entitled to vote at an election of directors.

CombiMatrix . *CombiMatrix*'s certificate of incorporation provides that directors may be removed, with or without cause, only upon the affirmative vote of holders of at least two-thirds of the voting power of all then outstanding shares of *CombiMatrix* stock entitled to vote generally in the election of directors, voting together as a single class; provided that where such removal is approved by a majority of the directors the affirmative vote of only a majority of the holders of all outstanding shares of *CombiMatrix* common stock will be required for removal of a director.

Vacancies

Invitae . The *Invitae* certificate of incorporation provides that newly created directorships resulting from any increase in the authorized number of directors or any vacancies in the *Invitae* board of directors resulting from death, resignation, retirement, disqualification, removal or other cause shall be filled solely by a majority vote of the *Invitae* directors then in office, even if less than a quorum, or by a sole remaining director (and not by stockholders), and that any director so chosen shall hold office until the next annual election at which the term of the class to which he or she has been elected expires and until such director's successor is duly elected and qualified or until such director's earlier resignation or removal.

CombiMatrix . The *CombiMatrix* certificate of incorporation provides that newly created directorships resulting from an increase in the number of directors and any vacancies on the *CombiMatrix* board of directors resulting from death, resignation, retirement, disqualification, removal or other cause may be filled solely by a majority vote of the remaining *CombiMatrix* directors then in office, even if less than a quorum, and that any director so chosen shall hold office until the next election of directors and until his or her successor shall be elected and qualified.

Amendments to Certificate of Incorporation

Under the DGCL, an amendment to the certificate of incorporation requires (1) the approval of the board of directors, (2) the approval of the holders of a majority of the outstanding stock entitled to vote upon the proposed amendment, and (3) the approval of the holders of a majority of the outstanding stock of each class entitled to vote thereon as a class.

Invitae . *Invitae*'s certificate of incorporation provides that the affirmative vote of the holders of at least 66-2/3% of the voting power of the shares of *Invitae*'s capital stock entitled to vote generally in the election of directors, voting together as a single class, shall be required to amend in any respect or repeal Paragraph A of Article V (Amendments to Bylaws), Article VI (Board of Directors; Newly Created Directorships), Article VII (Action By Written Consent; Meetings of Stockholders; Stockholder Nominations; Exclusive Forum), Article VIII (Indemnification; Insurance) or Article IX (Amendment to Certificate of Incorporation).

CombiMatrix . The *CombiMatrix* certificate of incorporation provides that *CombiMatrix* reserves the right to amend, alter, change or repeal any provision contained in the certificate of incorporation, and all rights, preferences, and privileges conferred upon the stockholders, directors or any other persons, and to add or insert other provisions authorized by the DGCL, in the manner prescribed by the DGCL.

Amendments to Bylaws

Under the DGCL, bylaws may be adopted, amended or repealed by the stockholders entitled to vote, and by the board of directors if the corporation's certificate of incorporation confers the power to adopt, amend or repeal the corporation's bylaws upon the directors.

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Invitae . The *Invitae* certificate of incorporation authorizes the *Invitae* board of directors to adopt, amend or repeal *Invitae*'s bylaws, without any action on the part of the stockholders, by the vote of at least a majority of the directors then in office. In addition, *Invitae*'s bylaws may be adopted, amended or repealed by the affirmative vote of the holders of at least two-thirds of the voting power of the shares of *Invitae*'s capital stock entitled to vote in the election of directors, voting as one class; provided, however, that the affirmative vote of the holders representing only a majority of the voting power of the shares of *Invitae*'s capital stock entitled to vote in the election of directors, voting as one class, shall be required if such adoption, amendment or repeal of *Invitae*'s bylaws has been previously approved by the affirmative vote of at least two-thirds of the directors then in office.

CombiMatrix. The *CombiMatrix* certificate of incorporation and bylaws provide that the *CombiMatrix* board of directors is expressly authorized to adopt, alter, amend and repeal the *CombiMatrix* bylaws, subject to the power of the stockholders to change or repeal the bylaws and provided that the board of directors may not make or alter any bylaws fixing the qualifications, classifications, or term of office of directors. In addition, *CombiMatrix*'s bylaws may be repealed, altered or amended or new bylaws adopted by the affirmative vote of the holders of two-thirds of *CombiMatrix*'s stock entitled to vote at any meeting of the stockholders.

Annual Meetings of Stockholders

Invitae . The *Invitae* bylaws provide that an annual meeting of *Invitae*'s stockholders shall be held each year at such date and time as shall be designated from time to time by the *Invitae* board of directors and stated in the notice of the meeting. At each such annual meeting, the stockholders shall elect directors of the class whose term expires at such meeting and shall transact such other business as may properly be brought before the meeting.

CombiMatrix . The *CombiMatrix* bylaws provide that an annual meeting of *CombiMatrix*'s stockholders, for the purpose of electing directors and for such other business as may lawfully come before such meeting, shall be held each year at such date and time as shall be designated from time to time by the *CombiMatrix* board of directors, or, if not so designated, then at 10:00 a.m. on May 31 each year if a business day and not a legal holiday, or at the same time on the next succeeding business day that is not a holiday.

Special Meetings of Stockholders

Invitae . The *Invitae* certificate of incorporation specifically denies any power of *Invitae*'s stockholders to call a special meeting of stockholders. *Invitae*'s bylaws provide that a special meeting of the stockholders shall be called by the Secretary upon the written request of the Chairman of the *Invitae* board of directors or the Chief Executive Officer of *Invitae* or by a resolution adopted by the affirmative vote of a majority of the *Invitae* board of directors, with such request stating the purpose of the proposed meeting.

CombiMatrix . The *CombiMatrix* certificate of incorporation provides that only the Chairman of the Board, the President or the *CombiMatrix* board of directors may call a special meeting of stockholders and specifically denies any power of *CombiMatrix*'s stockholders to call a special meeting of stockholders. *CombiMatrix*'s bylaws provide that a special meeting of the stockholders may be called for any purpose or purposes, by the Chairman of the Board, the President or the *CombiMatrix* board of directors at any time.

Submission of Stockholder Proposals

Invitae . *Invitae*'s bylaws provide that any stockholder entitled to vote at a meeting of stockholders may propose business to be brought before such meeting only if such stockholder has given timely notice to the Secretary of *Invitae* in proper written form of the stockholder's intent to propose such business. Notice of any proposal to be presented by any stockholder or of the name of any person to be nominated by any stockholder for election as a director of *Invitae* at an annual or special meeting of stockholders shall be delivered to the Secretary of *Invitae* at *Invitae*'s principal executive office not less than 90 nor more than 120 days in advance of the anniversary of the date of *Invitae*'s proxy statement provided in connection with the previous year's annual meeting of

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stockholders, provided that in the event that no annual meeting was held in the previous year or the annual meeting is called for a date that is more than 30 days before or after the anniversary date of the previous year's annual meeting, notice by the stockholder must be received by the Secretary of Invitae not later than the close of business on the later of (a) the 90th day prior to such annual meeting and (b) the tenth day following the day on which public announcement of the date of such meeting is first made. In the case of a special meeting of stockholders called for the purpose of electing directors, notice must be delivered not later than the close of business on the tenth day following the day on which notice of the date of the special meeting was mailed or public disclosure of the date of the special meeting was made. Any stockholder who gives notice of any such matter must deliver with such notice the text of the business or proposal to be presented and a brief written description of the business desired to be brought before the annual meeting and the reasons for conducting such business, setting forth such stockholder's name and record address and the beneficial owner, if any, on whose behalf the proposal is made, the class, series and number of shares of Invitae that are owned beneficially and of record by the stockholder and such beneficial owner, if any, any material interest of the stockholder in such business, and any other information that is required to be provided by the stockholder pursuant to Section 14 of the Exchange Act in such stockholder's capacity as a proponent of a stockholder proposal.

CombiMatrix. CombiMatrix's bylaws provided that a stockholder submitting a proposal for a stockholder vote must deliver a written notice to the Secretary of CombiMatrix no less than 120 days nor more than 180 days prior to the date on which CombiMatrix first mailed its proxy materials for the previous year's annual meeting of stockholders (or the date on which CombiMatrix mails its proxy materials for the current year if during the prior year CombiMatrix did not hold an annual meeting or if the date of the annual meeting was changed more than 30 days from the prior year). The notice must set forth (a) a brief description of the business desired to be brought before the annual meeting and the reasons for conducting such business at the annual meeting, (b) the name and record address of the stockholder proposing such business, (c) the class and number of shares of CombiMatrix which are beneficially owned by the stockholder, and (d) any material interest of the stockholder in such business.

Stockholder Nomination of Director Candidates

Invitae. In addition to the advance notice requirements described above, which apply to nominations by Invitae stockholders of candidates for director, any stockholder desiring to nominate any person for election as a director must deliver with such notice a statement in writing setting forth (a) as to each person whom the stockholder proposes to nominate for election or reelection as a director, (i) the name, age, business address and residence address of the person to be nominated, (ii) the principal occupation or employment of the person, (iii) the class, series and number of shares of capital stock of Invitae that are owned beneficially by the person, (iv) any other information relating to the person that is required to be disclosed in solicitations for proxies for election of directors pursuant to Section 14 of the Exchange Act and (v) such person's signed consent to serve as a director of Invitae if elected and (b) as to the stockholder giving the notice (x) the stockholder's name and address, (y) the class, series and number of shares of capital stock of Invitae beneficially owned by such stockholder and (z) a description of all arrangements or understandings between such stockholder and each such nominee.

CombiMatrix. CombiMatrix's bylaws provide that any stockholder desiring to nominate any person for election as director must deliver a written notice to the Secretary not less than 80 days nor more than 120 days prior to the date on which CombiMatrix first mailed its proxy materials for the previous year's annual meeting of stockholders (or the date on which CombiMatrix mails its proxy materials for the current year if during the prior year CombiMatrix did not hold an annual meeting or if the date of the annual meeting was changed more than 30 days from the prior year). Such notice must set forth (a) as to each person whom the stockholder proposes to nominate for election or re-election as a director, (i) the name, age, business address and residence address of the person, (ii) the principal occupation or employment of the person, (iii) the class and number of shares of CombiMatrix which are beneficially owned by the person, and (iv) any other information relating to the person that is required to be disclosed in solicitations for proxies for election of directors pursuant to Rule 14a under the Exchange Act; and (b) as to the stockholder giving the notice, (i) the name and record address of the stockholder, and (ii) the class and number of shares of CombiMatrix which are beneficially owned by the stockholder.

Indemnification and Limitation of Personal Liability of Directors

The DGCL provides that a corporation may indemnify a director or officer against expenses actually and reasonably incurred by him or her in association with any action, suit or proceeding in which the director or officer is involved by reason of his or her service to the corporation, if the director or officer acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation, and with respect to a criminal proceeding, the director or officer had no reason to believe that the act was unlawful. In addition, the DGCL requires that a corporation indemnify a director or officer who successfully defends himself or herself in such a proceeding.

Invitae. *Invitae's* bylaws provide that it will indemnify any person who was or is made a party or is threatened to be made a party to or is involved in any actual or threatened action, suit or proceeding, whether civil, criminal, administrative or investigative, by reason of the fact that such person is or was a director or officer of *Invitae*, or is or was serving at the request of *Invitae* as a director, officer, employee or agent of another corporation, partnership, limited liability company, joint venture, trust, employee benefit plan sponsored or maintained by *Invitae*, or other enterprise, against all expense, liability and loss (including attorneys' fees and related disbursements, judgments, fines, excise taxes or penalties and amounts paid or to be paid in settlement) actually and reasonably incurred by such person in connection with such action, suit or proceeding if such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to the best interests of *Invitae*, and, with respect to any criminal action or proceeding, had no reasonable cause to believe such person's conduct was unlawful.

Invitae's bylaws further provide that a person entitled to indemnification will also have the right advancement of expenses incurred in defending any proceeding, provided that if the DGCL requires, the payment of such expenses incurred by a director or officer in his or her capacity as a director or officer (and not in any other capacity in which service was or is rendered by such person while a director or officer, including, without limitation, service to an employee benefit plan) in advance of the final disposition of a proceeding, shall be made only upon delivery to *Invitae* of an undertaking by or on behalf of such director or officer to repay all amounts so advanced if it is ultimately determined that such director or officer is not entitled to be indemnified. In addition, no advance shall be made to an officer of *Invitae* (unless such officer is or was a director of *Invitae*) in any action, suit or proceeding, whether civil, criminal, administrative or investigative, if a determination is made by the disinterested members of *Invitae's* board of directors or independent legal counsel, that such person acted in bad faith or in a manner that such person did not believe to be in or not opposed to the best interests of *Invitae*.

CombiMatrix. *CombiMatrix's* bylaws provide that it will indemnify to the fullest extent authorized by the DGCL any person who was or is a party or is threatened to be made a party to or is involved in any threatened, pending, or completed action, suit, or proceeding, whether civil, criminal, administrative, or investigative, by reason of the fact that such person is or was a director, officer, employee, or agent of *CombiMatrix*, or is or was serving at the request of *CombiMatrix* as a director, officer, employee or agent of another corporation, partnership, joint venture, trust, employee benefit plan or other enterprise, against all expense, liability and loss (including attorneys' fees, judgments, fines, excise taxes or penalties and amounts paid or to be paid in settlement) reasonably incurred or suffered by such person in connection with such action, suit or proceeding.

CombiMatrix's bylaws further provide that a person entitled to indemnification will also have the right advancement of expenses incurred in defending any proceeding, provided that if required by the DGCL, expenses will be advanced only upon delivery to *CombiMatrix* of an undertaking by or on behalf of such director or officer to repay such amount if it is ultimately determined that he or she is not entitled to be indemnified.

Extraordinary Transactions

The DGCL generally requires that any merger, consolidation or sale of substantially all the assets of a corporation be approved by a vote of a majority of all outstanding shares entitled to vote thereon.

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Invitae . Although the DGCL permits a Delaware corporation's certificate of incorporation to provide for a greater vote for a merger, consolidation or sale of substantially all the assets of a corporation than the vote described above, the *Invitae* certificate of incorporation does not require a greater vote.

CombiMatrix . Although the DGCL permits a Delaware corporation's certificate of incorporation to provide for a greater vote for a merger, consolidation or sale of substantially all the assets of a corporation than the vote described above, the *CombiMatrix* certificate of incorporation does not require a greater vote.

LEGAL MAT TERS

Pillsbury Winthrop Shaw Pittman LLP, San Diego, California will pass upon the validity of the Invitae common stock offered by this proxy statement/prospectus. The material U.S. federal income tax consequences of the Merger will be passed upon for Invitae by Pillsbury Winthrop Shaw Pittman LLP, Palo Alto, California and for CombiMatrix by Stradling Yocca Carlson & Rauth, P.C., Newport Beach, California.

EXPE RTS

The consolidated financial statements of Invitae Corporation included in Invitae Corporation's Annual Report (Form 10-K, as amended) for the year ended December 31, 2016 have been audited by Ernst & Young LLP, independent registered public accounting firm, as set forth in their report thereon, included therein, and incorporated herein by reference. Such consolidated financial statements are incorporated herein by reference in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

The financial statements of CombiMatrix at December 31, 2016 and 2015 and for each of the two years in the period ended December 31, 2016 included in this proxy statement/prospectus have been included in reliance upon the report of Haskell & White LLP, an independent registered public accounting firm, and given on the authority of said firm as experts in auditing and accounting.

STOCKHOLDER PR OPOSALS

Invi tae

Invitae Stockholders may submit proposals for consideration at next year's annual meeting of Invitae stockholders, provided such proposal is based on a proper subject for stockholder action. In order for a stockholder proposal to be considered for inclusion in the proxy statement in reliance on Rule 14a-8 of the Exchange Act and presented at Invitae's 2018 annual meeting of stockholders, such proposal must be received by Invitae not less than 120 days before April 6, 2018 (or by December 7, 2017), in such form as is required by the rules and regulations promulgated by the SEC. Stockholder proposals must be submitted in writing, to the attention of the Secretary of Invitae Corporation, 1400 16th Street, San Francisco, California 94103. A proposal submitted by a stockholder outside of the process of Rule 14a-8 for Invitae's 2018 annual meeting of stockholders will not be considered timely unless such proposal is received by Invitae no later than January 6, 2018 and no earlier than December 7, 2017. The proxy to be solicited on behalf of Invitae's board of directors for its 2018 annual meeting of stockholders may confer discretionary authority to vote on any such proposal considered to have been received on a non-timely basis that nonetheless properly comes before Invitae's 2018 annual meeting of stockholders.

Combi Matrix

If the Merger is completed, CombiMatrix will be a wholly owned subsidiary of Invitae. As a result, CombiMatrix does not currently expect to hold another annual meeting of stockholders if the Merger is completed.

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If the Merger is not completed, CombiMatrix stockholders may submit proposals for consideration at next year's annual meeting of CombiMatrix stockholders, provided such proposal is based on a proper subject for stockholder action. In order for a stockholder proposal to be considered for inclusion in the proxy statement in reliance on Rule 14a-8 of the Exchange Act and presented at CombiMatrix's 2018 annual meeting of stockholders, such proposal must be received by CombiMatrix not less than 120 days before May 5, 2018 (or by January 5, 2018), in such form as is required by the rules and regulations promulgated by the SEC. Stockholder proposals must be submitted in writing, to the attention of the Secretary of CombiMatrix Corporation, 300 Goddard, Suite 100, Irvine, California 92618. A proposal submitted by a stockholder outside of the process of Rule 14a-8 for CombiMatrix's 2018 annual meeting of stockholders will not be considered timely unless such proposal is received by CombiMatrix no later than January 5, 2018 and no earlier than November 6, 2017. The proxy to be solicited on behalf of CombiMatrix board of directors for its 2018 annual meeting of stockholders may confer discretionary authority to vote on any such proposal considered to have been received on a non-timely basis that nonetheless properly comes before CombiMatrix's 2018 annual meeting of stockholders.

WHERE YOU CAN FIND MORE INFORMATION

The SEC allows Invitae to incorporate by reference information in this document. This means that Invitae can disclose important information to you by referring you to another document filed separately with the SEC. These documents contain important information about Invitae and its financial condition, business, operations and results. The information incorporated by reference is considered to be part of this document, except for any information that is superseded by information that is included directly in this document. This document incorporates by reference the documents listed below that Invitae previously filed with the SEC.

<u>Invitae SEC Filings</u>	<u>Period or Date Filed</u>
Annual Report on Form 10-K	For the fiscal year ended December 31, 2016, as filed with the SEC on March 16, 2017 (as amended June 23, 2017 and June 26, 2017)
Quarterly Report on Form 10-Q	For the quarterly periods ended June 30, 2017 and March 31, 2017, as filed with the SEC on August 9, 2017 and May 9, 2017, respectively
Current Report on Form 8-K	Filed on: August 7, 2017, August 4, 2017, August 1, 2017 (two filings), June 13, 2017, June 1, 2017, May 19, 2017, February 9, 2017, January 9, 2017 and January 6, 2017 (other than the portions of those documents not deemed to be filed)
The description of Invitae's capital stock set forth in a registration statement filed pursuant to Section 12 of the Exchange Act and any amendment or report filed for the purpose of updating those descriptions	As filed with the SEC on February 11, 2015, together with all amendments and reports filed for the purpose of updating such description
Proxy Statement on Schedule 14A	For the 2017 annual meeting of stockholders, filed with the SEC on April 6, 2017

In addition, Invitae also incorporates by reference additional documents that it files with the Securities and Exchange Commission between the date of this document and the date of the CombiMatrix special meeting. These documents include periodic reports, such as Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as proxy statements.

CombiMatrix is subject to the information requirements of the Exchange Act; however, CombiMatrix cannot incorporate by reference into this proxy statement/prospectus because it is not eligible to do so under Form S-4. The documents listed below have been previously filed with the SEC by CombiMatrix, contain important information about CombiMatrix and its financial condition, and are included with this proxy statement/prospectus in the applicable annex set forth below.

<u>CombiMatrix SEC Filings</u>	<u>Annex to Proxy Statement/Prospectus</u>
CombiMatrix Annual Report on Form 10-K for the fiscal year ended December 31, 2016	Annex C
CombiMatrix Quarterly Report on Form 10-Q for the quarterly period ended June 30, 2017	Annex D

Invitae has supplied all information contained or incorporated by reference in this document relating to Invitae and CombiMatrix has supplied all information relating to CombiMatrix. Documents incorporated by reference by Invitae or otherwise previously filed by CombiMatrix with the SEC are available without charge, excluding any exhibits to those documents unless the exhibit is specifically incorporated by reference as an exhibit in this

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document. You may read and copy documents incorporated by reference in this document, other than certain exhibits to those documents, at the SEC's Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. You can also obtain such documents free of charge through the SEC's website (www.sec.gov) or by requesting them in writing or by telephone from the appropriate company at the following addresses.

Invitae Corporation
1400 16th Street
San Francisco, CA 94103
(415) 374-7782
Attn: Investor Relations

CombiMatrix Corporation
300 Goddard, Suite 100
Irvine, CA 92618
(949) 753-0624
Attn: Investor Relations

If you would like to request any documents, please do so by _____, 2017 in order to receive them before the CombiMatrix special meeting. You will not be charged for any of these documents that you request. If you request any incorporated documents from Invitae or CombiMatrix, Invitae or CombiMatrix will mail them to you by first class mail, or another equally prompt means, within one business day after it receives your request.

Neither CombiMatrix nor Invitae has authorized anyone to give any information or make any representation about the Merger or the companies that is different from, or in addition to, that contained in this proxy statement/prospectus or in any of the materials that have been incorporated in this document. Therefore, if anyone does give you information of this sort, you should not rely on it. If you are in a jurisdiction where offers to exchange or sell, or solicitations of offers to exchange or purchase, the securities offered by this proxy statement/prospectus or the solicitation of proxies is unlawful, or if you are a person to whom it is unlawful to direct these types of activities, then the offer presented in this document does not extend to you. The information in this proxy statement/prospectus speaks only as of the date of this document unless the information specifically indicates that another date applies.

AGREEMENT AND PLAN OF MERGER AND REORGANIZATION

THIS AGREEMENT AND PLAN OF MERGER AND REORGANIZATION (this “*Agreement*”) is made and entered into as of July 31, 2017, by and among INVITAE CORPORATION, a Delaware corporation (“*Invitae*”), CORONADO MERGER SUB, INC., a Delaware corporation (“*Merger Sub*”), and COMBIMATRIX CORPORATION, a Delaware corporation (“*CombiMatrix*”). Certain capitalized terms used in this Agreement are defined in Exhibit A.

RECITALS

A. *Invitae* and *CombiMatrix* intend to effect a merger of *Merger Sub* into *CombiMatrix* (the “*Merger*”) in accordance with this Agreement and the DGCL. Upon consummation of the Merger, *Merger Sub* will cease to exist, and *CombiMatrix* will become a wholly-owned subsidiary of *Invitae*.

B. The Parties intend, by approving resolutions authorizing this Agreement, to adopt this Agreement as a plan of reorganization within the meaning of Section 368(a) of the Code, and to cause the Merger, together with the Warrant Exchange Offer, to qualify as a reorganization under the provisions of Section 368(a) of the Code and the Treasury Regulations promulgated thereunder.

C. The *Invitae* Board of Directors has approved this Agreement, the Merger, the issuance of shares of *Invitae* Common Stock to the stockholders of *CombiMatrix* pursuant to the terms of this Agreement and the other actions contemplated by this Agreement, including the Warrant Exchange Offer (consummation of which, with at least the Minimum Warrant Exchange Participation, is one of the conditions to the obligations of *Invitae* and *Merger Sub* to proceed with the Merger as set forth herein).

D. The *Merger Sub* Board of Directors has determined that the Merger is in the best interests of *Merger Sub* and its sole stockholder and has approved this Agreement, the Merger, and the other actions contemplated by this Agreement.

E. The *CombiMatrix* Board of Directors (i) has determined that the Merger is advisable and fair to, and in the best interests of, *CombiMatrix* and its stockholders, (ii) has deemed advisable and approved this Agreement, the Merger and the other actions contemplated by this Agreement, and (iii) has determined to recommend that the stockholders of *CombiMatrix* vote to adopt this Agreement and thereby approve the Merger and such other actions as contemplated by this Agreement (the “*Merger Proposal*”).

AGREEMENT

The Parties, intending to be legally bound, agree as follows:

Section 1. DESCRIPTION OF TRANSACTION

1.1 Structure of the Merger . Upon the terms and subject to the conditions set forth in this Agreement, at the Effective Time, *Merger Sub* shall be merged with and into *CombiMatrix*, and the separate existence of *Merger Sub* shall cease. *CombiMatrix* will continue as the surviving corporation in the Merger (the “*Surviving Corporation*”).

1.2 Effects of the Merger . The Merger shall have the effects set forth in this Agreement and in the applicable provisions of the DGCL. As a result of the Merger, *CombiMatrix* will become a wholly-owned subsidiary of *Invitae*.

1.3 Closing; Effective Time . Unless this Agreement is earlier terminated pursuant to the provisions of Section 9.1, and subject to the satisfaction or waiver of the conditions set forth in Section 6, Section 7 and Section 8, the consummation of the Merger (the “**Closing**”) shall take place at the offices of Pillsbury Winthrop Shaw Pittman LLP, 12255 El Camino Real, Suite 300, San Diego, California, as promptly as practicable (but in no event later than the second (2nd) Business Day following the satisfaction or waiver of the last to be satisfied or waived of the conditions set forth in Section 6, Section 7 and Section 8, other than those conditions that by their nature are to be satisfied at the Closing, but subject to the satisfaction or waiver of each of such conditions), or at such other time, date and place as Invitae and CombiMatrix may mutually agree in writing. The date on which the Closing actually takes place is referred to as the “**Closing Date**.” At the Closing, the Parties shall cause the Merger to be consummated by executing and filing with the Secretary of State of the State of Delaware a certificate of merger with respect to the Merger, satisfying the applicable requirements of the DGCL and in a form reasonably acceptable to Invitae and CombiMatrix (the “**Certificate of Merger**”). The Merger shall become effective at the time of the filing of such Certificate of Merger with the Secretary of State of the State of Delaware or at such later time as may be specified in such Certificate of Merger with the consent of Invitae and CombiMatrix (the time as of which the Merger becomes effective being referred to as the “**Effective Time**”).

1.4 Certificate of Incorporation and Bylaws; Directors and Officers . At the Effective Time:

(a) the Certificate of Incorporation of the Surviving Corporation shall be amended and restated in its entirety to read identically to the Certificate of Incorporation of Merger Sub as in effect immediately prior to the Effective Time, (i) except that references to the name of Merger Sub shall be replaced with references to the name of the Surviving Corporation and (ii) until thereafter amended as provided by the DGCL and such Certificate of Incorporation;

(b) the Bylaws of the Surviving Corporation shall be amended and restated in their entirety to read identically to the Bylaws of Merger Sub as in effect immediately prior to the Effective Time, (i) except that references to the name of Merger Sub shall be replaced with references to the name of the Surviving Corporation and (ii) until thereafter amended as provided by the DGCL and such Bylaws; and

(c) the directors and officers of Merger Sub immediately prior to the Effective Time shall be the directors and officer of the Surviving Corporation, each to hold office in accordance with the Certificate of Incorporation and Bylaws of the Surviving Corporation.

1.5 Conversion of CombiMatrix Common Stock, CombiMatrix RSUs, CombiMatrix Options and CombiMatrix Series F Preferred Stock; Issuance of Warrants .

(a) At the Effective Time, by virtue of the Merger and without any further action on the part of Invitae, Merger Sub, CombiMatrix or any stockholder of CombiMatrix:

(i) any shares of CombiMatrix Common Stock or CombiMatrix Preferred Stock held as treasury stock or held or owned by CombiMatrix, Merger Sub or any Subsidiary of CombiMatrix immediately prior to the Effective Time shall be canceled and retired and shall cease to exist, and no consideration shall be delivered in exchange therefor; and

(ii) subject to Section 1.5(c):

(1) each share of CombiMatrix Series F Preferred Stock outstanding immediately prior to the Effective Time (excluding shares to be canceled pursuant to Section 1.5(a)(i)) shall be converted solely into the right to receive a number of shares of Invitae Common Stock equal to the product of (A) the Exchange Ratio multiplied by (B) the number of shares of CombiMatrix Common Stock underlying a share of outstanding CombiMatrix Series F Preferred Stock on the date immediately prior to the Effective Time;

(2) each share of CombiMatrix Common Stock outstanding immediately prior to the Effective Time (excluding shares to be canceled pursuant to Section 1.5(a)(i)) shall be converted solely into the right to receive a number of shares of Invitae Common Stock equal to the Exchange Ratio;

(3) subject to the payment of such amounts as are required to be deducted or withheld from such consideration under the Code or under any other applicable Legal Requirement as well as the delivery of any reasonably appropriate Tax forms, including Form W-9 (or the appropriate Form W-8, as applicable), each CombiMatrix RSU outstanding immediately prior to the Effective Time shall be fully accelerated to the extent of any vesting period applicable thereto and converted into the number of shares of Invitae Common Stock determined by multiplying (A) the number of shares of CombiMatrix Common Stock that were subject to such CombiMatrix RSU, as in effect immediately prior to the Effective Time, by (B) the Exchange Ratio and rounding the resulting number down to the nearest whole number of shares of Invitae Common Stock; and

(4) subject to the payment of such amounts as are required to be deducted or withheld from such consideration under the Code or under any other applicable Legal Requirement as well as the delivery of any reasonably appropriate Tax forms, including Form W-9 (or the appropriate Form W-8, as applicable), each in-the-money CombiMatrix Option that is outstanding and unexercised immediately prior to the Effective Time, whether or not vested or exercisable, shall be converted into the number of shares of Invitae Common Stock determined by (A) multiplying the Exchange Ratio by the number of shares of CombiMatrix Common Stock underlying such CombiMatrix Option, and subtracting therefrom (B) the number of shares of Invitae Common Stock determined by dividing (x) the exercise price payable by the holder with respect to all shares underlying such CombiMatrix Option by (y) the Invitae Trailing Average Share Value, and rounding the resulting number down to the nearest whole number of shares of Invitae Common Stock.

The shares of Invitae Common Stock issuable pursuant to this Section 1.5(a)(ii) are herein referred to as the “*Merger Consideration*.”

(b) If any shares of CombiMatrix Common Stock, CombiMatrix RSUs or CombiMatrix Options outstanding immediately prior to the Effective Time are invested or are subject to a repurchase option or the risk of forfeiture under any applicable restricted stock purchase agreement or other agreement with CombiMatrix, then (i) the shares of Invitae Common Stock issued in exchange for such shares of CombiMatrix Common Stock shall be issued without regard to such vesting, restrictions, repurchase options or risk of forfeiture, which shall lapse as of the Effective Time and (ii) the shares of Invitae Common Stock issued upon conversion of such CombiMatrix RSUs or CombiMatrix Options, subject to and as provided in Sections 1.5(a)(ii)(3) and 1.5(a)(ii)(4), shall be issued without any vesting period, restrictions, repurchase options or risk of forfeiture.

(c) No fractional shares of Invitae Common Stock shall be issued in connection with the Merger, and no certificates or scrip for any such fractional shares shall be issued. Any holder of CombiMatrix Common Stock, CombiMatrix RSUs or CombiMatrix Options who would otherwise be entitled to receive a fraction of a share of Invitae Common Stock (after aggregating all fractional shares of Invitae Common Stock issuable to such holder) shall, in lieu of such fraction of a share and upon surrender by such holder of a letter of transmittal in accordance with Section 1.8 and accompanying documents as required therein, be paid in cash the dollar amount (rounded to the nearest whole cent), without interest, determined by multiplying such fraction by the Invitae Trailing Average Share Value.

(d) Prior to the Effective Time, CombiMatrix shall take or cause to be taken any and all actions reasonably necessary to cause all CombiMatrix RSUs outstanding immediately prior to the Effective Time under the 2006 Plan or otherwise to become immediately fully vested as of the Effective Time and converted into the number of shares of unrestricted Invitae Common Stock calculated pursuant to Section 1.5(a)(ii)(3). In accordance with Section 5.4(a), CombiMatrix shall further take or cause to be taken any and all actions reasonably necessary to (i) cause all in-the-money CombiMatrix Options outstanding and unexercised immediately prior to the Effective Time, whether or not vested or exercisable, to become immediately vested as of the Effective Time and converted into the number of shares of unrestricted Invitae Common Stock calculated pursuant to Section 1.5(a)(ii)(4) and (ii) cause all out-of-the-money CombiMatrix Options outstanding and unexercised immediately prior to the Effective Time, whether or not vested or exercisable, to be cancelled and terminated as of the Effective Time for no consideration.

(e) All CombiMatrix Series D Warrants and CombiMatrix Series F Warrants outstanding as of the Effective Time (*i.e.* , to the extent not exchanged in the Warrant Exchange Offer, in the instance of CombiMatrix

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Series F Warrants, or exercised for cash prior to consummation of the Warrant Exchange Offer) shall be assumed by Invitae and converted into warrants to purchase Invitae Common Stock in accordance with [Section 5.4\(c\)](#). For the avoidance of doubt, all other CombiMatrix Warrants shall be repurchased by CombiMatrix pursuant to the CombiMatrix Warrant Repurchase.

(f) Each share of Common Stock, \$0.001 par value per share, of Merger Sub issued and outstanding immediately prior to the Effective Time shall be converted into and exchanged for one validly issued, fully paid and nonassessable share of Common Stock, \$0.001 par value per share, of the Surviving Corporation. Each stock certificate of Merger Sub evidencing ownership of any such shares shall, as of the Effective Time, evidence ownership of such shares of Common Stock of the Surviving Corporation.

(g) If, between the date of this Agreement and the Effective Time, the outstanding shares of CombiMatrix Capital Stock or Invitae Common Stock shall have been changed into, or exchanged for, a different number of shares or a different class, by reason of any stock dividend, subdivision, reclassification, recapitalization, split, combination or exchange of shares, the Exchange Ratio shall be correspondingly adjusted to provide holders of shares of CombiMatrix Capital Stock, or securities convertible into or exchangeable into or exercisable for such CombiMatrix Capital Stock, the same economic effect as contemplated by this Agreement prior to such event.

1.6 Calculation of Net Cash

(a) For the purposes of this Agreement, the “**Determination Date**” shall be the date that is ten (10) calendar days prior to the anticipated date for Closing, as agreed upon by Invitae and CombiMatrix at least ten (10) calendar days prior to the CombiMatrix Stockholders’ Meeting or, if later, at least ten (10) calendar days prior to the anticipated end of the period for the Warrant Exchange Offer (the “**Anticipated Closing Date**”). Within five (5) calendar days following the Determination Date, CombiMatrix shall deliver to Invitae a schedule (the “**Net Cash Schedule**”) setting forth, in reasonable detail, CombiMatrix’s good faith, estimated calculation of Net Cash (using estimates where applicable) as of the Anticipated Closing Date (the “**Net Cash Calculation**”) prepared and certified by CombiMatrix’s Chief Financial Officer; provided, however, that, for purposes of such calculation of Net Cash, current assets, current liabilities not triggered by the Closing, and long-term capital lease obligations may be calculated (i) as of the last day of the month prior to the Anticipated Closing Date if the Anticipated Closing Date occurs between the 15th and the 31st of the month or (ii) as of the last day of the month prior to the month preceding the Anticipated Closing Date if the Anticipated Closing Date occurs between the 1st and the 14th of the month, in both cases if, to the extent applicable, a mid-month calculation for such liabilities and assets (or, in the case of the foregoing clause (ii), calculation as of the most recent month-end) would be impractical. CombiMatrix shall make the work papers and back-up materials used or useful in preparing the Net Cash Schedule, as reasonably requested by Invitae, available to Invitae and, if requested by Invitae, its accountants and counsel at reasonable times and upon reasonable notice.

(b) Within three (3) calendar days after CombiMatrix delivers the Net Cash Schedule (the “**Response Date**”), Invitae shall have the right to dispute any part of such Net Cash Schedule by delivering a written notice to that effect to CombiMatrix (a “**Dispute Notice**”). Any Dispute Notice shall identify in reasonable detail the nature of any proposed revisions to the Net Cash Calculation.

(c) If on or prior to the Response Date, (i) Invitae notifies CombiMatrix in writing that it has no objections to the Net Cash Calculation or (ii) Invitae fails to deliver a Dispute Notice as provided in [Section 1.6\(b\)](#), then the Net Cash Calculation as set forth in the Net Cash Schedule shall be deemed to have been finally determined for purposes of this Agreement.

(d) If Invitae delivers a Dispute Notice on or prior to the Response Date, then Representatives of CombiMatrix and Invitae shall promptly meet and attempt in good faith to resolve the disputed item(s) and negotiate an agreed-upon determination of Net Cash, which agreed upon Net Cash amount shall be deemed to have been finally determined for purposes of this Agreement.

(e) If Representatives of Invitae and CombiMatrix are unable to negotiate an agreed-upon determination of Net Cash pursuant to [Section 1.6\(d\)](#) within three (3) calendar days after delivery of the Dispute Notice (or such other period as Invitae and CombiMatrix may mutually agree upon), then Invitae and CombiMatrix shall jointly select an independent auditor of recognized national standing (the “*Accounting Firm*”) to resolve any remaining disagreements as to the Net Cash Calculation. If Invitae and CombiMatrix are unable to mutually select the Accounting Firm, then Invitae and CombiMatrix shall each select an independent auditor of recognized national standing and those two selected firms shall jointly select a third independent auditor of recognized national standing, which shall serve as the Accounting Firm. CombiMatrix shall promptly deliver to the Accounting Firm the work papers and back-up materials used in preparing the Net Cash Schedule, and Invitae and CombiMatrix shall use commercially reasonable efforts to cause the Accounting Firm to make its determination within ten (10) calendar days of accepting its selection. CombiMatrix and Invitae shall be afforded the opportunity to present to the Accounting Firm any material related to the unresolved disputes and to discuss the issues with the Accounting Firm; *provided, however*, that no such presentation or discussion shall occur without the presence of a Representative of each of CombiMatrix and Invitae. The determination of the Accounting Firm shall be limited to the disagreements submitted to the Accounting Firm. The determination of the amount of Net Cash made by the Accounting Firm shall be deemed to have been finally determined for purposes of this Agreement and to represent the Net Cash for purposes of this Agreement, and the Parties shall delay the Closing until the resolution of the matters described in this [Section 1.6\(e\)](#). The fees and expenses of the Accounting Firm shall be allocated between Invitae and CombiMatrix in the same proportion that the disputed amount of the Net Cash that was unsuccessfully disputed by such Party (as finally determined by the Accounting Firm) bears to the total disputed amount of the Net Cash amount (and for the avoidance of doubt the fees and expenses to be paid by CombiMatrix shall reduce the Net Cash). If this [Section 1.6\(e\)](#) applies as to the determination of the Net Cash, upon resolution of the matter in accordance with this [Section 1.6\(e\)](#), the Parties shall not be required to determine Net Cash again even though the Closing Date may occur later than the Anticipated Closing Date, except that either Party may request a redetermination of Net Cash if the Closing Date is more than five (5) Business Days after the Anticipated Closing Date.

1.7 Closing of CombiMatrix’s Transfer Books . At the Effective Time: (a) all shares of CombiMatrix Capital Stock outstanding immediately prior to the Effective Time shall be treated in accordance with [Section 1.5\(a\)](#), and all holders of certificates representing shares of CombiMatrix Capital Stock that were outstanding immediately prior to the Effective Time shall cease to have any rights as stockholders of CombiMatrix; and (b) the stock transfer books of CombiMatrix shall be closed with respect to all shares of CombiMatrix Capital Stock outstanding immediately prior to the Effective Time. No further transfer of any such shares of CombiMatrix Capital Stock shall be made on such stock transfer books after the Effective Time. If, after the Effective Time, a valid certificate previously representing any shares of CombiMatrix Capital Stock immediately prior to the Effective Time (an “*CombiMatrix Stock Certificate*”) is presented to the Exchange Agent or to the Surviving Corporation, such CombiMatrix Stock Certificate shall be canceled and shall be exchanged as provided in [Sections 1.5](#) or [1.8](#).

1.8 Surrender of Certificates .

(a) On or prior to the Closing Date, Invitae and CombiMatrix shall agree upon and select a reputable bank, transfer agent or trust company to act as exchange agent in the Merger (the “*Exchange Agent*”). At the Effective Time, Invitae shall deposit with the Exchange Agent: (i) the aggregate number of book-entry shares representing the Merger Consideration issuable to CombiMatrix stockholders pursuant to [Section 1.5\(a\)](#) and (ii) cash sufficient to make payments in lieu of fractional shares in accordance with [Section 1.5\(c\)](#). The book-entry shares of Invitae Common Stock and cash amounts so deposited with the Exchange Agent, together with any dividends or distributions received by the Exchange Agent with respect to such shares, are referred to collectively as the “*Exchange Fund*.”

(b) At or before the Effective Time, CombiMatrix will deliver to Invitae a true, complete and accurate listing of all record holders of CombiMatrix Capital Stock at the Effective Time, including the number and class of shares of CombiMatrix Capital Stock held by such record holder, and the number of shares of Invitae

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Common Stock such record holder is entitled to receive pursuant to Section 1.5. Promptly after the Effective Time, the Parties shall cause the Exchange Agent to mail to the Persons who were record holders of CombiMatrix Stock Certificates immediately prior to the Effective Time: (i) a letter of transmittal in customary form and containing such provisions as Invitae may reasonably specify (including a provision confirming that delivery of CombiMatrix Stock Certificates shall be effected, and risk of loss and title to CombiMatrix Stock Certificates shall pass, only upon delivery of such CombiMatrix Stock Certificates to the Exchange Agent); and (ii) instructions for effecting the surrender of CombiMatrix Stock Certificates in exchange for certificates representing Invitae Common Stock. Upon surrender of a CombiMatrix Stock Certificate to the Exchange Agent for exchange, together with a duly executed letter of transmittal and such other documents as may be reasonably required by the Exchange Agent or Invitae: (A) the holder of such CombiMatrix Stock Certificate shall be entitled to receive in exchange therefor a certificate representing the number of whole shares of Invitae Common Stock that such holder has the right to receive pursuant to the provisions of Section 1.5(a) (and cash in lieu of any fractional share of Invitae Common Stock pursuant to the provisions of Section 1.5(c)); and (B) the CombiMatrix Stock Certificate so surrendered shall be canceled. Until surrendered as contemplated by this Section 1.8(b), each CombiMatrix Stock Certificate shall be deemed, from and after the Effective Time, to represent only the right to receive shares of Invitae Common Stock (and cash in lieu of any fractional share of Invitae Common Stock). If any CombiMatrix Stock Certificate shall have been lost, stolen or destroyed, Invitae may, in its discretion and as a condition precedent to the delivery of any shares of Invitae Common Stock, require the owner of such lost, stolen or destroyed CombiMatrix Stock Certificate to provide an applicable affidavit with respect to such CombiMatrix Stock Certificate and post a bond indemnifying Invitae against any claim suffered by Invitae related to the lost, stolen or destroyed CombiMatrix Stock Certificate or any Invitae Common Stock issued in exchange therefor as Invitae may reasonably request.

(c) No dividends or other distributions declared or made with respect to Invitae Common Stock with a record date after the Effective Time shall be paid to the holder of any unsurrendered CombiMatrix Stock Certificate with respect to the shares of Invitae Common Stock that such holder has the right to receive in the Merger until such holder surrenders such CombiMatrix Stock Certificate or an affidavit of loss or destruction in lieu thereof in accordance with this Section 1.8 (at which time such holder shall be entitled, subject to the effect of applicable abandoned property, escheat or similar laws, to receive all such dividends and distributions, without interest).

(d) Any portion of the Exchange Fund that remains undistributed to holders of CombiMatrix Stock Certificates as of the date 180 days after the Closing Date shall be delivered to Invitae upon demand, and any holders of CombiMatrix Stock Certificates who have not theretofore surrendered their CombiMatrix Stock Certificates in accordance with this Section 1.8 shall thereafter look only to Invitae for satisfaction of their claims for Invitae Common Stock, cash in lieu of fractional shares of Invitae Common Stock and any dividends or distributions with respect to shares of Invitae Common Stock.

(e) Each of the Exchange Agent, Invitae and the Surviving Corporation shall be entitled to deduct and withhold from any consideration deliverable pursuant to this Agreement such amounts as are required to be deducted or withheld from such consideration under the Code or under any other applicable Legal Requirement and shall be entitled to request any reasonably appropriate Tax forms, including Form W-9 (or the appropriate Form W-8, as applicable), from any recipient of payments hereunder. To the extent such amounts are so deducted or withheld, and remitted to the appropriate taxing authority, such amounts shall be treated for all purposes under this Agreement as having been paid to the Person to whom such amounts would otherwise have been paid.

(f) No Party shall be liable to any holder of any CombiMatrix Stock Certificate or to any other Person with respect to any shares of Invitae Common Stock (or dividends or distributions with respect thereto) or for any cash amounts delivered to any public official pursuant to any applicable abandoned property law, escheat law or similar Legal Requirement.

1.9 Further Action. If, at any time after the Effective Time, any further action is determined by the Surviving Corporation to be necessary or desirable to carry out the purposes of this Agreement or to vest the Surviving Corporation with full right, title and possession of and to all rights and property of CombiMatrix, then

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the officers and directors of the Surviving Corporation shall be fully authorized, and shall use their commercially reasonable efforts (in the name of CombiMatrix, in the name of Merger Sub and otherwise) to take such action.

1.10 Tax Consequences . For federal income tax purposes, the Merger, together with the Warrant Exchange Offer, is intended to constitute a reorganization within the meaning of Section 368(a) of the Code and the Treasury Regulations promulgated thereunder. The Parties adopt this Agreement as a “plan of reorganization” within the meaning of Section 1.368-2(g) of the Treasury Regulations.

Section 2. REPRESENTATIONS AND WARRANTIES OF COMBIMATRIX

CombiMatrix represents and warrants to Invitae and Merger Sub as follows, except as set forth in the written disclosure schedule delivered by CombiMatrix to Invitae (the “*CombiMatrix Disclosure Schedule*”). The CombiMatrix Disclosure Schedule shall be arranged in sections and subsections corresponding to the numbered and lettered sections and subsections contained in this Section 2. The disclosures in any section or subsection of the CombiMatrix Disclosure Schedule shall qualify other sections and subsections in this Section 2 to the extent it is reasonably clear from a reading of the disclosure that such disclosure is applicable to such other sections and subsections. The inclusion of any information in the CombiMatrix Disclosure Schedule (or any update thereto) shall not be deemed to be an admission or acknowledgment, in and of itself, that such information is required by the terms hereof to be disclosed, is material, has resulted in or would result in a CombiMatrix Material Adverse Effect, or is outside the Ordinary Course of Business. For the purposes of this Agreement, any references to documents delivered or made available to Invitae shall be deemed satisfied by Invitae’s access to the two data rooms created for the Contemplated Transactions.

2.1 Subsidiaries; Due Organization; Etc .

(a) CombiMatrix has no Subsidiaries, except for the Entities identified in Section 2.1(a) of the CombiMatrix Disclosure Schedule; and neither CombiMatrix nor any of the other Entities identified in Section 2.1(a) of the CombiMatrix Disclosure Schedule owns any capital stock of, or any equity interest of any nature in, any other Entity, other than the Entities identified in Section 2.1(a) of the CombiMatrix Disclosure Schedule. CombiMatrix has not agreed nor is obligated to make, nor is bound by any Contract under which it may become obligated to make, any future investment in or capital contribution to any other Entity. CombiMatrix has not, at any time, been a general partner of, or has otherwise been liable for any of the debts or other obligations of, any general partnership, limited partnership or other Entity.

(b) Each of CombiMatrix and the CombiMatrix Subsidiaries is a corporation duly organized, validly existing and in good standing under the laws of the jurisdiction of its incorporation and has all necessary power and authority: (i) to conduct its business in the manner in which its business is currently being conducted; (ii) to own and use its assets in the manner in which its assets are currently owned and used; and (iii) to perform its obligations under all Contracts by which it is bound.

(c) Each of CombiMatrix and the CombiMatrix Subsidiaries is qualified to do business as a foreign corporation, and is in good standing, under the laws of all jurisdictions where the nature of its business requires such qualification other than in jurisdictions where the failure to be so qualified individually or in the aggregate would not be reasonably expected to have a CombiMatrix Material Adverse Effect.

2.2 Certificate of Incorporation; Bylaws; Charters and Codes of Conduct . CombiMatrix has delivered to Invitae accurate and complete copies of the certificate of incorporation, bylaws and other charter and organizational documents, including all currently effective amendments thereto, for CombiMatrix and each CombiMatrix Subsidiary. Section 2.2 of the CombiMatrix Disclosure Schedule lists, and CombiMatrix has delivered to Invitae, accurate and complete copies of: (a) the charters of all committees of CombiMatrix’s board of directors; and (b) any code of conduct or similar policy adopted by CombiMatrix or by the board of directors, or any committee of the board of directors, of CombiMatrix. Neither CombiMatrix nor any CombiMatrix Subsidiary has taken any action in breach or violation in any respect of any of the provisions of its certificate of

incorporation, bylaws and other charter and organizational documents nor is in breach or violation in any respect of any of the provisions of its certificate of incorporation, bylaws and other charter and organizational documents.

2.3 Capitalization, Etc .

(a) The authorized capital stock of CombiMatrix as of the date of this Agreement consists of (i) 50,000,000 shares of CombiMatrix Common Stock, par value \$0.001 per share, of which 2,918,726 shares have been issued and are outstanding as of the date of this Agreement, and (ii) 5,000,000 shares of convertible preferred stock, par value \$0.001 per share (the “**CombiMatrix Preferred Stock**”), of which (A) 4,000 shares have been designated Series A Preferred Stock, none of which shares of Series A Preferred Stock are outstanding as of the date of this Agreement, (B) 2,000 shares have been designated Series B Preferred Stock, none of which shares of Series B Preferred Stock are outstanding as of the date of this Agreement, (C) 2,500 shares have been designated Series C Preferred Stock, none of which shares of Series C Preferred Stock are outstanding as of the date of this Agreement, (D) 12,000 shares have been designated Series D Preferred Stock, none of which shares of Series D Preferred Stock are outstanding as of the date of this Agreement, (E) 2,202 shares have been designated Series E Preferred Stock, none of which shares of Series E Preferred Stock are outstanding as of the date of this Agreement, and (F) 8,000 shares have been designated Series F Preferred Stock (the “**CombiMatrix Series F Preferred Stock**”), 92 shares of which are issued and outstanding as of the date of this Agreement. Each share of CombiMatrix Series F Preferred Stock is convertible into the number of shares of CombiMatrix Common Stock equal to 1,000 divided by the conversion price of \$3.87. CombiMatrix does not hold any shares of its capital stock in its treasury. All of the outstanding shares of CombiMatrix Common Stock and CombiMatrix Preferred Stock have been duly authorized and validly issued, and are fully paid and nonassessable. As of the date of this Agreement, there are outstanding (i) CombiMatrix Series A Warrants to purchase an aggregate of 11,252 shares of CombiMatrix Common Stock at an exercise price of \$29.55 per share, (ii) CombiMatrix Series A Warrants to purchase an aggregate of 1,690 shares of CombiMatrix Common Stock at an exercise price of \$30.90 per share, (iii) CombiMatrix Series B Warrants to purchase an aggregate of 18,334 shares of CombiMatrix Common Stock at an exercise price of \$29.55 per share, (iv) CombiMatrix Series C Warrants to purchase an aggregate of 65,576 shares of CombiMatrix Common Stock at an exercise price of \$29.55 per share, (v) CombiMatrix Series D Warrants to purchase an aggregate of 388,365 shares of CombiMatrix Common Stock at an exercise price of \$46.80 per share, (vi) CombiMatrix Series E Warrants to purchase an aggregate of 46,676 shares of CombiMatrix Common Stock at an exercise price of \$16.50 per share, (vii) CombiMatrix PIPE Warrants to purchase an aggregate of 100,847 shares of CombiMatrix Common Stock at an exercise price of \$16.50 per share, (viii) CombiMatrix PIPE Warrants to purchase an aggregate of 1,831 shares of CombiMatrix Common Stock at an exercise price of \$32.51 per share, and (ix) CombiMatrix Series F Warrants to purchase an aggregate of 2,067,183 shares of CombiMatrix Common Stock at an exercise price of \$5.17 per share (the “**CombiMatrix Series F Warrants**”) and, collectively with the warrants referred to in the foregoing clauses (i) through (viii), the “**CombiMatrix Warrants**”). Section 2.3(a) of the CombiMatrix Disclosure Schedule lists, as of the date of this Agreement, (i) each record holder of issued and outstanding CombiMatrix Common Stock and the number of shares held, (ii) each record holder of issued and outstanding CombiMatrix Series F Preferred Stock and the number of shares held and (iii) (A) each record holder of issued and outstanding CombiMatrix Warrants, (B) the number of shares of CombiMatrix Common Stock subject to each such CombiMatrix Warrant, (C) the series of each such CombiMatrix Warrant, (D) the exercise price of each such CombiMatrix Warrant, and (E) the expiration date of each such CombiMatrix Warrant.

(b) Except as set forth in Section 2.3(b) of the CombiMatrix Disclosure Schedule, (i) none of the outstanding shares of CombiMatrix Common Stock or CombiMatrix Preferred Stock is entitled or subject to any preemptive right, right of participation, right of maintenance or any similar right, (ii) none of the outstanding shares of CombiMatrix Common Stock or CombiMatrix Preferred Stock is subject to any right of first refusal in favor of CombiMatrix, (iii) there are no outstanding bonds, debentures, notes or other indebtedness of CombiMatrix having a right to vote on any matters on which the CombiMatrix stockholders have a right to vote, and (iv) there is no CombiMatrix Contract relating to the voting or registration of, or restricting any Person from purchasing, selling, pledging or otherwise disposing of (or granting any option or similar right with respect to),

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any shares of CombiMatrix Common Stock or CombiMatrix Preferred Stock. Except as set forth in [Section 2.3\(b\)](#) of the CombiMatrix Disclosure Schedule, CombiMatrix is not under any obligation, nor is it bound by any Contract pursuant to which it may become obligated, to repurchase, redeem or otherwise acquire any outstanding shares of CombiMatrix Common Stock, CombiMatrix Preferred Stock, CombiMatrix Warrants or other securities. [Section 2.3\(b\)](#) of the CombiMatrix Disclosure Schedule accurately and completely lists all repurchase rights held by CombiMatrix and specifies (i) each holder of CombiMatrix Common Stock (including shares issued pursuant to the exercise of stock options), CombiMatrix Preferred Stock or CombiMatrix Warrant subject to such repurchase right, (ii) the original date of purchase of such CombiMatrix Common Stock, CombiMatrix Preferred Stock or CombiMatrix Warrant, (iii) the number of shares of CombiMatrix Common Stock or CombiMatrix Preferred Stock or shares underlying CombiMatrix Warrants subject to such repurchase rights, (iv) the purchase price paid by such holder, (v) any vesting schedule under which such repurchase rights lapse, and (vi) whether, to the Knowledge of CombiMatrix, the holder of such CombiMatrix Common Stock or CombiMatrix Preferred Stock subject to such repurchase right filed an election under Section 83(b) of the Code with respect to such CombiMatrix Common Stock or CombiMatrix Preferred Stock within thirty (30) days of purchase.

(c) Except for the CombiMatrix 2006 Stock Incentive Plan (the “**2006 Plan**”), and except as set forth in [Section 2.3\(c\)](#) of the CombiMatrix Disclosure Schedule, CombiMatrix does not have any stock option plan or any other plan, program, agreement or arrangement providing for any equity-based compensation for any Person. CombiMatrix has reserved 600,000 shares of CombiMatrix Common Stock for issuance under the 2006 Plan. Of such reserved shares of CombiMatrix Common Stock, (i) 823 shares have been previously issued pursuant to the exercise of options, (ii) 34,246 shares have been previously issued pursuant to the settlement of RSUs, (iii) 97 shares have been previously issued pursuant to the grants of restricted stock, (iv) options to purchase 64,310 shares have been granted and are currently outstanding, (v) 98,049 shares are issuable upon settlement of currently outstanding RSUs, and (vi) 402,475 shares of CombiMatrix Common Stock remain available for future award grants pursuant to the 2006 Plan. [Section 2.3\(c\)](#) of the CombiMatrix Disclosure Schedule sets forth the following information (A) with respect to each CombiMatrix Option outstanding as of the date of this Agreement: (1) the name of the optionee; (2) the number of shares of CombiMatrix Common Stock subject to such CombiMatrix Option as of the date of this Agreement; (3) the exercise price of such CombiMatrix Option; (4) the date on which such CombiMatrix Option was granted; (5) the vesting schedule applicable to such CombiMatrix Option, including the number of vested and unvested shares and whether by its terms the vesting of such CombiMatrix Option would be accelerated by the Contemplated Transactions; (6) the date on which such CombiMatrix Option expires; and (7) whether such CombiMatrix Option is an “incentive stock option” (as defined in the Code) or a non-qualified stock option; and (B) with respect to each CombiMatrix RSU outstanding as of the date of this Agreement: (1) the name of the holder; (2) the number of shares of CombiMatrix Common Stock issuable upon settlement of the RSU as of the date of this Agreement; (3) the date on which such CombiMatrix RSU was granted; (4) the vesting schedule applicable to such CombiMatrix RSU, including the extent vested to date and whether by its terms the vesting of such CombiMatrix RSU would be accelerated by the Contemplated Transactions; and (5) the date on which such CombiMatrix RSU expires. CombiMatrix has made available to Invitae an accurate and complete copy of the 2006 Plan and forms of all stock option agreements and RSU agreements approved for use thereunder. Except as set forth in [Section 2.3\(c\)](#) of the CombiMatrix Disclosure Schedule or as contemplated by Section 1.5 of this Agreement, no vesting of CombiMatrix Options or CombiMatrix RSUs will accelerate in connection with the execution of this Agreement or the closing of the Contemplated Transactions.

(d) Except for the outstanding CombiMatrix Options and CombiMatrix RSUs identified in [Section 2.3\(c\)](#) of the CombiMatrix Disclosure Schedule and for the outstanding CombiMatrix Warrants and CombiMatrix Series F Preferred Stock identified in [Section 2.3\(a\)](#) of the CombiMatrix Disclosure Schedule, there is no: (i) outstanding subscription, option, call, warrant or right (whether or not currently exercisable) to acquire any shares of the capital stock or other securities of CombiMatrix or any of its Subsidiaries; (ii) outstanding security, instrument or obligation that is or may become convertible into or exchangeable for any shares of the capital stock or other securities of CombiMatrix or any of its Subsidiaries; (iii) stockholder rights plan (or similar plan commonly referred to as a “poison pill”) or Contract under which CombiMatrix or any of its

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Subsidiaries is or may become obligated to sell or otherwise issue any shares of its capital stock or any other securities; or (iv) condition or circumstance that may give rise to or provide a basis for the assertion of a claim by any Person to the effect that such Person is entitled to acquire or receive any shares of capital stock or other securities of CombiMatrix or any of its Subsidiaries. There are no outstanding or authorized stock appreciation rights, phantom stock, profit participation or other similar rights with respect to CombiMatrix or any of its Subsidiaries.

(e) All outstanding shares of CombiMatrix Common Stock and CombiMatrix Preferred Stock, as well as all CombiMatrix Options, CombiMatrix RSUs, CombiMatrix Warrants and all other securities of CombiMatrix, have been issued and granted in material compliance with (i) all applicable securities laws and other applicable Legal Requirements and (ii) all requirements set forth in applicable Contracts. CombiMatrix has delivered to Invitae accurate and complete copies of all outstanding CombiMatrix RSUs and CombiMatrix Warrants (other than the CombiMatrix Series F Warrants). CombiMatrix has delivered to Invitae an accurate and complete copy of the form of CombiMatrix Series F Warrant, and there are no deviations between the terms of any outstanding CombiMatrix Series F Warrants and the terms reflected in such form.

(f) With respect to the Merger as a Fundamental Transaction (as defined in CombiMatrix's Certificate of Designation of Preferences, Rights and Limitations of Series F Convertible Preferred Stock as in effect on the date of this Agreement—the “*CombiMatrix Series F Preferences Certificate*”): (i) the Fundamental Transaction Amount (as defined in the CombiMatrix Series F Preferences Certificate) is a number of shares of Invitae Common Stock equal to the product of (x) the Exchange Ratio multiplied by (y) the number of shares of CombiMatrix Common Stock underlying a share of outstanding CombiMatrix Series F Preferred Stock on the date immediately prior to the Effective Time; and (ii) such foregoing product is greater than 130% of the Stated Value (as defined in the CombiMatrix Series F Preferences Certificate) of a share of outstanding CombiMatrix Series F Preferred Stock on the date of the Effective Time.

2.4 SEC Filings; Financial Statements .

(a) CombiMatrix has filed all reports required to be filed by it with the SEC since January 1, 2014, and CombiMatrix has made available to Invitae (including through the SEC's EDGAR database) true, correct and complete copies of all such reports (collectively, the “*CombiMatrix SEC Documents*”). As of their respective dates, each of the CombiMatrix SEC Documents complied in all material respects with the applicable requirements of the Exchange Act, and none of the CombiMatrix SEC Documents, as of their respective dates, contained any untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary in order to make the statements made therein, in light of the circumstances under which they were made, not misleading. All statements, reports, schedules, forms and other documents required to have been filed by CombiMatrix or its officers with the SEC have been so filed on a timely basis. The certifications and statements required by (A) Rule 13a-14 under the Exchange Act and (B) 18 U.S.C. §1350 (Section 906 of the Sarbanes-Oxley Act) relating to the CombiMatrix SEC Documents (collectively, the “*CombiMatrix Certifications*”) are accurate and complete and comply as to form and content with all applicable Legal Requirements. As used in this [Section 2](#), the term “file” and variations thereof shall be broadly construed to include any manner in which a document or information is furnished, supplied or otherwise made available to the SEC.

(b) Each of the consolidated financial statements (including, in each case, any notes thereto) contained in the CombiMatrix SEC Documents was prepared in accordance with United States generally accepted accounting principles (“*GAAP*”) throughout the periods indicated (except as may be indicated in the notes thereto and except that financial statements included with interim reports do not contain all notes to such financial statements) and each fairly presented in all material respects the consolidated financial position, results of operations and changes in stockholders' equity and cash flows of Invitae and its consolidated subsidiaries as at the respective dates thereof and for the respective periods indicated therein (subject, in the case of unaudited statements, to normal year-end adjustments which are not expected, individually or in the aggregate, to be material). Other than as expressly disclosed in the CombiMatrix SEC Documents filed prior to the date of this Agreement, there has been no material change in CombiMatrix's accounting methods or principles prior to the

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date of this Agreement that would be required to be disclosed in CombiMatrix's financial statements in accordance with GAAP. The books of account and other financial records of CombiMatrix are true and complete in all material respects.

(c) CombiMatrix's auditor has at all times since the date of enactment of the Sarbanes-Oxley Act been: (i) a registered public accounting firm (as defined in Section 2(a)(12) of the Sarbanes-Oxley Act); (ii) to the Knowledge of CombiMatrix, "independent" with respect to CombiMatrix within the meaning of Regulation S-X under the Exchange Act; and (iii) to the Knowledge of CombiMatrix, in compliance with subsections (g) through (l) of Section 10A of the Exchange Act and the rules and regulations promulgated by the SEC and the Public Company Accounting Oversight Board thereunder.

(d) Except as set forth in [Section 2.4\(d\)](#) of the CombiMatrix Disclosure Schedule, from January 1, 2014 through the date of this Agreement, CombiMatrix has not received any comment letter from the SEC or the staff thereof or any correspondence from NASDAQ or the staff thereof relating to the delisting or maintenance of listing of the CombiMatrix Common Stock on The NASDAQ Capital Market. CombiMatrix has not disclosed any unresolved comments in its SEC Documents.

(e) Since January 1, 2014, there have been no formal internal investigations regarding financial reporting or accounting policies and practices discussed with, reviewed by or initiated at the direction of the chief executive officer or chief financial officer of CombiMatrix, the CombiMatrix Board of Directors or any committee thereof, other than ordinary course audits or reviews of accounting policies and practices or internal controls required by the Sarbanes-Oxley Act.

(f) CombiMatrix is in compliance in all material respects with the applicable provisions of the Sarbanes-Oxley Act and the applicable listing and governance rules and regulations of The NASDAQ Capital Market.

(g) CombiMatrix maintains a system of internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) of the Exchange Act) that is sufficient to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP, including policies and procedures sufficient to provide reasonable assurance (i) that CombiMatrix maintains records that in reasonable detail accurately and fairly reflect CombiMatrix's transactions and dispositions of assets, (ii) that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP, (iii) that receipts and expenditures are made only in accordance with authorizations of management and the CombiMatrix Board of Directors, and (iv) regarding prevention or timely detection of the unauthorized acquisition, use or disposition of CombiMatrix's assets that could have a material effect on CombiMatrix's financial statements. CombiMatrix has evaluated the effectiveness of CombiMatrix's internal control over financial reporting and, to the extent required by applicable Legal Requirements, presented in any applicable CombiMatrix SEC Document that is a report on Form 10-K or Form 10-Q (or any amendment thereto) its conclusions about the effectiveness of the internal control over financial reporting as of the end of the period covered by such report or amendment based on such evaluation. CombiMatrix has disclosed to CombiMatrix's auditors and the Audit Committee of the CombiMatrix Board of Directors (and made available to Invitae a summary of the significant aspects of such disclosure) (A) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting that are reasonably likely to adversely affect CombiMatrix's ability to record, process, summarize and report financial information and (B) any fraud, whether or not material, that involves management or other employees who have a significant role in CombiMatrix's internal control over financial reporting. Except as disclosed in the CombiMatrix SEC Documents filed prior to the date of this Agreement, CombiMatrix has not identified any material weaknesses in the design or operation of CombiMatrix's internal control over financial reporting. Since December 31, 2014, there have been no material changes in CombiMatrix's internal control over financial reporting.

(h) CombiMatrix's "disclosure controls and procedures" (as defined in Rules 13a-15(e) and 15d-15(e) of the Exchange Act) are reasonably designed to ensure that all information (both financial and non-financial) required to be disclosed by CombiMatrix in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the

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SEC, and that all such information is accumulated and communicated to CombiMatrix's management as appropriate to allow timely decisions regarding required disclosure and to make the CombiMatrix Certifications.

2.5 Absence of Changes . Except as set forth in Section 2.5 of the CombiMatrix Disclosure Schedule, between January 1, 2017 and the date of this Agreement and except as otherwise expressly contemplated by this Agreement:

(a) There has not been any CombiMatrix Material Adverse Effect or an event or development that would, individually or in the aggregate, reasonably be expected to have a CombiMatrix Material Adverse Effect;

(b) There has not been any material loss, damage or destruction to, or any material interruption in the use of, any of the assets or business of CombiMatrix or any CombiMatrix Subsidiary (whether or not covered by insurance);

(c) CombiMatrix has not: (i) declared, accrued, set aside or paid any dividend or made any other distribution in respect of any shares of capital stock; or (ii) repurchased, redeemed or otherwise reacquired any shares of capital stock or other securities except for the repurchase or reacquisition of shares pursuant to CombiMatrix rights arising upon an individual's termination as an employee, director or consultant;

(d) CombiMatrix has not sold, issued or granted, or authorized the issuance of: (i) any capital stock or other security (except for CombiMatrix Common Stock issued upon the valid exercise of outstanding CombiMatrix Options or CombiMatrix Warrants or upon the settlement of outstanding CombiMatrix RSUs); (ii) any option, warrant or right to acquire any capital stock or any other security (except for the CombiMatrix Options and CombiMatrix RSUs identified in Section 2.3(c) of the CombiMatrix Disclosure Schedule); or (iii) any instrument convertible into or exchangeable for any capital stock or other security (except for the CombiMatrix Options and CombiMatrix RSUs identified in Section 2.3(c) of the CombiMatrix Disclosure Schedule);

(e) There has been no amendment to the certificate of incorporation, bylaws or other charter or organizational documents of CombiMatrix or any CombiMatrix Subsidiary, and neither CombiMatrix nor any CombiMatrix Subsidiary has effected or been a party to any merger, consolidation, share exchange, business combination, recapitalization, reclassification of shares, stock split, reverse stock split or similar transaction;

(f) CombiMatrix has not amended or waived any of its rights under, or exercised its discretion to permit the acceleration of vesting under any provision of: (i) the 2006 Plan; (ii) any CombiMatrix Option, CombiMatrix RSU or any Contract evidencing or relating to any CombiMatrix Option or CombiMatrix RSU; (iii) any restricted stock purchase agreement; or (iv) any other Contract evidencing or relating to any equity award (whether payable in cash or stock);

(g) Neither CombiMatrix nor any CombiMatrix Subsidiary has formed any Subsidiary or acquired any equity interest or other interest in any other Entity;

(h) Neither CombiMatrix nor any CombiMatrix Subsidiary has: (i) lent money to any Person; (ii) incurred or guaranteed any indebtedness; (iii) issued or sold any debt securities or options, warrants, calls or other rights to acquire any debt securities; (iv) guaranteed any debt securities of others; or (v) made any capital expenditure or commitment in excess of \$50,000;

(i) Neither CombiMatrix nor any CombiMatrix Subsidiary has changed any of its accounting methods, principles or practices;

(j) Neither CombiMatrix nor any CombiMatrix Subsidiary has made, changed or revoked any material Tax election, filed any material amendment to any Tax Return, adopted or changed any accounting method in respect of Taxes, changed any annual Tax accounting period, entered into any Tax allocation agreement, Tax sharing agreement or Tax indemnity agreement, other than commercial contracts entered into in the Ordinary Course of Business with vendors, customers or landlords, entered into any closing agreement with respect to any Tax, settled or compromised any claim, notice, audit report or assessment in respect of material Taxes, applied for or entered into any ruling from any Tax authority with respect to Taxes, surrendered any right to claim a

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material Tax refund, or consented to any extension or waiver of the statute of limitations period applicable to any material Tax claim or assessment;

(k) Neither CombiMatrix nor any CombiMatrix Subsidiary has commenced or settled any Legal Proceeding;

(l) Neither CombiMatrix nor any CombiMatrix Subsidiary has entered into any material transaction outside the Ordinary Course of Business;

(m) Neither CombiMatrix nor any CombiMatrix Subsidiary has purchased, leased, licensed or otherwise acquired any material assets, properties or rights nor sold, leased, licensed or otherwise disposed of any of its material assets, properties or rights, nor has any Encumbrance been granted with respect to such assets, properties or rights, except for Encumbrances of immaterial assets in the Ordinary Course of Business consistent with past practices;

(n) There has been no entry into, amendment or termination of any CombiMatrix Material Contract;

(o) There has been no (i) material change in pricing or royalties or other payments set or charged by CombiMatrix or any CombiMatrix Subsidiary to its customers or licensees, (ii) agreement by CombiMatrix or any CombiMatrix Subsidiary to change pricing or royalties or other payments set or charged by persons who have licensed Intellectual Property to CombiMatrix or any CombiMatrix Subsidiary, or (iii) material change in pricing or royalties or other payments set or charged by vendors to CombiMatrix or any CombiMatrix Subsidiary or persons who have licensed Intellectual Property to CombiMatrix or any CombiMatrix Subsidiary; and

(p) Neither CombiMatrix nor any CombiMatrix Subsidiary has negotiated, agreed or committed to take any of the actions referred to in clauses “(c)” through “(o)” above (other than negotiations between the Parties to enter into this Agreement).

2.6 Title to Assets . Each of CombiMatrix and the CombiMatrix Subsidiaries owns, and has good and valid title to, or, in the case of leased properties and assets, valid leasehold interests in, all tangible properties or assets and equipment used or held for use in its business or operations or purported to be owned by it, including all assets reflected in the books and records of CombiMatrix or any CombiMatrix Subsidiary as being owned by CombiMatrix or such CombiMatrix Subsidiary. All of said assets are owned by CombiMatrix or a CombiMatrix Subsidiary free and clear of any Encumbrances, except for: (i) any lien for current Taxes not yet due and payable or for Taxes that are being contested in good faith and for which adequate reserves have been made on the CombiMatrix Unaudited Interim Balance Sheet; (ii) minor liens that have arisen in the Ordinary Course of Business and that do not (in any case or in the aggregate) materially detract from the value of the assets subject thereto or materially impair the operations of CombiMatrix or any CombiMatrix Subsidiary; and (iii) liens listed in Section 2.6 of the CombiMatrix Disclosure Schedule.

2.7 Real Property; Leasehold s. Neither CombiMatrix nor any CombiMatrix Subsidiary owns any real property or any interest in real property, except for the leaseholds created under the real property leases identified in Section 2.7 of the CombiMatrix Disclosure Schedule which are in full force and effect and with no existing default thereunder.

2.8 Intellectual Property.

(a) Except as identified in Section 2.8(a) of the CombiMatrix Disclosure Schedule, CombiMatrix, directly or through a CombiMatrix Subsidiary, owns, or has the right to use, and has the right to bring actions for the infringement of, all CombiMatrix IP Rights.

(b) Section 2.8(b) of the CombiMatrix Disclosure Schedule is an accurate, true and complete listing of all CombiMatrix Registered IP.

(c) Section 2.8(c) of the CombiMatrix Disclosure Schedule accurately identifies (i) all CombiMatrix IP Rights licensed to CombiMatrix or any CombiMatrix Subsidiary (other than (A) any non-customized software

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that (1) is so licensed solely in executable or object code form pursuant to a non-exclusive, internal use software license and other Intellectual Property associated with such software and (2) is not incorporated into, or material to the development, manufacturing, or distribution of, any of CombiMatrix's or any CombiMatrix Subsidiary's products, technology or services and (B) any Intellectual Property licensed ancillary to the purchase or use of equipment, reagents or other materials); (ii) the corresponding CombiMatrix Contracts pursuant to which such CombiMatrix IP Rights are licensed to CombiMatrix or any CombiMatrix Subsidiary; and (iii) whether the license or licenses granted to CombiMatrix or any CombiMatrix Subsidiary are exclusive or non-exclusive.

(d) Section 2.8(d) of the CombiMatrix Disclosure Schedule accurately identifies each CombiMatrix Contract pursuant to which any Person has been granted any license under, or otherwise has received or acquired any right (whether or not currently exercisable) or interest in, any CombiMatrix IP Rights. Except as identified in Section 2.8(d) of the CombiMatrix Disclosure Schedule, CombiMatrix is not bound by, and no CombiMatrix IP Rights are subject to, any Contract containing any covenant or other provision that in any way limits or restricts the ability of CombiMatrix or any CombiMatrix Subsidiary to use, exploit, assert or enforce any CombiMatrix IP Rights anywhere in the world, in each case as would limit the business of CombiMatrix.

(e) Except as identified in Section 2.8(e) of the CombiMatrix Disclosure Schedule, to the Knowledge of CombiMatrix, CombiMatrix or one of its Subsidiaries exclusively owns all right, title, and interest to and in CombiMatrix IP Rights (other than CombiMatrix IP Rights (i) licensed to CombiMatrix or one of its Subsidiaries, as identified in Section 2.8(c) of the CombiMatrix Disclosure Schedule, (ii) any non-customized software that (A) is so licensed solely in executable or object code form pursuant to a non-exclusive, internal use software license and other Intellectual Property associated with such software and (B) is not incorporated into, or material to the development, manufacturing, or distribution of, any of CombiMatrix's or any CombiMatrix Subsidiary's products, technology or services, and (iii) any Intellectual Property licensed ancillary to the purchase or use of equipment, reagents or other materials) free and clear of any Encumbrances (other than those Encumbrances granted pursuant to the CombiMatrix Contracts listed in Section 2.8(d) of the CombiMatrix Disclosure Schedule). Without limiting the generality of the foregoing:

(i) All documents and instruments necessary to register or apply for or renew registration of all CombiMatrix Registered IP have been validly executed, delivered and filed in a timely manner with the appropriate Governmental Body.

(ii) Each Person who is or was an employee or contractor of CombiMatrix or any CombiMatrix Subsidiary and who is or was involved in the creation or development of any CombiMatrix IP Rights has signed an agreement (A) containing an assignment of such Intellectual Property to CombiMatrix or such Subsidiary, (B) containing confidentiality provisions protecting trade secrets and confidential information of CombiMatrix and its Subsidiaries and, (C) to the Knowledge of CombiMatrix, which is valid and enforceable. No current or former stockholder, officer, director, or employee of CombiMatrix or any of its Subsidiaries has any claim, right (whether or not currently exercisable), or interest to or in any CombiMatrix IP Rights. To the Knowledge of CombiMatrix and its Subsidiaries, no employee of CombiMatrix or any or any CombiMatrix Subsidiary is (a) bound by or otherwise subject to any Contract restricting him or her from performing his or her duties for CombiMatrix or such Subsidiary or (b) in breach of any Contract with any former employer or other Person concerning CombiMatrix IP Rights or confidentiality provisions protecting trade secrets and confidential information comprising CombiMatrix IP Rights.

(iii) No funding, facilities or personnel of any Governmental Body were used, directly or indirectly, to develop or create, in whole or in part, any CombiMatrix IP Rights in which CombiMatrix or any of its Subsidiaries has an ownership interest.

(iv) CombiMatrix and each of its Subsidiaries has taken reasonable steps to maintain the confidentiality of and otherwise protect and enforce its rights in all proprietary information that CombiMatrix or such Subsidiary holds as a trade secret.

(v) Neither CombiMatrix nor any of its Subsidiaries has assigned or otherwise transferred ownership of, or agreed to assign or otherwise transfer ownership of, any CombiMatrix IP Rights to any other Person.

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(vi) Except as identified in [Section 2.8\(e\)\(vi\)](#) of the CombiMatrix Disclosure Schedule, to the Knowledge of CombiMatrix and its Subsidiaries, the CombiMatrix IP Rights constitute all Intellectual Property necessary for CombiMatrix and its Subsidiaries to conduct its business as currently conducted and planned to be conducted.

(f) CombiMatrix has delivered, or made available to Invitae, a complete and accurate copy, in all material respects, of all CombiMatrix IP Rights Agreements. Neither CombiMatrix nor any CombiMatrix Subsidiary is a party to any Contract (A) pursuant to which the execution, delivery and performance of this Agreement and the consummation of the Contemplated Transactions will constitute a breach, or (B) as a result of such execution, delivery and performance of this Agreement and the consummation of the Contemplated Transactions will cause the forfeiture or termination of or Encumbrance upon, or the grant of any license or other right to, or give rise to a right of forfeiture or termination of or Encumbrance upon, any CombiMatrix IP Rights or impair the right of CombiMatrix or the Surviving Corporation and its Subsidiaries to use, sell or license any CombiMatrix IP Rights or portion thereof. With respect to each of the CombiMatrix IP Rights Agreements: (i) each such agreement is valid and binding on CombiMatrix or its Subsidiaries, as applicable, and to the Knowledge of CombiMatrix the applicable third party(ies), and in full force and effect; (ii) CombiMatrix has not received any written notice of termination or cancellation under such agreement, or received any written notice of breach or default under such agreement, which breach has not been cured or waived; and (iii) neither CombiMatrix nor its Subsidiaries, and to the Knowledge of CombiMatrix, no other party to any such agreement, is in breach or default thereof in any material respect.

(g) Except as identified in [Section 2.8\(g\)](#) of the CombiMatrix Disclosure Schedule, the manufacture, marketing, license, sale or intended use of any product, technology or service currently licensed or sold or under development by CombiMatrix or any of its Subsidiaries (i) does not violate any license or agreement between CombiMatrix or its Subsidiaries and any third party, and, to the Knowledge of CombiMatrix and its Subsidiaries, (ii) does not infringe or misappropriate any Intellectual Property right of any other party. Except as identified in [Section 2.8\(g\)](#) of the CombiMatrix Disclosure Schedule, CombiMatrix has disclosed in correspondence to Invitae the third-party patents and patent applications found during all freedom to operate searches that were conducted by CombiMatrix or its Subsidiaries related to any product, technology or service currently licensed or sold or under development by CombiMatrix or its Subsidiaries. To the Knowledge of CombiMatrix and its Subsidiaries, no third party is infringing upon, or violating any license or agreement with CombiMatrix or its Subsidiaries relating to, any CombiMatrix IP Rights. There is no current or pending challenge, claim or Legal Proceeding (including opposition, interference or other proceeding in any patent or other government office) contesting the validity, ownership or right to use, sell, license or dispose of any CombiMatrix IP Rights, nor has CombiMatrix or any of its Subsidiaries received any written notice asserting that any CombiMatrix IP Rights or the proposed use, sale, license or disposition thereof conflicts with or infringes or misappropriates or will conflict with or infringe or misappropriate the rights of any other Person.

(h) Except as identified in [Section 2.8\(h\)](#) of the CombiMatrix Disclosure Schedule, each item of CombiMatrix IP Rights that is CombiMatrix Registered IP is and at all times has been filed and maintained in compliance with all applicable Legal Requirements, and all Filings, payments and other actions required to be made or taken to maintain such item of CombiMatrix Registered IP in full force and effect have been made by the applicable deadline.

(i) Except as identified in [Section 2.8\(i\)](#) of the CombiMatrix Disclosure Schedule, to the Knowledge of CombiMatrix, no trademark (whether registered or unregistered) or trade name owned, used, or applied for by CombiMatrix or any of its Subsidiaries conflicts or interferes with any trademark (whether registered or unregistered) or trade name owned, used, or applied for by any other Person. None of the goodwill associated with or inherent in any trademark (whether registered or unregistered) in which CombiMatrix or any of its Subsidiaries has or purports to have an ownership interest has been impaired as determined by CombiMatrix or any of its Subsidiaries in accordance with GAAP.

(j) Except as set forth in the Contracts listed in [Sections 2.8\(c\)](#) or [2.8\(d\)](#) of the CombiMatrix Disclosure Schedule, (i) neither CombiMatrix nor any of its Subsidiaries is bound by any Contract to indemnify, defend,

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hold harmless, or reimburse any other Person with respect to any Intellectual Property infringement, misappropriation, or similar claim, and (ii) neither CombiMatrix nor any of its Subsidiaries has ever assumed, or agreed to discharge or otherwise take responsibility for, any existing or potential liability of another Person for infringement, misappropriation, or violation of any Intellectual Property right, which assumption, agreement or responsibility remains in force as of the date of this Agreement.

(k) None of the Intellectual Property used in the business of CombiMatrix or any CombiMatrix Subsidiary as presently conducted and as presently proposed to be conducted (i) has materially malfunctioned or failed or (ii) contains any viruses, worms, Trojan horses, bugs, faults, or other devices, errors or contaminants that (x) significantly disrupt or adversely affect functionality of such Intellectual Property or any other Intellectual Property or (y) enable or assist any person to access without authorization any such Intellectual Property.

(l) No Open Source Software is included in, integrated or bundled with, or otherwise necessary for the use of (or used in) any of the Intellectual Property used in the business of CombiMatrix or any CombiMatrix Subsidiary as presently conducted and as presently proposed to be conducted. CombiMatrix has established and consistently maintained safeguards against the destruction, loss or alteration of any Data collected or obtained by CombiMatrix or any CombiMatrix Subsidiary or otherwise included within the Intellectual Property used in the business of CombiMatrix or any CombiMatrix Subsidiary as presently conducted and as presently proposed to be conducted.

(m) All Data collected or obtained by CombiMatrix or any CombiMatrix Subsidiary or otherwise included within the Intellectual Property used in the business of CombiMatrix or any CombiMatrix Subsidiary as presently conducted and as presently proposed to be conducted has at all times been collected, obtained and used in accordance with all Legal Requirements, CombiMatrix's privacy policies and all contractual commitments of CombiMatrix or any CombiMatrix Subsidiary in all respects. No Consent of or notice to any third party is required with respect to the business of CombiMatrix or any CombiMatrix Subsidiary as presently conducted and as presently proposed to be conducted, including pursuant to CombiMatrix's privacy policies and contractual commitments. CombiMatrix's privacy policies and contractual commitments will not require the Consent of or notice to any third party with respect to the consummation of any of the Contemplated Transactions.

(n) No source code for any proprietary software of CombiMatrix or any CombiMatrix Subsidiary has been delivered, licensed, or made available to any Person who is not an employee of CombiMatrix (including any escrow agent). No Person has, or has asserted, any right (present, contingent or otherwise) to access any proprietary source code owned, or purported to be owned, by CombiMatrix or any CombiMatrix Subsidiary, and neither CombiMatrix nor any CombiMatrix Subsidiary has any duty or obligation (whether present, contingent, or otherwise) to deliver, license, or make available the source code for any such software to any Person who is not an employee of CombiMatrix (including any escrow agent).

(o) CombiMatrix and its Subsidiaries as well as the conduct of the business of CombiMatrix and each CombiMatrix Subsidiary as presently conducted and as presently proposed to be conducted are and have been in all respects in compliance with all Data Security Requirements. No notices have been received by, and no claims, charges or complaints have been made against, CombiMatrix or any CombiMatrix Subsidiary by any Governmental Authority or other Person alleging a violation of any Data Security Requirements. Neither CombiMatrix nor any CombiMatrix Subsidiary has received any notice or has Knowledge of any pending or threatened Legal Proceeding alleging a violation of any Person's privacy, personal or confidentiality rights under any applicable Legal Requirement.

(p) The IT Assets operate and perform in a manner that permits CombiMatrix to operate the business of CombiMatrix or any CombiMatrix Subsidiary as presently conducted and as presently proposed to be conducted. CombiMatrix has instituted commercially reasonable backup and disaster recovery plans, procedures and facilities, consistent with current industry standards, for the business of CombiMatrix or any CombiMatrix Subsidiary as presently conducted and as presently proposed to be conducted to ensure that the IT Assets and the Data stored thereon or otherwise collected or obtained by CombiMatrix or any CombiMatrix Subsidiary or included within the Intellectual Property used in the business of CombiMatrix or any CombiMatrix Subsidiary as

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presently conducted and as presently proposed to be conducted (including any Personal Information) (the “ *CombiMatrix Data* ”) are protected against loss and unauthorized access, use, interruption, modification, corruption, disclosure or other misuse. To the Knowledge of CombiMatrix, there have been no failures, breakdowns, outages, bugs, continued substandard performance, or other adverse events affecting any of the IT Assets (as a whole or with respect to any portion thereof) that have caused any disruption or interruption in or to the use of any of the IT Assets. To the Knowledge of CombiMatrix, there have been no breaches of or unauthorized access to or other misuse (either suspected or actual) of the IT Assets or the CombiMatrix Data.

2.9 Agreements, Contracts and Commitments . Section 2.9 of the CombiMatrix Disclosure Schedule identifies the following CombiMatrix Contracts, effective as of the date of this Agreement (each, a “ *CombiMatrix Material Contract* ” and collectively, the “ *CombiMatrix Material Contracts* ”):

(a) each CombiMatrix Contract relating to any bonus, deferred compensation, severance, incentive compensation, pension, profit-sharing or retirement plans, or any other employee benefit plans or arrangements;

(b) each CombiMatrix Contract relating to the employment of, or the performance of employment-related services by, any Person, including any employee, consultant or independent contractor, not terminable by CombiMatrix or its Subsidiaries on ninety (90) days’ notice without liability, except to the extent general principles of wrongful termination law may limit CombiMatrix’s, CombiMatrix’s Subsidiaries’ or such successor’s ability to terminate employees at will;

(c) each CombiMatrix Contract relating to any agreement or plan, including any stock option plan, stock appreciation right plan or stock purchase plan, any of the benefits of which will be increased, or the vesting of benefits of which will be accelerated, by the occurrence of any of the Contemplated Transactions (either alone or in conjunction with any other event, such as termination of employment), or the value of any of the benefits of which will be calculated on the basis of any of the Contemplated Transactions;

(d) each CombiMatrix Contract relating to any agreement of indemnification or guaranty not entered into in the Ordinary Course of Business other than indemnification agreements between CombiMatrix and any of its respective officers or directors;

(e) each CombiMatrix Contract relating to any agreement, contract or commitment containing (A) any covenant limiting the freedom of CombiMatrix, its Subsidiaries or the Surviving Corporation to engage in any line of business or compete with any Person, (B) any most-favored pricing arrangement, (C) any exclusivity provision, or (D) any non-solicitation provision;

(f) each CombiMatrix Contract relating to any agreement, contract or commitment relating to capital expenditures and involving obligations after the date of this Agreement in excess of \$25,000 and not cancelable without penalty;

(g) each CombiMatrix Contract relating to any agreement, contract or commitment currently in force relating to the disposition or acquisition of material assets or any ownership interest in any Entity;

(h) each CombiMatrix Contract relating to any mortgages, indentures, loans, notes or credit agreements, security agreements or other agreements or instruments relating to the borrowing of money or extension of credit in excess of \$25,000 or creating any material Encumbrances with respect to any assets of CombiMatrix or any CombiMatrix Subsidiary or any loans or debt obligations with officers or directors of CombiMatrix;

(i) each CombiMatrix Contract relating to (i) any distribution agreement (identifying any that contain exclusivity provisions); (ii) any agreement involving provision of services, products or technology with respect to any development activities of CombiMatrix (iii) any dealer, distributor, joint marketing, alliance, joint venture, cooperation, development or other agreement currently in force under which CombiMatrix or its Subsidiaries has continuing obligations to develop or market any product, technology or service, or any agreement pursuant to which CombiMatrix or its Subsidiaries has continuing obligations to develop any Intellectual Property that will not be owned, in whole or in part, by CombiMatrix or such CombiMatrix Subsidiary; or (iv) any Contract

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currently in force to license any third party to manufacture or produce any CombiMatrix product, service or technology or any Contract currently in force to sell, distribute or commercialize any CombiMatrix products, technology or services except agreements with distributors or sales representatives in the Ordinary Course of Business;

(j) each CombiMatrix Contract with any Person, including any financial advisor, broker, finder, investment banker or other Person, providing advisory services to CombiMatrix in connection with the Contemplated Transactions;

(k) each CombiMatrix IP Right Agreement; or

(l) any other agreement, contract or commitment (i) which involves payment or receipt by CombiMatrix or its Subsidiaries under any such agreement, contract or commitment of \$25,000 or more in the aggregate or obligations after the date of this Agreement in excess of \$25,000 in the aggregate, or (ii) that is material to the business or operations of CombiMatrix and its Subsidiaries.

CombiMatrix has delivered to Invitae accurate and complete (except for applicable redactions thereto) copies of all CombiMatrix Material Contracts, including all amendments thereto. There are no CombiMatrix Material Contracts that are not in written form. Neither CombiMatrix nor any of its Subsidiaries has, nor to CombiMatrix's Knowledge as of the date of this Agreement has any other party to a CombiMatrix Material Contract, breached, violated or defaulted under, or received notice that it has breached, violated or defaulted under, any of the terms or conditions of any CombiMatrix Material Contract in such manner as would permit any other party to cancel or terminate any such CombiMatrix Material Contract, or would permit any other party to seek damages. As to CombiMatrix and its Subsidiaries, each CombiMatrix Material Contract is valid, binding, enforceable and in full force and effect, subject to: (i) laws of general application relating to bankruptcy, insolvency and the relief of debtors; and (ii) rules of law governing specific performance, injunctive relief and other equitable remedies. The consummation of the Contemplated Transactions shall not result in any material payment or payments becoming due from CombiMatrix, any CombiMatrix Subsidiary, the Surviving Corporation or Invitae to any Person under any CombiMatrix Contract or give any Person the right to terminate or alter the provisions of any CombiMatrix Contract. No Person is renegotiating, or has a right pursuant to the terms of any CombiMatrix Material Contract to change, any material amount paid or payable to CombiMatrix under any CombiMatrix Material Contract or any other material term or provision of any CombiMatrix Material Contract.

2.10 No Undisclosed Liabilities . As of the date of this Agreement, neither CombiMatrix nor any CombiMatrix Subsidiary has any liability, indebtedness, obligation, expense, claim, deficiency, guaranty or endorsement of any kind, whether accrued, absolute, contingent, matured, unmatured or other (whether or not required to be reflected in the financial statements in accordance with GAAP) (each a "**Liability**"), except for: (a) Liabilities identified as such in the "liabilities" column of the CombiMatrix Unaudited Interim Balance Sheet; (b) normal and recurring current Liabilities that have been incurred by CombiMatrix or its Subsidiaries since the date of the CombiMatrix Unaudited Interim Balance Sheet in the Ordinary Course of Business and which are not in excess of \$25,000 in the aggregate; (c) Liabilities for performance in the Ordinary Course of Business of obligations of CombiMatrix or any CombiMatrix Subsidiary under CombiMatrix Contracts, including the reasonably expected performance of such CombiMatrix Contracts in accordance with their terms (which would not include, for example, any instances of breach or indemnification); (d) Liabilities incurred in connection with the Contemplated Transactions; and (e) Liabilities listed in [Section 2.10](#) of the CombiMatrix Disclosure Schedule.

2.11 Compliance; Permits; Restrictions; Regulatory Matters .

(a) CombiMatrix and each CombiMatrix Subsidiary is, and since January 1, 2014 has been, in compliance in all material respects with all applicable Legal Requirements. No investigation, claim, suit, proceeding, audit or other action by any Governmental Body or authority is pending or, to the Knowledge of CombiMatrix, threatened against CombiMatrix or any CombiMatrix Subsidiary, nor has any Governmental Body

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or authority indicated in writing to CombiMatrix an intention to conduct the same. There is no agreement, judgment, injunction, order or decree binding upon CombiMatrix or any CombiMatrix Subsidiary which (i) has or would reasonably be expected to have the effect of prohibiting or materially impairing any business practice of CombiMatrix or any CombiMatrix Subsidiary, any acquisition of material property by CombiMatrix or any CombiMatrix Subsidiary or the conduct of business by CombiMatrix or any CombiMatrix Subsidiary as currently conducted or currently proposed to be conducted, (ii) may have an adverse effect on CombiMatrix's ability to comply with or perform any covenant or obligation under this Agreement, or (iii) may have the effect of preventing, delaying, making illegal or otherwise interfering with the Merger or any of the other Contemplated Transactions.

(b) There are no proceedings pending or, to the Knowledge of CombiMatrix, threatened with respect to an alleged violation by CombiMatrix or any of its Subsidiaries of CLIA, state CLIA regulations, or any other similar Legal Requirements promulgated by a Governmental Body. Each of CombiMatrix and any CombiMatrix Subsidiary has met all applicable standards of accreditation to be, and is, accredited by the College of American Pathologists (“*CAP*”) Laboratory Accreditation Program.

(c) CombiMatrix and each of its Subsidiaries holds all required Governmental Authorizations issuable by any Governmental Body necessary for the conduct of the business of CombiMatrix or such Subsidiary as currently conducted or currently proposed to be conducted (the “*CombiMatrix Regulatory Permits*”), and, to the Knowledge of CombiMatrix, no such CombiMatrix Regulatory Permit has been (i) revoked, withdrawn, suspended, cancelled or terminated or (ii) modified in any adverse manner, other than immaterial adverse modifications. Section 2.11(c) of the CombiMatrix Disclosure Schedule identifies each CombiMatrix Regulatory Permit. CombiMatrix and each CombiMatrix Subsidiary is in compliance in all material respects with the CombiMatrix Regulatory Permits and has not received any written notice or other written communication from any Governmental Body regarding (A) any material violation of or failure to comply materially with any term or requirement of any CombiMatrix Regulatory Permit or (B) any revocation, withdrawal, suspension, cancellation, termination or material modification of any CombiMatrix Regulatory Permit. CombiMatrix has made available to Invitae all information requested by Invitae in CombiMatrix's or its Subsidiaries' possession or control relating to the following (to the extent there are any): (x) adverse event reports; clinical study reports and material study data; inspection reports, notices of adverse findings, warning letters, Filings and letters and other written correspondence to and from any Governmental Body; and meeting minutes with any Governmental Body; and (y) similar reports, material study data, notices, letters, Filings, correspondence and meeting minutes with any other Governmental Body. The rights and benefits of each CombiMatrix Regulatory Permit will be available to the Surviving Corporation immediately after the Effective Time on terms substantially identical to those enjoyed by CombiMatrix and its Subsidiaries as of the date of this Agreement and immediately prior to the Effective Time.

(d) All clinical, pre-clinical and other studies and tests conducted by or on behalf of, or sponsored by, CombiMatrix or its Subsidiaries or in which CombiMatrix or its Subsidiaries or their respective products, technology or services have participated were conducted in all material respects in accordance with standard medical and scientific research procedures and in compliance with all Legal Requirements.

(e) None of CombiMatrix or any CombiMatrix Subsidiary, or, to the Knowledge of CombiMatrix or any CombiMatrix Subsidiary, any of their respective officers, directors or managing employees (as such terms are defined in 42 C.F.R. § 1001.1001) nor, to the Knowledge of CombiMatrix or any CombiMatrix Subsidiary, any other service provider or agent (as such term is defined in 42 C.F.R. § 1001.1001) of CombiMatrix or any CombiMatrix Subsidiary has been disqualified, debarred or deregistered by any Governmental Authority, and no such disqualification, debarment, deregistration or exclusionary claims, actions, proceedings or investigations are pending or, to the Knowledge of CombiMatrix or any CombiMatrix Subsidiary, threatened.

(f) Neither CombiMatrix nor any CombiMatrix Subsidiary nor, to the Knowledge of CombiMatrix or any CombiMatrix Subsidiary, any of their respective directors, officers, employees or Collaboration Partners (solely with respect to such Collaboration Partners' activities with CombiMatrix or any CombiMatrix Subsidiary) has (i) made an untrue statement of a material fact or fraudulent statement to the FDA or any other Health

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Authority, (ii) failed to disclose a material fact required to be disclosed to the FDA or any other Health Authority, or (iii) committed any other act, made any statement or failed to make any statement, that (in any such case) establishes a reasonable basis for the FDA to invoke the policy respecting “Fraud, Untrue Statements of Material Facts, Bribery, and Illegal Gratuities,” set forth in 56 Fed. Reg. 46191 (September 10, 1991) (the “**FDA Fraud Policy**”) or for any other Health Authority to invoke a similar policy that may be applicable to CombiMatrix or any CombiMatrix Subsidiary in another jurisdiction. Neither CombiMatrix nor any CombiMatrix Subsidiary nor, to the Knowledge of CombiMatrix or any CombiMatrix Subsidiary, any of their respective directors, officers, employees or Collaboration Partners (solely with respect to such Collaboration Partners’ activities with CombiMatrix or any CombiMatrix Subsidiary) is the subject of any pending or, to the Knowledge of CombiMatrix or any CombiMatrix Subsidiary, threatened investigation by the FDA under the FDA Fraud Policy, or the subject of any similar investigation by any other Health Authority.

(g) CombiMatrix and each CombiMatrix Subsidiary, including each of its respective systems and operations and with respect to all CombiMatrix Material Contracts, and, to the Knowledge of CombiMatrix and each CombiMatrix Subsidiary, each Collaboration Partner (solely with respect to such Collaboration Partners’ activities with CombiMatrix or any CombiMatrix Subsidiary), is not now, and during the last three (3) years has not been, in material default or violation of any Health Law or order to the extent applicable to CombiMatrix or any CombiMatrix Subsidiary or by which any property or asset of CombiMatrix or any CombiMatrix Subsidiary is bound. Neither CombiMatrix nor any CombiMatrix Subsidiary nor, to the Knowledge of CombiMatrix or any CombiMatrix Subsidiary, any of their respective directors, officers, employees or Collaboration Partners (solely with respect to such Collaboration Partners’ activities with CombiMatrix or any CombiMatrix Subsidiary) (i) has received any written notice or other written communication from any Health Authority alleging any violation of any Health Law, including any failure to maintain systems and programs adequate to ensure compliance with any such Health Laws, or (ii) is subject to any enforcement, regulatory or administrative proceedings against or affecting CombiMatrix or any CombiMatrix Subsidiary relating to or arising under any Health Law and, to the Knowledge of CombiMatrix and each CombiMatrix Subsidiary, no such enforcement, regulatory or administrative proceeding has been threatened. Except as set forth in Section 2.11(g) of the CombiMatrix Disclosure Schedule, during the three (3) years prior to the date of this Agreement, neither CombiMatrix nor any CombiMatrix Subsidiary has received any FDA Form 483 or other Governmental Authority notice of inspectional observations, “warning letters,” “untitled letters” or, to the Knowledge of CombiMatrix or any CombiMatrix Subsidiary, requests or requirements to make changes to the operations of CombiMatrix or any CombiMatrix Subsidiary (including any diagnostic testing services, sample collection kits, or other products or services of CombiMatrix or any CombiMatrix Subsidiary), or similar correspondence or written notice from the FDA or other Governmental Authority and alleging or asserting noncompliance with any applicable Legal Requirements, permits or such requests or requirements of a Governmental Authority.

(h) CombiMatrix and each CombiMatrix Subsidiary have filed with the applicable Health Authority all required Filings, including adverse event reports. All such Filings were in material compliance with applicable Legal Requirements when filed, and no deficiencies have been asserted in writing by any applicable Health Authority with respect to any such Filings.

(i) Neither CombiMatrix nor any CombiMatrix Subsidiary, nor any of their respective officers, directors, employees or agents, has engaged in any activities which are cause for criminal or civil penalties against, or mandatory or permissive exclusion of, CombiMatrix or any CombiMatrix Subsidiary from Medicare, Medicaid, or any other federal health care program under 42 U.S.C. §§ 1320a-7, 1320a-7a, 1320a-7b, or 1395nn, the Federal Employees Health Benefits program statute, or the regulations promulgated pursuant to such statutes or related state or local statutes or regulations.

(j) The diagnostic tests of CombiMatrix and each CombiMatrix Subsidiary are being lawfully marketed in all material respects under the FDA’s current policies and grant of enforcement discretion applied to traditional laboratory developed tests (“**LDTs**”). Without limiting the generality of the foregoing, all diagnostic tests that are considered by CombiMatrix or any CombiMatrix Subsidiary to be LDTs are and, during such periods when such LDTs have been sold by CombiMatrix and subject to CLIA, always have been: (i) designed, manufactured and used within a single laboratory that is approved in accordance with CLIA; (ii) validated to

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meet performance characteristics relating to analytical validity for the use of each test system in the laboratory's own environment; and (iii) utilized under the order of a licensed healthcare provider. Any diagnostic testing that CombiMatrix or any CombiMatrix Subsidiary conducts outside of the United States, and any specimen collection kits that CombiMatrix or any CombiMatrix Subsidiary distributes outside of the United States, complies in all material respects with the Legal Requirements of any country where the diagnostic testing is performed or where the specimen collection kits are distributed.

(k) All submissions made by CombiMatrix or any CombiMatrix Subsidiary or by any third party on behalf of CombiMatrix or any CombiMatrix Subsidiary in connection with any of their respective diagnostic tests or other products to any Governmental Authority were, and as of the Closing Date will be, accurate and complete in all material respects.

(l) There are no investigations, suits, claims, actions or proceedings against or affecting CombiMatrix or any CombiMatrix Subsidiary pending or, to the knowledge of CombiMatrix or any CombiMatrix Subsidiary, threatened, relating to or arising under (i) the Federal Food, Drug and Cosmetic Act or the regulations of the FDA promulgated thereunder or similar Legal Requirements, or (ii) Information and Privacy Security Laws, including alleging a violation of any Person's rights under any Information Privacy and Security Laws or any of the former or current published privacy policies of CombiMatrix or any CombiMatrix Subsidiary. Neither CombiMatrix nor any CombiMatrix Subsidiary has received any notices from the U.S. Department of Health and Human Services Office for Civil Rights, Department of Justice, Federal Trade Commission, or the Attorney General of any state, or any equivalent foreign Governmental Authority, relating to any such violations.

(m) There are no pending, concluded in the last three (3) years or, to the Knowledge of CombiMatrix or any CombiMatrix Subsidiary, threatened investigations, suits, claims, actions or proceedings, including any voluntary disclosures or self-disclosures, relating to the participation of CombiMatrix or any CombiMatrix Subsidiary in any payment program, including Medicare, Medicaid, Tricare, the Federal Employees Health Benefit Program, and private third party payor programs (" **Payment Programs** "). Neither CombiMatrix nor any CombiMatrix Subsidiary is subject to, nor has CombiMatrix or any CombiMatrix Subsidiary been subjected to in the last three (3) years, any pre-payment utilization review or other utilization review by any Payment Program. Except as set forth in Section 2.11(m) of the CombiMatrix Disclosure Schedule, no Payment Program is currently requesting or has requested in the last three (3) years or, to the Knowledge of CombiMatrix or any CombiMatrix Subsidiary, is threatening or has in the last three (3) years threatened any recoupment, refund, or set-off from CombiMatrix or any CombiMatrix Subsidiary in excess of \$10,000. No Payment Program has imposed in the last three (3) years a fine, penalty or other sanction on CombiMatrix or any CombiMatrix Subsidiary. Neither CombiMatrix nor any CombiMatrix Subsidiary has been excluded in the last three (3) years from participation in any Payment Program. All billing practices of CombiMatrix and each CombiMatrix Subsidiary with respect to all Payment Programs have been in compliance with all Legal Requirements applicable to CombiMatrix and each CombiMatrix Subsidiary in all material respects.

(n) CombiMatrix and each CombiMatrix Subsidiary, and, to the Knowledge of CombiMatrix and each CombiMatrix Subsidiary, their respective Representatives are in compliance (and since January 1, 2014 have complied) in all material respects with: (i) the provisions of the U.S. Foreign Corrupt Practices Act of 1977, as amended (15 U.S.C. §§ 78dd-1, et seq.) (" **FCPA** "); and (ii) the provisions of all applicable anti-bribery, anti-corruption and anti-money laundering Legal Requirements of each jurisdiction in which CombiMatrix and any CombiMatrix Subsidiary operates or has operated and in which any agent thereof is conducting or has conducted business involving CombiMatrix or any CombiMatrix Subsidiary. Since January 1, 2014, CombiMatrix and each CombiMatrix Subsidiary, and, to the Knowledge of CombiMatrix and each CombiMatrix Subsidiary, their respective Representatives have not paid, offered or promised to pay, or authorized or ratified the payment, directly or indirectly, of any monies or anything of value to any national, provincial, municipal or other Government Official or any political party or candidate for political office for the purpose of corruptly influencing any act or decision of such official or of the government to obtain or retain business, or direct business to any person or to secure any other improper benefit or advantage, in each case in violation in any material respect of the FCPA and any applicable Legal Requirements described in clause (ii) above. CombiMatrix and each CombiMatrix Subsidiary (x) have instituted policies and procedures designed to ensure

compliance with the FCPA and other applicable anti-bribery and anti-corruption Legal Requirements in each jurisdiction in which CombiMatrix and any CombiMatrix Subsidiary operates and (y) have maintained and will maintain such policies and procedures in force.

(o) CombiMatrix and each CombiMatrix Subsidiary and their respective Affiliates are, and since January 1, 2014 have been, in material compliance with all applicable U.S. statutory and regulatory requirements concerning the exportation, re-exportation and importation of products, technology, and services, and other international transactions, including: (i) Legal Requirements, regulations and policies enforced by U.S. Customs and Border Protection; (ii) the Arms Export Control Act and the International Traffic in Arms Regulations (22 C.F.R. Part 120 et seq.) administered by the U.S. Department of State’s Directorate of Defense Trade Controls; (iii) the Export Administration Regulations (15 C.F.R. Part 730 et seq.) administered by the U.S. Department of Commerce’s Bureau of Industry and Security (“**BIS**”); (iv) U.S. anti-boycott regulations administered by BIS and the International Revenue Service; (v) all Legal requirements concerning export and import reporting administered by the U.S. Census Bureau; and (vi) the economic sanctions Legal Requirements, regulations and associated executive orders administered by the U.S. Departments of Treasury’s Office of Foreign Assets Control (“**OFAC**”) (collectively, the “**Trade Control Laws**”). Since January 1, 2014, unless authorized by the relevant agency of the U.S. Government, CombiMatrix and each CombiMatrix Subsidiary and their respective Affiliates have not conducted any transactions directly or indirectly related to: (x) Cuba, Iran, North Korea, Sudan or Syria; (y) individuals or entities identified on restricted party lists maintained by the U.S. Government, including the List of Specially Designated Nationals and Blocked Persons (“**SDN List**”), Foreign Sanctions Evader List (“**FSE List**”) and Sectoral Sanctions Identification List (“**SSI List**”) administered by OFAC and the Denied Parties List, Unverified List and Entity List administered by BIS (collectively, “**Restricted Parties**”); or (z) entities owned or controlled by anyone on the SDN List, the SSI List or the FSE List. Neither CombiMatrix nor any CombiMatrix Subsidiary is a Restricted Party or is owned or controlled by a Restricted Party. There is no pending or, to the Knowledge of CombiMatrix and each CombiMatrix Subsidiary, threatened action against CombiMatrix or any CombiMatrix Subsidiary, nor any pending voluntary disclosure by CombiMatrix or any CombiMatrix Subsidiary or their respective Affiliates to any government authority in connection with an alleged material violation of any Trade Control Laws. Since January 1, 2014, neither CombiMatrix nor any of the CombiMatrix Subsidiaries or their respective Affiliates have been cited or fined for failure to comply with, or submitted any voluntary self-disclosures regarding material non-compliance with, Trade Control Laws.

(p) The receipt, collection, monitoring, maintenance, creation, transmission, use, analysis, disclosure, storage, disposal and security of Personal Information by the Acquired Corporations have, in all material respects, complied, and comply in all material respects, with (i) any applicable CombiMatrix Contract, (ii) applicable Information Privacy and Security Laws, (iii) to the extent applicable, PCI DSS, and (iv) all Consents and protocols of the Acquired Corporation that apply to the receipt, use, processing or disclosure of Personal Information (collectively, “**PII Consents**”). Each Acquired Corporation has, in all material respects, all necessary PII Consents to receive, process and disclose all Personal Information in that Acquired Corporation’s possession or under its control in connection with the operation of the business operations of the Acquired Corporations.

(q) Each Acquired Corporation has entered into a business associate agreement (as described by 45 C.F.R. § 164.504(e) or § 164.314(a)) with each third party in each instance where: (i) that Acquired Corporation acts as a business associate (as defined in 45 C.F.R. § 160.103) to that third party; or (ii) that third party receives, creates, transmits or maintains protected health information (as defined in 45 C.F.R. § 160.103) from or on behalf of that Acquired Corporation, in each case as required by, and in conformity in all material respects with, applicable Information Privacy and Security Laws and the applicable CombiMatrix Contracts to which the member is a party.

(r) Each Acquired Corporation has adopted policies and procedures that apply to that Acquired Corporation with respect to privacy, data protection, security and the collection, transfer and use of Personal Information gathered or accessed in the course of the operations of the Acquired Corporations, and those policies and procedures are commercially reasonable and comply with applicable Information Privacy and Security Law.

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Each Acquired Corporation has taken reasonable actions and measures to protect the confidentiality, integrity and security of its Personal Information and IT Assets against any unauthorized control, use, access, interruption, modification or corruption and those actions and measures are in conformance with Information Privacy and Security Laws.

(s) There has been no breach of the security of any IT Assets, or unauthorized access, use or disclosure of any Personal Information, owned, used, stored, received, or controlled by or on behalf of any Acquired Corporation, including any unauthorized access, use or disclosure of Personal Information that would constitute a breach for which notification to individuals and/or Governmental Bodies is required under any applicable Information Privacy and Security Laws.

(t) Each Acquired Corporation has performed all security risk assessments as applicable to that Acquired Corporation and required by: (i) the standards set forth at 45 C.F.R. § 164.308(a); (ii) all other Information Privacy and Security Laws; (iii) any applicable CombiMatrix Contracts; or (iv) the PCI DSS (collectively, the “*Security Risk Assessments*”). The Acquired Corporations have reasonably addressed all threats and deficiencies identified in every Security Risk Assessment.

2.12 Tax Matters .

(a) CombiMatrix and each CombiMatrix Subsidiary have timely filed all federal income Tax Returns and other material Tax Returns that they were required to file under applicable Legal Requirements. All such Tax Returns were correct and complete in all material respects and have been prepared in material compliance with all applicable Legal Requirements. Neither CombiMatrix nor any CombiMatrix Subsidiary is currently the beneficiary of any extension of time within which to file any Tax Return. No claim has ever been made by an authority in a jurisdiction where CombiMatrix or any CombiMatrix Subsidiary does not file Tax Returns that it is subject to taxation by that jurisdiction.

(b) All material Taxes due and owing by CombiMatrix or any CombiMatrix Subsidiary on or before the date of this Agreement (whether or not shown on any Tax Return) have been paid. The unpaid Taxes of CombiMatrix and any CombiMatrix Subsidiary have been reserved for on the CombiMatrix Unaudited Interim Balance Sheet in accordance with GAAP. Since the date of the CombiMatrix Unaudited Interim Balance Sheet, neither CombiMatrix nor any CombiMatrix Subsidiary has incurred any Liability for Taxes outside the Ordinary Course of Business or otherwise inconsistent with past custom and practice.

(c) CombiMatrix and each CombiMatrix Subsidiary have withheld and paid all Taxes required to have been withheld and paid in connection with any amounts paid or owing to any employee, independent contractor, creditor, stockholder or other third party.

(d) There are no Encumbrances for Taxes (other than Taxes not yet due and payable or Taxes that are being contested in good faith and for which adequate reserves have been made on CombiMatrix’s Unaudited Interim Balance Sheet) upon any of the assets of CombiMatrix or any CombiMatrix Subsidiary.

(e) No material deficiencies for Taxes with respect to CombiMatrix or any CombiMatrix Subsidiary have been claimed, proposed or assessed by any Governmental Body in writing. There are no pending (or, based on written notice, threatened) audits, assessments or other actions for or relating to any liability in respect of Taxes of CombiMatrix or any CombiMatrix Subsidiary. No issues relating to Taxes of CombiMatrix or any CombiMatrix Subsidiary were raised by the relevant Tax authority to CombiMatrix or any CombiMatrix Subsidiary in any completed audit or examination that would reasonably be expected to result in a material amount of Taxes in a later taxable period. CombiMatrix has delivered or made available to Invitae complete and accurate copies of all federal income Tax and all other material Tax Returns of CombiMatrix and each CombiMatrix Subsidiary (and predecessors of each) for all taxable years remaining open under the applicable statute of limitations, and complete and accurate copies of all examination reports and statements of deficiencies assessed against or agreed to by CombiMatrix and each CombiMatrix Subsidiary (and predecessors of each), with respect to federal income Tax and all other material Taxes. Neither CombiMatrix nor any CombiMatrix Subsidiary (or any of their predecessors) has waived any statute of limitations in respect of Taxes

or agreed to any extension of time with respect to a Tax assessment or deficiency, nor has any request been made in writing for any such extension or waiver.

(f) All material elections with respect to Taxes affecting CombiMatrix or any CombiMatrix Subsidiary as of the date of this Agreement are set forth in [Section 2.12\(f\)](#) of the CombiMatrix Disclosure Schedule. Neither CombiMatrix nor any CombiMatrix Subsidiary (i) has agreed, or is required, to make any adjustment under Section 481(a) of the Code by reason of a change in accounting method or otherwise; (ii) has made an election, or is required, to treat any of its assets as owned by another Person for Tax purposes or as a tax-exempt bond financed property or tax-exempt use property within the meaning of Section 168 of the Code; (iii) has acquired or owns any assets that directly or indirectly secure any debt the interest on which is tax exempt under Section 103(a) of the Code; (iv) has made or will make a consent dividend election under Section 565 of the Code; (v) has elected at any time to be treated as an S corporation within the meaning of Sections 1361 or 1362 of the Code; or (vi) has made any of the foregoing elections or is required to apply any of the foregoing rules under any comparable provision of state, local or foreign law.

(g) Neither CombiMatrix nor any CombiMatrix Subsidiary has been a United States real property holding corporation within the meaning of Section 897(c)(2) of the Code during the applicable period specified in Section 897(c)(1)(A)(ii) of the Code.

(h) Neither CombiMatrix nor any CombiMatrix Subsidiary is a party to any Tax allocation, Tax sharing or similar agreement (including indemnity arrangements), other than commercial contracts entered into in the Ordinary Course of Business with vendors, customers and landlords.

(i) Except as set forth in [Section 2.12\(i\)](#) of the CombiMatrix Disclosure Schedule, neither CombiMatrix nor any CombiMatrix Subsidiary has ever been a member of an affiliated group filing a consolidated, combined or unitary Tax Return (other than a group the common parent of which is CombiMatrix) for federal, state, local or foreign Tax purposes. Neither CombiMatrix nor any CombiMatrix Subsidiary has any Liability for the Taxes of any Person (other than CombiMatrix and any CombiMatrix Subsidiary) under Treasury Regulations Section 1.1502-6 (or any similar provision of state, local, or foreign law), as a transferee or successor, by Contract, or otherwise.

(j) Neither CombiMatrix nor any CombiMatrix Subsidiary has distributed stock of another Person, or has had its stock distributed by another Person, in a transaction that was purported or intended to be governed in whole or in part by Section 355 of the Code or Section 361 of the Code.

(k) Neither CombiMatrix nor any CombiMatrix Subsidiary will be required to include any item of income in, or exclude any item of deduction from, taxable income for any period (or any portion thereof) ending after the Closing Date as a result of any (i) installment sale or other open transaction disposition made on or prior to the Closing Date, or (ii) agreement with any Tax authority (including any closing agreement described in Section 7121 of the Code or any similar provision of state, local or foreign law) made or entered into on or prior to the Closing Date.

(l) Neither CombiMatrix nor any CombiMatrix Subsidiary is a partner for Tax purposes with respect to any joint venture, partnership, or, to the Knowledge of CombiMatrix, other arrangement or contract which is treated as a partnership for Tax purposes.

(m) Neither CombiMatrix nor any CombiMatrix Subsidiary has entered into any transaction identified as a “listed transaction” for purposes of Treasury Regulations Sections 1.6011-4(b)(2) or 301.6111-2(b)(2).

(n) Neither CombiMatrix nor any CombiMatrix Subsidiary has taken any action, or has any knowledge of any fact or circumstance, that could reasonably be expected to prevent the Merger, together with the Warrant Exchange Offer, from qualifying as a reorganization within the meaning of Section 368(a) of the Code.

2.13 Employee and Labor Matters; Benefit Plans .

(a) The employment of each of the CombiMatrix and CombiMatrix Subsidiary employees is terminable by CombiMatrix or the applicable CombiMatrix Subsidiary at will. CombiMatrix has made available to Invitae

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accurate and complete copies of all employee manuals and handbooks, disclosure materials, policy statements and other materials relating to the employment of the CombiMatrix Associates to the extent currently effective and material.

(b) To the Knowledge of CombiMatrix, no officer or Key Employee of CombiMatrix or any CombiMatrix Subsidiary intends to terminate his or her employment with CombiMatrix or the applicable CombiMatrix Subsidiary, nor has any such officer or Key Employee threatened or expressed in writing any intention to do so.

(c) Neither CombiMatrix nor any CombiMatrix Subsidiary is a party to or bound by, nor has a duty to bargain under, any collective bargaining agreement or other Contract with a labor organization representing any of its employees, and there are no labor organizations representing, purporting to represent or, to the Knowledge of CombiMatrix, seeking to represent any employees of CombiMatrix or any CombiMatrix Subsidiary. There has never been, nor has there been any threat of, any strike, slowdown, work stoppage, lockout, job action, union organizing activity, question concerning representation or any similar activity or dispute, affecting CombiMatrix or any CombiMatrix Subsidiary. No event has occurred, and no condition or circumstance exists, that might directly or indirectly be likely to give rise to or provide a basis for the commencement of any such strike, slowdown, work stoppage, lockout, job action, union organizing activity, question concerning representation or any similar activity or dispute. Neither CombiMatrix nor any CombiMatrix Subsidiary is or has been engaged in any unfair labor practice within the meaning of the National Labor Relations Act. There is no Legal Proceeding, claim, labor dispute or grievance pending or, to the Knowledge of CombiMatrix, threatened or reasonably anticipated relating to any employment or independent contractor contract, privacy right, labor dispute, wage and hour dispute, leave of absence, plant closing notification, workers' compensation policy, long-term disability policy, harassment, discrimination, retaliation, immigration violation, employment statute or regulation, or workplace safety matter involving any CombiMatrix Associate, including charges of unfair labor practices or discrimination complaints.

(d) Section 2.13(d) of the CombiMatrix Disclosure Schedule lists all written employee benefit plans (as defined in Section 3(3) of ERISA) and all bonus, equity-based, incentive, deferred compensation, retirement or supplemental retirement, profit sharing, severance, golden parachute, vacation, cafeteria, dependent care, medical care, employee assistance program, education or tuition assistance programs and other similar fringe or employee benefit plans, programs or arrangements, including any employment or executive compensation or severance agreements which are currently in effect relating to any present or former employee or director of CombiMatrix or any CombiMatrix Subsidiary (or any trade or business (whether or not incorporated) which is a CombiMatrix Affiliate) or which is maintained by, administered or contributed to by, or required to be contributed to by, CombiMatrix, any CombiMatrix Subsidiary or any CombiMatrix Affiliate, or under which CombiMatrix or any CombiMatrix Subsidiary or any CombiMatrix Affiliate has any current or may incur liability after the date of this Agreement (each, an “*CombiMatrix Employee Plan*”). To the Knowledge of CombiMatrix, there are no unwritten CombiMatrix Employee Plans in effect.

(e) With respect to CombiMatrix Options granted pursuant to the 2006 Plan, (i) each CombiMatrix Option intended to qualify as an “incentive stock option” under Section 422 of the Code so qualifies, (ii) each grant of a CombiMatrix Option was duly authorized no later than the date on which the grant of such CombiMatrix Option was by its terms to be effective (the “*Grant Date*”) by all necessary corporate action, including, as applicable, approval by the board of directors of CombiMatrix (or a duly constituted and authorized committee thereof) and any required stockholder approval by the necessary number of votes or written consents, and the award agreement governing such grant (if any) was duly executed and delivered by each party thereto, (iii) each CombiMatrix Option grant was made in accordance with the terms of the 2006 Plan, the Exchange Act and all other applicable laws and regulatory rules or requirements, including the rules of NASDAQ and any other exchange on which CombiMatrix securities are traded, (iv) the per share exercise price of each CombiMatrix Option was not less than the fair market value of a share of CombiMatrix Common Stock on the applicable Grant Date, and (v) each such CombiMatrix Option grant was properly accounted for in accordance with GAAP in the financial statements (including the related notes) of CombiMatrix and disclosed in CombiMatrix filings with the SEC in accordance with the Exchange Act and all other applicable Legal Requirements. CombiMatrix has not

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knowingly granted, and there is no and has been no policy or practice of CombiMatrix of granting, CombiMatrix Options prior to, or otherwise coordinate the grant of CombiMatrix Options with, the release or other public announcement of material information regarding CombiMatrix or its results of operations or prospects.

(f) No CombiMatrix Options, RSUs, stock appreciation rights or other equity-based awards issued or granted by CombiMatrix are subject to the requirements of Code Section 409A. Each “nonqualified deferred compensation plan” (as such term is defined under Section 409A(d)(1) of the Code and the guidance thereunder) maintained by or under which CombiMatrix or any of its former Subsidiaries makes, is obligated to make or promises to make, payments (each, a “*CombiMatrix 409A Plan*”) complies in all material respects, in both form and operation, with the requirements of Code Section 409A and the guidance thereunder. No payment to be made under any CombiMatrix 409A Plan is, or to the Knowledge of CombiMatrix will be, subject to the penalties of Code Section 409A(a)(1).

(g) CombiMatrix is in compliance with all of its bonus, commission and other compensation plans and has paid any and all amounts (or pro rata portion thereof) required to be paid under such plans through the calendar quarter preceding the Effective Time, and is properly accruing any and all applicable bonuses and commissions, and is not liable for any payments, taxes or penalties for failure to comply with any of the terms or conditions of such plans or the laws governing such plans.

(h) Except as set forth in [Section 2.13\(h\)](#) of the CombiMatrix Disclosure Schedule, each CombiMatrix Employee Plan can be amended, terminated or otherwise discontinued in accordance with its terms, without material Liability to CombiMatrix, the Surviving Corporation, Invitae or any of their Affiliates (other than ordinary administrative expenses typically incurred in a termination event). Except as set forth in [Section 2.13\(h\)](#) of the CombiMatrix Disclosure Schedule, neither CombiMatrix nor any CombiMatrix Affiliate has announced its intention to modify or amend any CombiMatrix Employee Plan or adopt any arrangement or program which, once established, would come within the definition of a CombiMatrix Employee Plan, and to the Knowledge of CombiMatrix, each asset held under such CombiMatrix Employee Plan may be liquidated or terminated without the imposition of any material redemption fee, surrender charge or comparable Liability.

(i) Each CombiMatrix Employee Plan that is intended to be qualified under Section 401(a) of the Code has received a favorable determination letter or may rely on a favorable opinion or advisory letter from the Internal Revenue Service, with respect to such qualified status from the Internal Revenue Service. To the Knowledge of CombiMatrix, nothing has occurred that would reasonably be expected to adversely affect the qualified status of any such CombiMatrix Employee Plan or the exempt status of any related trust. Each CombiMatrix Employee Plan has been maintained in compliance, in all material respects, with its terms and, both as to form and operation, with all applicable Legal Requirements, including the Code and ERISA. CombiMatrix and each CombiMatrix Affiliate has performed all obligations required to be performed by it under, is not in default under or in violation of, and has no knowledge of any default or violation by any other party to, any of the CombiMatrix Employee Plans. Neither CombiMatrix nor any CombiMatrix Affiliate is subject to any Liability or penalty under Sections 4976 through 4980 of the Code or Title I of ERISA with respect to any of the CombiMatrix Employee Plans. All contributions required to be made by CombiMatrix or any CombiMatrix Affiliate to any CombiMatrix Employee Plan have been made on or before their due dates (and no further contributions will be due or will have accrued thereunder as of the Closing Date, other than contributions accrued in the Ordinary Course of Business consistent with past practice). No suit, administrative proceeding, action or other litigation has been initiated against, or to the Knowledge of CombiMatrix, is threatened, against or with respect to any CombiMatrix Employee Plan, including any audit or inquiry by the IRS, United States Department of Labor or other Governmental Body.

(j) Neither CombiMatrix nor any CombiMatrix Subsidiary has engaged in any transaction in violation of Sections 404 or 406 of ERISA or any “prohibited transaction,” as defined in Section 4975(c)(1) of the Code, for which no exemption exists under Section 408 of ERISA or Section 4975(c)(2) or (d) of the Code, or has otherwise violated the provisions of Part 4 of Title I, Subtitle B of ERISA. Neither CombiMatrix nor any CombiMatrix Subsidiary has knowingly participated in a violation of Part 4 of Title I, Subtitle B of ERISA by any plan fiduciary of any CombiMatrix Employee Plan subject to ERISA and neither CombiMatrix nor any CombiMatrix Subsidiary has been assessed any civil penalty under Section 502(l) of ERISA.

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(k) No CombiMatrix Employee Plan is subject to Title IV or Section 302 of ERISA or Section 412 of the Code, and neither CombiMatrix nor any CombiMatrix Subsidiary or CombiMatrix Affiliate has ever maintained, contributed to or partially or completely withdrawn from, or incurred any obligation or liability with respect to, any such plan. No CombiMatrix Employee Plan is a Multiemployer Plan, and neither CombiMatrix nor any CombiMatrix Subsidiary or CombiMatrix Affiliate has ever contributed to or had an obligation to contribute, or incurred any liability in respect of a contribution, to any Multiemployer Plan. No CombiMatrix Employee Plan is a Multiple Employer Plan.

(l) Except as set forth in Section 2.13(l) of the CombiMatrix Disclosure Schedule, no CombiMatrix Employee Plan provides for medical or death benefits beyond termination of service or retirement, other than (i) pursuant to COBRA or an analogous state law requirement or (ii) death or retirement benefits under a CombiMatrix Employee Plan qualified under Section 401(a) of the Code. Neither CombiMatrix nor any CombiMatrix Affiliate sponsors or maintains any self-funded employee benefit plan. No CombiMatrix Employee Plan is subject to any Legal Requirement of any foreign jurisdiction outside of the United States.

(m) Except as set forth in Schedule 2.13(m), neither CombiMatrix nor any CombiMatrix Subsidiary is a party to any Contract that has resulted or would reasonably be expected to result, separately or in the aggregate, in the payment of (i) any “excess parachute payment” within the meaning of Section 280G of the Code and (ii) any amount the deduction for which would be disallowed under Section 162(m) of the Code.

(n) To the Knowledge of CombiMatrix, no payment pursuant to any CombiMatrix Employee Plan or other arrangement to any “service provider” (as such term is defined in Section 409A of the Code and the United States Treasury Regulations and IRS guidance thereunder) to CombiMatrix or any CombiMatrix Subsidiary, including the grant, vesting or exercise of any stock option, would subject any Person to tax pursuant to Section 409A(1) of the Code, whether pursuant to the Contemplated Transactions or otherwise.

(o) There is no Contract or arrangement to which CombiMatrix or, to the Knowledge of CombiMatrix, any CombiMatrix Affiliate is a party or by which it is bound to compensate any of its current or former employees, independent contractors or directors for additional income or excise taxes paid pursuant to Sections 409A or 4999 of the Code.

(p) CombiMatrix and each of its Subsidiaries has complied in all material respects with all state and federal laws applicable to employees, including COBRA, FMLA, CFRA, HIPAA, the Women’s Health and Cancer Rights Act of 1998, the Newborn’s and Mothers’ Health Protection Act of 1996, and any similar provisions of state law applicable to its employees. To the extent required under HIPAA and the regulations issued thereunder, CombiMatrix and each of its Subsidiaries has, prior to the Closing Date, performed all obligations under the medical privacy rules of HIPAA (45 C.F.R. Parts 160 and 164), the electronic data interchange requirements of HIPAA (45 C.F.R. Parts 160 and 162), and the security requirements of HIPAA (45 C.F.R. Part 142). Neither CombiMatrix nor any of its Subsidiaries has any unsatisfied obligations to any employees or qualified beneficiaries pursuant to COBRA, HIPAA or any state law governing health care coverage or extension. CombiMatrix and each CombiMatrix Affiliate is in compliance in all material respects with all applicable requirements of the Patient Protection and Affordable Care Act of 2010, as amended, and all regulations thereunder (together, the “*ACA*”), including all requirements relating to eligibility waiting periods and the offer of or provision of minimum essential coverage that is compliant with Section 36B(c)(2)(C) of the Code and the regulations issued thereunder to full-time employees as defined in Section 4980H(c)(4) of the Code and the regulations issued thereunder. No excise tax or penalty under the ACA, including Sections 4980D and 4980H of the Code, is outstanding, has accrued, or has arisen with respect to any period prior to the Closing, with respect to any CombiMatrix Employee Plan. Neither CombiMatrix nor any CombiMatrix Affiliate has any unsatisfied obligations to any employees or qualified beneficiaries pursuant to the ACA, or any state or local Legal Requirement governing health care coverage or benefits that would reasonably be expected to result in any material liability to CombiMatrix. CombiMatrix and each CombiMatrix Affiliate have maintained all records necessary to demonstrate its compliance with the ACA.

(q) CombiMatrix and each of its Subsidiaries is in material compliance with all applicable foreign, federal, state and local laws, rules and regulations respecting employment, employment practices, terms and

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conditions of employment, worker classification, tax withholding, equal employment, fair employment practices, meal and rest periods, immigration status, employee safety and health, wages (including overtime wages), compensation and hours of work, and in each case, with respect to employees: (i) has withheld and reported all amounts required by law or by agreement to be withheld and reported with respect to wages, salaries and other payments to employees, (ii) is not liable for any arrears of wages, severance pay or any Taxes or any penalty of any material amount for failure to comply with any of the foregoing, and (iii) is not liable for any payment to any trust or other fund governed by or maintained by or on behalf of any governmental authority, with respect to unemployment compensation benefits, social security or other benefits or obligations for employees (other than routine payments to be made in the normal course of business and consistent with past practice). There are no actions, suits, claims or administrative matters pending or, to the Knowledge of CombiMatrix, threatened against CombiMatrix or any of its Subsidiaries relating to any employee, employment agreement or CombiMatrix Employee Plan. There are no pending or, to the Knowledge of CombiMatrix, threatened claims or actions against CombiMatrix, any of its Subsidiaries, any CombiMatrix trustee or any trustee of any Subsidiary under any worker's compensation policy or long-term disability policy. Neither CombiMatrix nor any Subsidiary thereof is party to a conciliation agreement, consent decree or other agreement or order with any federal, state or local agency or governmental authority with respect to employment practices.

(r) Except as set forth in Section 2.13(r) of the CombiMatrix Disclosure Schedule, none of the execution and delivery of this Agreement, or the consummation of the Contemplated Transactions or any termination of employment or service or any other event in connection therewith or subsequent thereto will, individually or together or with the occurrence of some other event, (i) result in any payment (including severance, unemployment compensation, golden parachute, bonus or otherwise) becoming due to any employee, independent contractor or director of CombiMatrix, (ii) materially increase or otherwise enhance any benefits otherwise payable by CombiMatrix, (iii) result in the acceleration of the time of payment or vesting of any such benefits, except as required under Section 411(d)(3) of the Code, (iv) increase the amount of compensation due to any Person by CombiMatrix or (v) result in the forgiveness in whole or in part of any outstanding loans made by CombiMatrix to any Person.

(s) No current or former independent contractor of CombiMatrix who terminated service since January 1, 2011, would reasonably be deemed to be a misclassified employee. Except as set forth in Section 2.13(s) of the CombiMatrix Disclosure Schedule, no independent contractor is eligible to participate in any CombiMatrix Employee Plan. Neither CombiMatrix nor any of its Subsidiaries has any material liability with respect to any misclassification of: (a) any Person as an independent contractor rather than as an employee, (b) any employee leased from another employer or (c) any employee currently or formerly classified as exempt from overtime wages. Neither CombiMatrix nor any Subsidiary has taken any action which would constitute a "plant closing" or "mass layoff" within the meaning of the WARN Act or similar state or local law, issued any notification of a plant closing or mass layoff required by the WARN Act or similar state or local law, or incurred any liability or obligation under WARN or any similar state or local law that remains unsatisfied. No terminations of employees of CombiMatrix or any of its Subsidiaries prior to the Closing would trigger any notice or other obligations under the WARN Act or similar state or local law.

(t) With respect to each CombiMatrix Employee Plan, CombiMatrix has made available to Invitae a true and complete copy of, to the extent applicable, (i) such CombiMatrix Employee Plan, (ii) the three (3) most recent annual reports (Form 5500) as filed with the Internal Revenue Service, (iii) each currently effective trust agreement related to such CombiMatrix Employee Plan, (iv) the most recent summary plan description for each CombiMatrix Employee Plan for which such description is required, along with all summaries of material modifications, amendments, resolutions and all other material plan documentation related thereto in the possession of CombiMatrix, (v) the most recent Internal Revenue Service determination or opinion letter or analogous ruling under foreign law issued with respect to any CombiMatrix Employee Plan, (vi) all material notices, letters or other correspondence to or from any Governmental Body or agency thereof within the last three years, (vii) all non-discrimination tests for the most recent three plan years, (viii) all material written agreements and Contracts currently in effect, including administrative service agreements, group annuity contracts and group

insurance contracts, (ix) all material written employee communications within the past three years, and (x) all registration statements and prospectuses prepared in connection with each CombiMatrix Employee Plan.

2.14 Environmental Matters .

(a) CombiMatrix and each CombiMatrix Subsidiary is in compliance with all applicable Environmental Laws in all material respects, which compliance includes the possession by CombiMatrix of all required permits, licenses, or authorizations issued, granted, or given by or under the authority of any Governmental Body pursuant to any applicable Environmental Laws, and is in material compliance with the terms and conditions thereof. Neither CombiMatrix nor any CombiMatrix Subsidiary has received since January 1, 2014 any written notice or other communication, whether from a Governmental Body, citizens group, employee or otherwise, that alleges that CombiMatrix or any CombiMatrix Subsidiary is not in material compliance with any Environmental Law. To the Knowledge of CombiMatrix, there are no circumstances that may prevent or interfere with CombiMatrix's or any of its Subsidiaries' compliance with any Environmental Law in the future. Since January 1, 2014: (i) no current or prior real property leased or controlled by CombiMatrix or any of its Subsidiaries is or has become subject to any written notice or other communication, whether from a Governmental Body, citizens group, employee or otherwise, alleging material liability against CombiMatrix or any CombiMatrix Subsidiary on the basis that such real property is not in compliance with or has violated any Environmental Law relating to such property; and (ii) neither it nor any of its Subsidiaries has any unresolved material liability under any applicable Environmental Law.

(b) Notwithstanding any other provisions of this Agreement, the representations and warranties of this [Section 2.14](#) are the sole and exclusive representations by CombiMatrix or any CombiMatrix Subsidiary with respect to compliance with any Environmental Laws.

2.15 Insurance .

(a) CombiMatrix has delivered to Invitae accurate and complete copies of all material insurance policies and all material self-insurance programs and arrangements relating to the business, assets, liabilities and operations of CombiMatrix and each CombiMatrix Subsidiary. Each of such insurance policies is in full force and effect and CombiMatrix and each CombiMatrix Subsidiary are in compliance with the terms thereof. Other than customary end of policy notifications from insurance carriers, since January 1, 2014, neither CombiMatrix nor any CombiMatrix Subsidiary has received any written notice or other communication regarding any actual or possible: (i) cancellation or invalidation of any insurance policy; (ii) refusal or denial of any coverage, reservation of rights or rejection of any material claim under any insurance policy; or (iii) material adjustment in the amount of the premiums payable with respect to any insurance policy. There is no pending workers' compensation or other claim under or based upon any insurance policy of CombiMatrix or any CombiMatrix Subsidiary. All information provided to insurance carriers (in applications and otherwise) on behalf of CombiMatrix and each CombiMatrix Subsidiary is accurate and complete in all material respects. CombiMatrix and each CombiMatrix Subsidiary have provided timely written notice to the appropriate insurance carrier(s) of each Legal Proceeding pending or threatened against CombiMatrix or any CombiMatrix Subsidiary, and no such carrier has issued a written denial of coverage or a reservation of rights with respect to any such Legal Proceeding, or informed CombiMatrix or any CombiMatrix Subsidiary in writing of its intent to do so.

(b) CombiMatrix has delivered to Invitae accurate and complete copies of the existing policies (primary and excess) of directors' and officers' liability insurance maintained by CombiMatrix and each CombiMatrix Subsidiary as of the date of this Agreement (the "*CombiMatrix D&O Policies*"). [Section 2.15\(b\)](#) of the CombiMatrix Disclosure Schedule accurately sets forth the most recent annual premiums paid by CombiMatrix and each CombiMatrix Subsidiary with respect to the CombiMatrix D&O Policies. All premiums for the CombiMatrix D&O Policies have been paid.

2.16 Legal Proceedings; Orders .

(a) Except as set forth in [Section 2.16\(a\)](#) of the CombiMatrix Disclosure Schedule, there is no pending Legal Proceeding, and, to the Knowledge of CombiMatrix, no Person has threatened in writing to commence any

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Legal Proceeding: (i) that involves CombiMatrix or any of its Subsidiaries, any CombiMatrix Associate (in his or her capacity as such) or any of the material assets owned or used by CombiMatrix or its Subsidiaries; or (ii) that challenges, or that may have the effect of preventing, delaying, making illegal or otherwise interfering with, the Merger or any of the other Contemplated Transactions. To the Knowledge of CombiMatrix, no event has occurred, and no claim, dispute or other condition or circumstance exists, that will, or that would reasonably be expected to, give rise to or serve as a basis for the commencement of any such Legal Proceeding.

(b) There is no order, writ, injunction, judgment or decree to which CombiMatrix or any CombiMatrix Subsidiary, or any of the material assets owned or used by CombiMatrix or any CombiMatrix Subsidiary is subject. To the Knowledge of CombiMatrix, no officer or other Key Employee of CombiMatrix or any CombiMatrix Subsidiary is subject to any order, writ, injunction, judgment or decree that prohibits such officer or other Key Employee from engaging in or continuing any conduct, activity or practice relating to the business of CombiMatrix or any CombiMatrix Subsidiary or to any material assets owned or used by CombiMatrix or any CombiMatrix Subsidiary.

2.17 Authority; Binding Nature of Agreement . CombiMatrix and each CombiMatrix Subsidiary has all necessary corporate power and authority to enter into and to perform its obligations under this Agreement. The CombiMatrix Board of Directors (at one or more meetings duly called and held) has: (a) determined that the Merger is advisable and fair to and in the best interests of CombiMatrix and its stockholders; (b) duly authorized and approved by all necessary corporate action, the execution, delivery and performance of this Agreement and the Contemplated Transactions, including the Merger; and (c) recommended adoption and approval of the Merger Proposal, including the adoption and approval of this Agreement and the Merger, by the holders of CombiMatrix Common Stock and directed that the Merger Proposal be submitted for consideration by CombiMatrix's stockholders in connection with the solicitation of the Required CombiMatrix Stockholder Vote. This Agreement has been duly executed and delivered by CombiMatrix and, assuming the due authorization, execution and delivery by Invitae, constitutes the legal, valid and binding obligation of CombiMatrix, enforceable against CombiMatrix in accordance with its terms, subject to: (i) laws of general application relating to bankruptcy, insolvency and the relief of debtors; and (ii) rules of law governing specific performance, injunctive relief and other equitable remedies. Prior to the execution of the CombiMatrix Transaction Bonus Payout Agreements, the CombiMatrix Board of Directors approved the CombiMatrix Transaction Bonus Payout Agreements and the transactions contemplated thereby.

2.18 Inapplicability of Anti-takeover Statutes . The CombiMatrix Board of Directors has taken and will take all actions necessary to ensure that the restrictions applicable to business combinations contained in Section 203 of the DGCL are, and will be, inapplicable to the execution, delivery and performance of this Agreement and to the consummation of the Merger and the other Contemplated Transactions. No other state takeover statute or similar Legal Requirement applies or purports to apply to the Merger, this Agreement, or any of the other Contemplated Transactions.

2.19 Vote Required . The affirmative vote of a majority of the shares of CombiMatrix Common Stock outstanding on the record date for the CombiMatrix Special Meeting and entitled to vote thereon (the "**Required CombiMatrix Stockholder Vote**") is the only vote of the holders of any class or series of CombiMatrix Capital Stock necessary to adopt or approve the Merger Proposal.

2.20 Non-Contravention; Consents .

(a) Neither the execution, delivery or performance of this Agreement by CombiMatrix, nor the consummation of the Merger or any of the Contemplated Transactions, will: (i) violate or conflict with any provision of the certificate of incorporation or the bylaws of CombiMatrix; or (ii) constitute a material violation of, or be in conflict in any material respect with, any statute, judgment, decree, order, regulation or rule of any court or Governmental Authority applicable to CombiMatrix.

(b) No Consent of or Filing with any Governmental Authority is required for the execution and delivery by CombiMatrix of this Agreement or the consummation by CombiMatrix of the Contemplated

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Transactions, except for (i) the filing with the SEC of such reports under the Exchange Act and the Form S-4 Merger Registration Statement under the Securities Act as may be required in connection with this Agreement and the Contemplated Transactions, (ii) compliance with, and if applicable, the filing of a premerger notification and report form under the HSR Act, (iii) the filing of the Certificate of Merger with the Secretary of State of the State of Delaware pursuant to the DGCL, and (iv) any filing with NASDAQ.

(c) Except (i) for any Consent set forth in Section 2.20(c) of the CombiMatrix Disclosure Schedule under any CombiMatrix Contract, (ii) the adoption and approval of the Merger Proposal by CombiMatrix's stockholders, (iii) any Consents or Filings described in Section 2.20(b), and (iv) such Consents, orders and Filings as may be required under applicable federal and state securities laws, neither CombiMatrix nor any of its Subsidiaries was, is or will be required to make any Filing with or give any notice to, or to obtain any Consent from, any Person in connection with (x) the execution, delivery or performance of this Agreement or (y) the consummation of the Merger or any of the other Contemplated Transactions.

2.21 Bank Accounts; Receivables .

(a) Section 2.21(a) of the CombiMatrix Disclosure Schedule provides accurate information with respect to each account maintained by or for the benefit of CombiMatrix or any CombiMatrix Subsidiary at any bank or other financial institution, including the name of the bank or financial institution, the account number, the balance as of June 30, 2017 and the names of all individuals authorized to draw on or make withdrawals from such accounts.

(b) All existing accounts receivable of CombiMatrix or any CombiMatrix Subsidiary (including those accounts receivable reflected on the CombiMatrix Unaudited Interim Balance Sheet that have not yet been collected and those accounts receivable that have arisen since the date of the CombiMatrix Unaudited Interim Balance Sheet and have not yet been collected) (i) represent valid obligations of customers of CombiMatrix or any CombiMatrix Subsidiary arising from bona fide transactions entered into in the Ordinary Course of Business, and (ii) are current and are expected to be collected in full when due, without any counterclaim or set off, net of applicable reserves for bad debts on the CombiMatrix Unaudited Interim Balance Sheet. All deposits of CombiMatrix (including those set forth on the CombiMatrix Unaudited Interim Balance Sheet) which are individually more than \$10,000 or more than \$25,000 in the aggregate are fully refundable to CombiMatrix.

2.22 No Financial Advisor . Except as set forth in Section 2.22 of the CombiMatrix Disclosure Schedule, no broker, finder or investment banker is entitled to any brokerage fee, finder's fee, opinion fee, success fee, transaction fee or other fee or commission in connection with the Merger or any of the other Contemplated Transactions based upon arrangements made by or on behalf of CombiMatrix or any of its Subsidiaries.

2.23 Opinion of Financial Advisor . The CombiMatrix Board of Directors (in its capacity as such) has received an opinion of Torreya Partners LLC, financial advisor to CombiMatrix, to the effect that, as of the date of such opinion and based upon and subject to the various assumptions, qualifications and limitations set forth therein, the Exchange Ratio is fair to CombiMatrix from a financial point of view. Promptly following execution of this Agreement, CombiMatrix will furnish an accurate and complete copy of such opinion to Invitae.

2.24 Shell Company Status . CombiMatrix is not an issuer identified in Rule 144(i)(1) or of the Securities Act or a shell company as defined in Rule 12b-2 of the Exchange Act.

2.25 Transactions with Affiliates . Since the date of CombiMatrix's last proxy statement filed in 2017 with the SEC, no event has occurred that would be required to be reported by CombiMatrix pursuant to Item 404 of Regulation S-K promulgated by the SEC. Section 2.25 of the CombiMatrix Disclosure Schedule identifies each Person who is (or who may be deemed to be) an Affiliate of CombiMatrix as of the date of this Agreement.

2.26 Code of Ethics . CombiMatrix has adopted a code of ethics, as defined by Item 406(b) of Regulation S-K of the SEC, for senior financial officers, applicable to its principal executive officer, principal financial

officer, controller or principal accounting officer, or persons performing similar functions. CombiMatrix has promptly disclosed any change in or waiver of CombiMatrix's code of ethics with respect to any such persons, as required by Section 406(b) of the Sarbanes-Oxley Act. To the Knowledge of CombiMatrix, there have been no violations of provisions of CombiMatrix's code of ethics by any such persons.

2.27 Disclosure . The information supplied by CombiMatrix and each CombiMatrix Subsidiary for inclusion in the Form S-4 Merger Registration Statement and Proxy Statement/Prospectus (including any CombiMatrix financials) will not, at the time that the Proxy Statement/Prospectus or any amendment or supplement thereto is filed with the SEC or is first mailed to the stockholders of CombiMatrix, at the time of the CombiMatrix Stockholders' Meeting and at the Effective Time, (i) contain any untrue statement of material fact or (ii) omit to state any material fact necessary in order to make such statements, in the light of the circumstances under which such statements are made, not misleading. The information supplied by CombiMatrix and each CombiMatrix Subsidiary for inclusion in the Form S-4 Warrant Exchange Offer Registration Statement or in the other Offer Documents (including any CombiMatrix financials) will not, as of the date any Offer Document is first mailed to holders of CombiMatrix Series F Warrants and at the Closing, (i) contain any untrue statement of material fact or (ii) omit to state any material fact necessary in order to make such statements, in the light of the circumstances under which such statements are made, not misleading.

2.28 Exclusivity of Representations . Except as expressly set forth in this [Section 2](#), neither CombiMatrix nor any Person on behalf of CombiMatrix has made, nor are any of them making, any representation or warranty, written or oral, express or implied, at law or in equity, including with respect to merchantability or fitness for any particular purpose, in respect of CombiMatrix or its business in connection with the Contemplated Transactions, including any representations or warranties about the accuracy or completeness of any information or documents previously provided (including with respect to any financial or other projections therein), and any other such representations and warranties are hereby expressly disclaimed.

Section 3. REPRESENTATIONS AND WARRANTIES OF INVITAE AND MERGER SUB

Invitae and Merger Sub represent and warrant to CombiMatrix as follows, except as set forth in the written disclosure schedule delivered by Invitae to CombiMatrix (the "**Invitae Disclosure Schedule** "). The Invitae Disclosure Schedule shall be arranged in sections and subsections corresponding to the numbered and lettered sections and subsections contained in this [Section 3](#). The disclosures in any section or subsection of the Invitae Disclosure Schedule shall qualify other sections and subsections in this [Section 3](#) to the extent it is reasonably clear from a reading of the disclosure that such disclosure is applicable to such other sections and subsections. The inclusion of any information in the Invitae Disclosure Schedule (or any update thereto) shall not be deemed to be an admission or acknowledgment, in and of itself, that such information is required by the terms hereof to be disclosed, is material, has resulted in or would result in an Invitae Material Adverse Effect, or is outside the Ordinary Course of Business.

3.1 Organization; Authority; Enforceability . Each of Invitae and Merger Sub is a corporation duly incorporated, validly existing and in good standing under the laws of Delaware. All corporate action (including, with respect to Merger Sub, by its sole stockholder) required to be taken in order to authorize Invitae and Merger Sub to enter into this Agreement has been taken. All action on the part of the officers of Invitae and Merger Sub necessary for the execution and delivery of this Agreement and the performance of all obligations of Invitae and Merger Sub under this Agreement has been taken (other than, with respect to the consummation of the Merger, the filing of a certificate of merger with the Secretary of State of the State of Delaware). This Agreement has been duly executed and delivered by Invitae and Merger Sub and constitutes the legal, valid and binding obligation of Invitae and Merger Sub, enforceable against Invitae and Merger Sub in accordance with its terms except (i) as limited by applicable bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance, or other laws of general application relating to or affecting the enforcement of creditors' rights generally, or (ii) as limited by laws relating to the availability of specific performance, injunctive relief, or other equitable remedies. Invitae and Merger Sub are each qualified to do business as a foreign corporation, and is in good

standing, under the laws of all jurisdictions where the nature of its business requires such qualification other than in jurisdictions where the failure to be so qualified individually or in the aggregate would not be reasonably expected to have an Invitae Material Adverse Effect.

3.2 Non-Contravention; Governmental Consents .

(a) Neither the execution, delivery or performance of this Agreement by Invitae or Merger Sub, nor the consummation of the Merger or any of the Contemplated Transactions, will: (i) violate or conflict with any provision of the respective certificates of incorporation or the bylaws of Invitae or Merger Sub; or (ii) to the Knowledge of Invitae, constitute a material violation of, or be in conflict in any material respect with, any statute, judgment, decree, order, regulation or rule of any court or Governmental Authority applicable to Invitae or Merger Sub.

(b) No Consent of or Filing with any Governmental Authority is required for the execution and delivery by Invitae or Merger Sub of this Agreement or the consummation by Invitae or Merger Sub of the Contemplated Transactions, except for (i) the filing with the SEC of the Form S-4 Merger Registration Statement, the Form S-4 Warrant Exchange Offer Registration Statement and any other applicable Offer Documents, and such reports under the Exchange Act and under the Securities Act as may be required in connection with this Agreement and the Contemplated Transactions, (ii) compliance with and, if applicable, the filing of a premerger notification and report form under the HSR Act, (iii) the filing of the Certificate of Merger with the Secretary of State of the State of Delaware pursuant to the DGCL, (iv) the filing with The New York Stock Exchange (the “*NYSE*”) in respect of the shares of Invitae Common Stock issuable pursuant to this Agreement (with respect to both the Merger and the Warrant Exchange Offer) and (iv) such Consents, orders and Filings as may be required under applicable federal or state securities laws.

3.3 SEC Documents.

(a) Invitae has filed all reports required to be filed by it with the SEC since January 1, 2017, and Invitae has made available to CombiMatrix (including through the SEC’s EDGAR database) true, correct and complete copies of all such reports (collectively, the “*Invitae SEC Documents*”). As of their respective dates, each of the Invitae SEC Documents complied in all material respects with the applicable requirements of the Exchange Act, and none of the Invitae SEC Documents, as of their respective dates, contained any untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary in order to make the statements made therein, in light of the circumstances under which they were made, not misleading. All statements, reports, schedules, forms and other documents required to have been filed by Invitae or its officers with the SEC have been so filed on a timely basis. The certifications and statements required by (A) Rule 13a-14 under the Exchange Act and (B) 18 U.S.C. §1350 (Section 906 of the Sarbanes-Oxley Act) relating to the Invitae SEC Documents (collectively, the “*Invitae Certifications*”) are accurate and complete and comply as to form and content with all applicable Legal Requirements. As used in this Section 3, the term “file” and variations thereof shall be broadly construed to include any manner in which a document or information is furnished, supplied or otherwise made available to the SEC.

(b) Each of the consolidated financial statements (including, in each case, any notes thereto) contained in the Invitae SEC Documents was prepared in accordance with GAAP throughout the periods indicated (except as may be indicated in the notes thereto and except that financial statements included with interim reports do not contain all notes to such financial statements) and each fairly presented in all material respects the consolidated financial position, results of operations and changes in stockholders’ equity and cash flows of Invitae and its consolidated subsidiaries as at the respective dates thereof and for the respective periods indicated therein (subject, in the case of unaudited statements, to normal year-end adjustments which are not expected, individually or in the aggregate, to be material). Other than as expressly disclosed in the Invitae SEC Documents filed prior to the date of this Agreement, there has been no material change in Invitae’s accounting methods or principles prior to the date of this Agreement that would be required to be disclosed in Invitae’s financial statements in accordance with GAAP. The books of account and other financial records of Invitae are true and complete in all material respects.

(c) Invitae is in compliance in all material respects with the applicable provisions of the Sarbanes-Oxley Act and the applicable listing and governance rules and regulations of The NYSE.

(d) Invitae’s “disclosure controls and procedures” (as defined in Rules 13a-15(e) and 15d-15(e) of the Exchange Act) are reasonably designed to ensure that all information (both financial and non-financial) required to be disclosed by Invitae in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the rules and forms of the SEC, and that all such information is accumulated and communicated to Invitae’s management as appropriate to allow timely decisions regarding required disclosure and to make the Invitae Certifications.

3.4 Compliance; Permits . Invitae is in compliance in all material respects with all applicable Legal Requirements. Except for that certain Loan and Security Agreement dated as of March 15, 2017 between Oxford Capital, LLC and Invitae (as it may be amended from time to time), and the condition to closing contemplated by Section 7.8 (*i.e.* , the Oxford Consent), there is no agreement, judgment, injunction, order or decree binding upon Invitae which (i) may have an adverse effect on Invitae’s ability to comply with or perform any covenant or obligation under this Agreement, or (ii) may have the effect of preventing, delaying, making illegal or otherwise interfering with the Merger or any of the other Contemplated Transactions. Invitae holds all required Governmental Authorizations issuable by any Governmental Body necessary for the conduct of the business of Invitae as currently conducted (the “ **Invitae Regulatory Permits** ”), except where the absence of any Governmental Authorization would not be reasonably expected to have an Invitae Material Adverse Effect, and, to the Knowledge of Invitae, no such Invitae Regulatory Permit has been (i) revoked, withdrawn, suspended, cancelled or terminated or (ii) modified in any adverse manner, other than immaterial adverse modifications.

3.5 No Financial Advisor . No broker, finder or investment banker is entitled to any brokerage fee, finder’s fee, opinion fee, success fee, transaction fee or other fee or commission in connection with the Merger or any of the other Contemplated Transactions based upon arrangements made by or on behalf of Invitae.

3.6 Legal Proceedings; Orders . There is no pending Legal Proceeding, and, to the Knowledge of Invitae, no Person has threatened in writing to commence any Legal Proceeding, that challenges, or that may have the effect of preventing, delaying, making illegal or otherwise interfering with, the Merger or any of the other Contemplated Transactions.

3.7 Shares of Common Stock . The shares of Invitae Common Stock to be issued and delivered to the CombiMatrix Stockholders as the Merger Consideration in accordance with this Agreement, when so issued and delivered, have been or will be, when issued, (i) duly authorized, validly issued, fully paid and nonassessable and not subject to preemptive rights created by statute, Invitae’s certificate of incorporation or bylaws or any agreement to which Invitae is a party, and (ii) issued in compliance with applicable Legal Requirements, including securities laws, and all material requirements set forth in applicable Contracts.

3.8 No Vote of Invitae Stockholders . Except for the adoption of this Agreement by Invitae as the sole stockholder of Merger Sub, no vote of the stockholders of Invitae is required by any Legal Requirement or the certificate of incorporation or bylaws of Invitae in order for Invitae to consummate the Merger or the Warrant Exchange Offer.

3.9 Lack of Ownership of Shares . As of the date of this Agreement, neither Invitae nor any of its Subsidiaries owns, directly or indirectly, any securities of CombiMatrix.

3.10 Merger Sub Capitalization . The authorized capital stock of Merger Sub consists of 1,000 shares of common stock, par value \$0.001 per share, all of which are validly issued and outstanding. All of the issued and outstanding capital stock of Merger Sub is, and at the Effective Time will be, owned by Invitae. Merger Sub was formed solely for the purpose of engaging in the Contemplated Transactions, and it has not conducted any business prior to the date of this Agreement and has no, and prior to the Effective Time will have no, assets, liabilities or obligations of any nature other than those incident to its formation and pursuant to this Agreement, the Merger and the other actions contemplated by this Agreement.

3.11 Disclosure . The information supplied by Invitae for inclusion in the Form S-4 Merger Registration Statement and Proxy Statement/Prospectus (including any Invitae financials) will not, at the time that the Proxy Statement/Prospectus or any amendment or supplement thereto is filed with the SEC or is first mailed to the stockholders of CombiMatrix, at the time of the CombiMatrix Stockholders' Meeting and at the Effective Time, (i) contain any untrue statement of material fact or (ii) omit to state any material fact necessary in order to make such statements, in the light of the circumstances under which such statements are made, not misleading. The information supplied by Invitae for inclusion in the Form S-4 Warrant Exchange Offer Registration Statement or in the other Offer Documents (including any Invitae financials) will not, as of the date any Offer Document is first mailed to holders of CombiMatrix Series F Warrants and at the Closing, (i) contain any untrue statement of material fact or (ii) omit to state any material fact necessary in order to make such statements, in the light of the circumstances under which such statements are made, not misleading.

3.12 Exclusivity of Representations . Except as expressly set forth in this [Section 3](#), neither Invitae, Merger Sub, nor any Person on behalf of Invitae or Merger Sub has made, nor are any of them making, any representation or warranty, written or oral, express or implied, at law or in equity, including with respect to merchantability or fitness for any particular purpose, in respect of Invitae or its business in connection with the Contemplated Transactions, including any representations or warranties about the accuracy or completeness of any information or documents previously provided (including with respect to any financial or other projections therein), and any other such representations and warranties are hereby expressly disclaimed.

Section 4. CERTAIN COVENANTS OF THE PARTIES

4.1 Access and Investigation .

(a) Subject to the terms of the Confidentiality Agreement which the Parties agree will continue in full force following the date of this Agreement, during the period commencing on the date of this Agreement and ending at the Effective Time (the "**Pre-Closing Period**"), upon reasonable notice CombiMatrix shall, and shall use commercially reasonable efforts to cause CombiMatrix's Representatives to: (a) provide Invitae and Invitae's Representatives with reasonable access during normal business hours to CombiMatrix's Representatives, personnel and assets and to all existing books, records, Tax Returns, work papers and other documents and information relating to CombiMatrix and its Subsidiaries; (b) provide Invitae and Invitae's Representatives with such copies of the existing books, records, Tax Returns, work papers, product, technology and service data, and other documents and information relating to CombiMatrix and its Subsidiaries, and with such additional financial, operating and other data and information regarding CombiMatrix and its Subsidiaries as Invitae may reasonably request; and (c) permit Invitae's officers and other employees to meet, upon reasonable notice and during normal business hours, with the chief financial officer and other officers and managers of CombiMatrix responsible for CombiMatrix's financial statements and the internal controls of CombiMatrix to discuss such matters as Invitae deem necessary or appropriate in order to enable Invitae to satisfy its obligations under the Sarbanes-Oxley Act and the rules and regulations relating thereto. Without limiting the generality of any of the foregoing, during the Pre-Closing Period, CombiMatrix shall promptly make available to Invitae copies of:

(i) the unaudited monthly consolidated balance sheets of CombiMatrix as of the end of each calendar month and the related unaudited monthly consolidated statements of operations, statements of stockholders' equity and statements of cash flows for such calendar month, which shall be delivered within 20 days after the end of such calendar month, or such longer periods as Invitae may agree to in writing;

(ii) all material operating and financial reports prepared by CombiMatrix for its senior management, including sales forecasts, marketing plans, development plans, discount reports, write-off reports, hiring reports and capital expenditure reports prepared for its management;

(iii) any written materials or communications sent by or on behalf of CombiMatrix to its stockholders;

(iv) any intended filing under the Exchange Act, which shall be delivered in the proposed form for filing at least two (2) Business Days before the proposed date of filing (to the extent practicable);

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(v) any material notice, document or other communication sent by or on behalf of CombiMatrix to any party to any CombiMatrix Material Contract or sent to CombiMatrix by any party to any CombiMatrix Material Contract (other than any communication that relates solely to routine commercial transactions between CombiMatrix and the other party to any such CombiMatrix Material Contract, and that is of the type sent in the Ordinary Course of Business and consistent with past practices);

(vi) any notice, report or other document filed with or otherwise furnished, submitted or sent to any Governmental Body on behalf of CombiMatrix in connection with the Merger or any of the Contemplated Transactions;

(vii) any non-privileged notice, document or other communication sent by or on behalf of, or sent to, CombiMatrix relating to any pending or threatened Legal Proceeding involving or affecting CombiMatrix; and

(viii) any material notice, report or other document received by CombiMatrix from any Governmental Body.

Notwithstanding the foregoing, CombiMatrix may restrict the foregoing access to the extent that (x) any Legal Requirement applicable to CombiMatrix requires CombiMatrix to restrict or prohibit access to any of CombiMatrix's properties or information or (y) such access or disclosure would jeopardize the attorney-client privilege of such information.

(b) Invitae and Invitae's Representatives, respectively, will not use any information obtained pursuant to Section 4.1(a) (to which it was not entitled under any Legal Requirement or any agreement other than this Agreement) for any purpose unrelated (i) to the consummation of the Contemplated Transactions or (ii) the matters contemplated by this Agreement, and will hold all information and documents obtained pursuant to Section 4.1(a) subject to the terms of the Confidentiality Agreement.

4.2 Operation of CombiMatrix's Business .

(a) During the Pre-Closing Period: (i) CombiMatrix shall conduct its business and operations solely: (A) in the Ordinary Course of Business; and (B) in compliance with all applicable Legal Requirements, Health Laws, Information Privacy and Security Laws, Trade Control Laws, CombiMatrix Regulatory Permits, CAP standards of accreditation, Payment Programs, and the requirements of all Contracts that constitute CombiMatrix Material Contracts; (ii) CombiMatrix shall continue to pay outstanding accounts payable and other current Liabilities (including payroll) when due and payable; and (iii) CombiMatrix shall promptly notify Invitae of: (A) any notice or other communication from any Person alleging that the Consent of such Person is or may be required in connection with any of the Contemplated Transactions; (B) any Legal Proceeding against, relating to, involving or otherwise affecting CombiMatrix that is commenced, or, to the Knowledge of CombiMatrix, threatened against, CombiMatrix after the date of this Agreement; and (C) any notice or other communication from any Person alleging that any payment or other obligation is or will be owed to such Person at any time before or after the date of this Agreement, except for invoices or other communications related to agreements or dealings in the Ordinary Course of Business or payments or obligations identified in this Agreement, including the CombiMatrix Disclosure Schedule. CombiMatrix shall, acting in the Ordinary Course of Business, use commercially reasonable efforts to preserve intact the Acquired Corporations' current business organization, including keeping available the services of current officers and key employees, and use commercially reasonable efforts to maintain their respective relations and good will with Governmental Bodies and all significant suppliers, customers, licensors, licensees, distributors and lessors and other significant business relations.

(b) During the Pre-Closing Period, CombiMatrix shall promptly notify Invitae in writing, by delivering an updated CombiMatrix Disclosure Schedule, of: (i) the discovery by CombiMatrix of any event, condition, fact or circumstance that occurred or existed on or prior to the date of this Agreement and that causes or constitutes a material inaccuracy in any representation or warranty made by CombiMatrix in this Agreement in a manner that would cause the conditions set forth in Section 7.1 not to be satisfied; (ii) any event, condition, fact or circumstance that occurs, arises or exists after the date of this Agreement and that would cause or constitute a

material inaccuracy in any representation or warranty made by CombiMatrix in this Agreement in a manner that would cause the conditions set forth in [Section 7.1](#) not to be satisfied if: (A) such representation or warranty had been made as of the time of the occurrence, existence or discovery of such event, condition, fact or circumstance; or (B) such event, condition, fact or circumstance had occurred, arisen or existed on or prior to the date of this Agreement; (iii) any material breach of any covenant or obligation of CombiMatrix; and (iv) any event, condition, fact or circumstance that would reasonably be expected to make the timely satisfaction of any of the conditions set forth in [Section 6](#), [Section 7](#) and [Section 8](#) impossible or materially less likely. Without limiting the generality of the foregoing, CombiMatrix shall promptly advise Invitae in writing of any Legal Proceeding or material, written claim threatened, commenced or asserted against or with respect to, or otherwise affecting, CombiMatrix or, to the Knowledge of CombiMatrix, any director, officer or Key Employee of CombiMatrix. No notification given to Invitae (including pursuant to this [Section 4.2\(b\)](#)) shall change, limit or otherwise affect any of the representations, warranties, covenants or obligations of CombiMatrix or any of its Subsidiaries contained in this Agreement or the CombiMatrix Disclosure Schedule (including for purposes of [Section 7.1](#))

4.3 Negative Obligations .

Except (i) as expressly contemplated or permitted by this Agreement or (ii) with the prior written consent of Invitae, at all times during the period commencing with the execution and delivery of this Agreement and continuing until the earlier to occur of the termination of this Agreement pursuant to [Section 9](#) and the Effective Time, CombiMatrix shall not, nor shall it cause or permit any of its Subsidiaries to, do any of the following:

(a) declare, accrue, set aside or pay any dividend or made any other distribution in respect of any shares of its capital stock; or repurchase, redeem or otherwise reacquire any shares of its capital stock or other securities (except for shares of CombiMatrix Common Stock from terminated employees of CombiMatrix);

(b) sell, issue or grant, or authorize the issuance of: (i) any capital stock or other security (except for shares of CombiMatrix Common Stock issued upon the valid exercise of CombiMatrix Options, CombiMatrix RSUs or CombiMatrix Warrants outstanding as of the date of this Agreement); (ii) any option, warrant or right to acquire any capital stock or any other security; or (iii) any instrument convertible into or exchangeable for any capital stock or other security;

(c) amend its certificate of incorporation, bylaws or other charter or organizational documents, or effect or be a party to any merger, consolidation, share exchange, business combination, recapitalization, reclassification of shares, stock split, reverse stock split or similar transaction except as related to the Contemplated Transactions;

(d) form any Subsidiary or acquire any equity interest or other interest in any other Entity;

(e) lend money to any Person; other than in the Ordinary Course of Business, incur or guarantee any indebtedness for borrowed money; issue or sell any debt securities or options, warrants, calls or other rights to acquire any debt securities; guarantee any debt securities of others; or, other than in the Ordinary Course of Business, make any capital expenditure or commitment;

(f) adopt, establish or enter into any CombiMatrix Employee Plan; cause or permit any CombiMatrix Employee Plan to be amended other than as required by law or in order to make amendments for the purposes of compliance with Section 409A of the Code; except as set forth on [Schedule 4.3\(f\)](#), pay any bonus or make any profit-sharing or similar payment to, or increase the amount of the wages, salary, commissions, fringe benefits or other compensation or remuneration payable to, any of its directors, employees or consultants; or pay or increase the severance or change of control benefits offered to any current or new employee or consultant;

(g) enter into any material transaction outside the Ordinary Course of Business;

(h) purchase, lease, license or otherwise acquire, or sell, lease, license or otherwise dispose of, any asset, right or property, or grant any Encumbrance with respect to any asset, right or property, except in the Ordinary Course of Business consistent with past practices;

(i) make, change or revoke any material Tax election; file any material amendment to any Tax Return; adopt or change any accounting method in respect of Taxes; change any annual Tax accounting period; enter into any Tax allocation agreement, Tax sharing agreement or Tax indemnity agreement, other than commercial contracts entered into in the Ordinary Course of Business with vendors, customers or landlords; enter into any closing agreement with respect to any Tax; settle or compromise any claim, notice, audit report or assessment in respect of material Taxes; apply for or enter into any ruling from any Tax authority with respect to Taxes; surrender any right to claim a material Tax refund; or consent to any extension or waiver of the statute of limitations period applicable to any material Tax claim or assessment;

(j) without the prior written consent of Invitae which shall not be unreasonably withheld, delayed or conditioned, enter into, amend or terminate any CombiMatrix Material Contract;

(k) without the prior written consent of Invitae which shall not be unreasonably withheld, delayed or conditioned, (i) materially change pricing, royalties or other payments set or charged to its customers or licensees, or (ii) materially increase pricing, royalties or other payments set or charged by vendors or persons who have licensed Intellectual Property to it; or

(l) agree, resolve or commit to do any of the foregoing.

4.4 No Solicitation .

(a) CombiMatrix agrees that neither it nor any of its Subsidiaries shall, nor shall it nor any of its Subsidiaries authorize or permit any of the Representatives retained by it or any of its Subsidiaries to, directly or indirectly: (i) solicit, initiate, respond to or take any action to facilitate or encourage any inquiries or the communication, making, submission or announcement of any Acquisition Proposal or Acquisition Inquiry or take any action that could reasonably be expected to lead to an Acquisition Proposal or Acquisition Inquiry; (ii) enter into or participate in any discussions or negotiations with any Person with respect to any Acquisition Proposal or Acquisition Inquiry; (iii) furnish any information regarding CombiMatrix or any of its Subsidiaries to any Person in connection with, in response to, relating to or for the purpose of assisting with or facilitating an Acquisition Proposal or Acquisition Inquiry; (iv) approve, endorse or recommend any Acquisition Proposal (subject to [Section 5.2](#)); (v) execute or enter into any letter of intent or similar document or any Contract contemplating or otherwise relating to any Acquisition Transaction (an “*Acquisition Agreement*”); or (vi) grant any waiver or release under any confidentiality, standstill or similar agreement (other than to Invitae) .

(b) Notwithstanding anything contained in [Section 4.4\(a\)](#), prior to the Merger Proposal having been adopted and approved at the CombiMatrix Stockholders’ Meeting (or any adjournment or postponement thereof) by the Required CombiMatrix Stockholder Vote, (i) CombiMatrix may enter into discussions or negotiations with any Person that has made (and not withdrawn) a bona fide, unsolicited, Acquisition Proposal, which CombiMatrix’s Board of Directors determines in good faith, after consultation with its independent financial advisor, if any, and its outside legal counsel, constitutes, or would reasonably be expected to result in, a Superior Offer, and (ii) thereafter furnish to such Person non-public information regarding CombiMatrix pursuant to an executed confidentiality agreement containing provisions (including nondisclosure provisions, use restrictions, non-solicitation provisions, no-hire provisions and “standstill” provisions) at least as favorable to CombiMatrix as those contained in the Confidentiality Agreement, but in each case of the foregoing clauses (i) and (ii), only if: (A) neither CombiMatrix nor any Representative of CombiMatrix has breached this [Section 4.4](#); (B) the CombiMatrix Board of Directors determines in good faith based on the advice of outside legal counsel that the failure to take such action would reasonably be expected to result in a breach of the fiduciary duties of the CombiMatrix Board of Directors under applicable Legal Requirements; (C) at least five (5) Business Days prior to furnishing any such non-public information to, or entering into discussions with, such Person, CombiMatrix gives Invitae written notice of the identity of such Person, the terms and conditions of any proposals or offers (including, if applicable, copies of any written requests, proposals or offers, including proposed agreements) made thereby, and CombiMatrix’s intention to furnish nonpublic information to, or enter into discussions with, such Person; and (D) at least five (5) Business Days prior to furnishing any such non-public information to such Person, CombiMatrix furnishes such non-public information to Invitae (to the extent such non-public information

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has not been previously furnished by CombiMatrix to Invitae). Without limiting the generality of the foregoing, CombiMatrix acknowledges and agrees that, in the event any CombiMatrix Representative (whether or not such Representative is purporting to act on behalf of CombiMatrix) takes any action that, if taken by CombiMatrix, would constitute a breach of this [Section 4.4](#) by CombiMatrix, the taking of such action by such Representative shall be deemed to constitute a breach of this [Section 4.4](#) by CombiMatrix for purposes of this Agreement.

(c) If CombiMatrix or any CombiMatrix Representative receives an Acquisition Proposal or Acquisition Inquiry at any time during the Pre-Closing Period, then CombiMatrix shall promptly (and in no event later than twenty-four (24) hours after CombiMatrix becomes aware of such Acquisition Proposal or Acquisition Inquiry) advise Invitae orally and in writing of such Acquisition Proposal or Acquisition Inquiry (including the identity of the Person making or submitting such Acquisition Proposal or Acquisition Inquiry, the terms thereof, and any written materials submitted therewith). CombiMatrix shall keep Invitae fully informed, on a current basis, in all material respects with respect to the status and terms of any such Acquisition Proposal or Acquisition Inquiry and any modification or proposed modification thereto, and shall deliver copies of any written materials submitted therewith. In addition to the foregoing, CombiMatrix shall provide Invitae with at least five (5) Business Days' written notice of a meeting of its board of directors (or any committee thereof) at which its board of directors (or any committee thereof) is reasonably expected to consider an Acquisition Proposal or Acquisition Inquiry CombiMatrix has received.

(d) CombiMatrix shall and shall cause its Representatives to cease immediately and cause to be terminated, and shall not authorize or knowingly permit any of its Representatives to continue, any and all existing activities, discussions or negotiations, if any, with any third party conducted prior to the date of this Agreement with respect to any Acquisition Proposal and shall use its reasonable best efforts to cause any such third party (or its Representatives) in possession of non-public information in respect of CombiMatrix or its Subsidiaries that was furnished by or on behalf of CombiMatrix or its Subsidiaries to return or destroy (and confirm destruction of) all such information.

Section 5. ADDITIONAL AGREEMENTS OF THE PARTIES

5.1 Registration Statement; Proxy Statement/Prospectus; Warrant Exchange Offer.

(a) As promptly as practicable after the date of this Agreement, the Parties shall prepare and cause to be filed with the SEC the Proxy Statement/Prospectus and, Invitae shall prepare and cause to be filed with the SEC the Form S-4 Merger Registration Statement (in which the Proxy Statement/Prospectus will be included as a prospectus). Invitae covenants to CombiMatrix that the Proxy Statement/Prospectus, including any pro forma financial statements included therein, will not, at the time that the Proxy Statement/Prospectus or any amendment or supplement thereto is filed with the SEC or is first mailed to the stockholders of CombiMatrix, at the time of the CombiMatrix Stockholders' Meeting and at the Effective Time, contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary in order to make the statements made therein, in light of the circumstances under which they were made, not misleading. Notwithstanding the foregoing, Invitae makes no covenant, representation or warranty with respect to statements made in the Proxy Statement/Prospectus by CombiMatrix or based on information furnished by CombiMatrix for inclusion therein. Each of the Parties shall use commercially reasonable efforts to cause the Form S-4 Merger Registration Statement and the Proxy Statement/Prospectus to comply with the applicable rules and regulations promulgated by the SEC, to respond promptly to any comments of the SEC or its staff and to have the Form S-4 Merger Registration Statement declared effective under the Securities Act as promptly as practicable after it is filed with the SEC. Prior to the Form S-4 Merger Registration Statement being declared effective, (1) CombiMatrix shall execute and deliver to Stradling Yocca Carlson & Rauth, P.C. ("**Stradling**") and to Pillsbury Winthrop Shaw Pittman LLP ("**Pillsbury**") the applicable "Tax Representation Letter" referenced in [Section 5.9\(c\)](#); and (2) Invitae shall execute and deliver to Pillsbury and to Stradling the applicable "Tax Representation Letter" referenced in [Section 5.9\(c\)](#). Following the delivery of the Tax Representation Letters pursuant to the preceding sentence, (A) CombiMatrix shall use its commercially reasonable efforts to cause Stradling to deliver to it a tax opinion satisfying the requirements of Item 601(b) (8) of Regulation S-K under the Securities Act; and (B) Invitae shall use its commercially reasonable efforts to cause Pillsbury to deliver to it a tax opinion satisfying the

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requirements of Item 601(b)(8) of Regulation S-K under the Securities Act. In rendering such opinions, each of such counsel shall be entitled to rely on the Tax Representation Letters referred to in this [Section 5.1\(a\)](#) and [Section 5.9\(c\)](#). CombiMatrix shall use commercially reasonable efforts to cause the Proxy Statement/Prospectus to be mailed to CombiMatrix's stockholders as promptly as practicable after the Form S-4 Merger Registration Statement is declared effective under the Securities Act. Each Party shall promptly furnish to the other Party all information concerning such Party and such Party's Subsidiaries and such Party's stockholders that may be required or reasonably requested in connection with any action contemplated by this [Section 5.1\(a\)](#). If any event relating to CombiMatrix occurs, or if CombiMatrix becomes aware of any information, that should be disclosed in an amendment or supplement to the Form S-4 Merger Registration Statement or the Proxy Statement/Prospectus, then CombiMatrix shall promptly inform Invitae thereof and shall cooperate fully with Invitae in filing such amendment or supplement with the SEC and, if appropriate, in mailing such amendment or supplement to CombiMatrix's stockholders.

(b) The Parties shall use their commercially reasonable efforts to (i) do all things necessary or desirable to allow Invitae to commence an exchange offer (the "**Warrant Exchange Offer**") whereby holders of CombiMatrix Series F Warrants may elect to exchange outstanding CombiMatrix Series F Warrants for shares of Invitae Common Stock on a basis determined by Invitae in its sole discretion, (ii) cooperate in securing the agreement of holders of CombiMatrix Series F Warrants to participate in the Warrant Exchange Offer such that at least 90% of the CombiMatrix Series F Warrants outstanding immediately prior to the date of this Agreement are exchanged in the Warrant Exchange Offer (such threshold of exchange or exercise, the "**Minimum Warrant Exchange Participation**") and (iii) do all things necessary or desirable to allow Invitae to consummate the Warrant Exchange Offer at or immediately prior to the Closing assuming the Minimum Warrant Exchange Participation is met and that the Closing is otherwise ready to occur (including because the conditions set forth in [Section 6](#), [Section 7](#), and [Section 8](#) have been satisfied or waived). Notwithstanding the foregoing, CombiMatrix shall have no obligations under this [Section 5.1\(b\)](#) to the extent that Invitae has not offered shares of Invitae Common Stock with a value (based on the Invitae Trailing Average Share Value) of at least \$2.90 (rounded to the nearest cent) per CombiMatrix Series F Warrant in the Warrant Exchange Offer. In connection with the Warrant Exchange Offer, the Parties shall cooperate with each other regarding, and prepare, offering documents, which the Parties will cause to comply as to form in all material respects with the applicable provisions of the Securities Act and the Exchange Act, for the purpose of effecting and consummating the Warrant Exchange Offer (the "**Offer Documents**"). The Offer Documents shall include (1) an Offer to Exchange document describing the material terms of the Warrant Exchange Offer, (2) a Statement on Schedule TO with respect to the Warrant Exchange Offer, if required, (3) a registration statement on Form S-4 registering the Warrant Exchange Offer (the "**Form S-4 Warrant Exchange Offer Registration Statement**"), (4) a statement by the CombiMatrix Board describing the CombiMatrix Board Recommendation and the Minimum Warrant Exchange Participation, including that the Minimum Warrant Exchange Participation is a condition to the obligations of Invitae and Merger Sub to effect the Merger, and (5) all ancillary documents related to the Warrant Exchange Offer, including exhibits, press releases, letters of transmittal, notices and announcements. Invitae covenants to CombiMatrix that the Offer Documents, including any pro forma financial statements included therein, will not, as of the date any Offer Document is first mailed to holders of CombiMatrix Series F Warrants and at the Closing, contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary in order to make the statements made therein, in light of the circumstances under which they were made, not misleading. Notwithstanding the foregoing, Invitae makes no covenant, representation or warranty with respect to statements made in any Offer Document by CombiMatrix or based on information furnished by CombiMatrix for inclusion therein. Each of the Parties shall use commercially reasonable efforts to cause the Form S-4 Warrant Exchange Offer Registration and the other Offer Documents to comply with the applicable rules and regulations promulgated by the SEC, and to respond promptly to any comments of the SEC or its staff. Invitae shall, substantially contemporaneously with, or as promptly as practicable after, the filing of the Form S-4 Merger Registration Statement, file with the SEC the Form S-4 Warrant Exchange Offer Registration Statement and the Parties shall use commercially reasonable efforts to cause the Form S-4 Warrant Exchange Offer Registration Statement to be declared effective by the SEC so as to permit the Warrant Exchange Offer to be conducted in a timely manner and consistent with applicable regulations and requirements under

securities laws, including the Exchange Act. Prior to the Form S-4 Warrant Exchange Offer Registration Statement being declared effective, (1) CombiMatrix shall execute and deliver to Stradling and to Pillsbury the applicable “Tax Representation Letter” referenced in [Section 5.9\(c\)](#); and (2) Invitae shall execute and deliver to Pillsbury and to Stradling the applicable “Tax Representation Letter” referenced in [Section 5.9\(c\)](#). Following the delivery of the Tax Representation Letters pursuant to the preceding sentence, (A) CombiMatrix shall use its commercially reasonable efforts to cause Stradling to deliver to it a tax opinion satisfying the requirements of Item 601(b)(8) of Regulation S-K under the Securities Act; and (B) Invitae shall use its commercially reasonable efforts to cause Pillsbury to deliver to it a tax opinion satisfying the requirements of Item 601(b)(8) of Regulation S-K under the Securities Act. In rendering such opinions, each of such counsel shall be entitled to rely on the Tax Representation Letters referred to in this [Section 5.1\(b\)](#) and [Section 5.9\(c\)](#). When appropriate after the Form S-4 Warrant Exchange Offer Registration Statement becomes effective (*i.e.* , so as to permit the Warrant Exchange Offer to be conducted in a timely manner and consistent with applicable regulations and requirements under securities laws, including the Exchange Act), the Parties shall cause the Offer Documents to be mailed to the holders of the CombiMatrix Series F Warrants. Each Party shall promptly furnish to the other Party all information concerning such Party and such Party’s Subsidiaries and such Party’s stockholders that may be required or reasonably requested in connection with any action contemplated by this [Section 5.1\(b\)](#) . If any event relating to CombiMatrix occurs, or if CombiMatrix becomes aware of any information, that should be disclosed in an amendment or supplement to the Form S-4 Warrant Exchange Offer Registration Statement or any other Offer Document, then CombiMatrix shall promptly inform Invitae thereof and shall cooperate fully with Invitae in filing such amendment or supplement with the SEC and, if appropriate, in mailing such amendment or supplement to the holders of the CombiMatrix Series F Warrants.

(c) Prior to the Effective Time, Invitae shall use commercially reasonable efforts to obtain all regulatory approvals needed to ensure that the Invitae Common Stock to be issued in the Merger or the Warrant Exchange Offer (to the extent required) shall be registered or qualified or exempt from registration or qualification under the securities law of every applicable jurisdiction of the United States; *provided, however* , that Invitae shall not be required: (i) to qualify to do business as a foreign corporation in any jurisdiction in which it is not now qualified; or (ii) to file a general consent to service of process in any jurisdiction.

(d) CombiMatrix shall reasonably cooperate with Invitae and provide, and require its Representatives, advisors, accountants and attorneys to provide, Invitae and its Representatives, advisors, accountants and attorneys, with all true, correct and complete information regarding CombiMatrix that is required to be included in any Registration Statement or reasonably requested from CombiMatrix to be included in any Registration Statement. Without limiting the foregoing, CombiMatrix shall use commercially reasonable efforts to cause to be delivered to Invitae a consent of, and to the extent reasonably requested by Invitae’s independent accounting firm a letter confirming certain CombiMatrix financial information from, CombiMatrix’s independent accounting firm, dated no more than two (2) Business Days before the date(s) on which, as applicable, the Form S-4 Merger Registration Statement or the Form S-4 Warrant Exchange Offer Registration Statement becomes effective (and reasonably satisfactory in form and substance to Invitae), that are customary in scope and substance for such consents and letters delivered by independent public accountants in connection with registration statements similar to the Registration Statements.

5.2 CombiMatrix Stockholders ’ Meeting .

(a) CombiMatrix shall take all action necessary under applicable Legal Requirements to call, give notice of and hold a meeting of the holders of CombiMatrix Common Stock to vote on the Merger Proposal and, if required in accordance with Section 14A of the Exchange Act and the applicable SEC rules issued thereunder, seek a non-binding, advisory vote of the CombiMatrix stockholders to approve certain compensation that may become payable to CombiMatrix’s named executive officers in connection with the completion of the Merger (such meeting, the “ **CombiMatrix Stockholders ’ Meeting** ”). The CombiMatrix Stockholders’ Meeting shall be held as promptly as practicable after the Form S-4 Merger Registration Statement is declared effective under the Securities Act. CombiMatrix shall take reasonable measures to ensure that all proxies solicited in connection with the CombiMatrix Stockholders’ Meeting are solicited in compliance with all applicable Legal Requirements.

(b) CombiMatrix agrees that, subject to Section 5.2(c): (i) CombiMatrix's Board of Directors shall recommend that the holders of CombiMatrix Capital Stock vote to adopt and approve the Merger Proposal and shall use commercially reasonable efforts to solicit such approval within the timeframe set forth in Section 5.2(a) above, (ii) the Proxy Statement/Prospectus shall include a statement to the effect that the CombiMatrix Board of Directors has determined that the Merger is advisable and fair to, and in the best interests of, CombiMatrix and its stockholders, has deemed advisable and approved this Agreement, the Merger and the other actions contemplated by this Agreement, and recommends that CombiMatrix's stockholders vote to adopt and approve the Merger Proposal (the "**CombiMatrix Board Recommendation**"); and (iii) the CombiMatrix Board Recommendation shall not be withdrawn or modified in a manner adverse to Invitae, and no resolution by the CombiMatrix Board of Directors or any committee thereof to withdraw or modify the CombiMatrix Board Recommendation in a manner adverse to Invitae, shall be adopted or proposed.

(c) Notwithstanding anything to the contrary contained in Section 5.2(b), at any time prior to the Merger Proposal having been adopted and approved at the CombiMatrix Stockholders' Meeting (or any adjournment or postponement thereof) by the Required CombiMatrix Stockholder Vote, CombiMatrix's Board of Directors may withhold, amend, withdraw or modify the CombiMatrix Board Recommendation in a manner adverse to Invitae or recommend any Acquisition Transaction (collectively a "**CombiMatrix Board Adverse Recommendation Change**") if, but only if, CombiMatrix's Board of Directors determines in good faith, based on such matters as it deems relevant following consultation with its outside legal counsel, that the failure to withhold, amend, withdraw or modify such recommendation would result in a breach of its fiduciary duties under applicable Legal Requirements; *provided*, that Invitae receives written notice from CombiMatrix confirming that CombiMatrix's Board of Directors intends to change its recommendation at least five (5) Business Days in advance of the CombiMatrix Board Recommendation being withdrawn, withheld, amended or modified in a manner adverse to Invitae. Such notice shall describe in reasonable details the reasons for such intention and, if such reasons are related to a Superior Offer, then also specifying the material terms and conditions of such Superior Offer, including the identity of the Person making such offer (and attaching the most current and complete version of any written agreement or other document relating thereto).

(d) CombiMatrix's obligation to call, give notice of and hold the CombiMatrix Stockholders' Meeting in accordance with Section 5.2(a) shall not be limited or otherwise affected by the commencement, disclosure, announcement or submission of any Superior Offer or Acquisition Proposal, or by any withdrawal or modification of the CombiMatrix Board Recommendation.

(e) Nothing contained in this Agreement shall prohibit CombiMatrix or its Board of Directors from (i) taking and disclosing to the stockholders of CombiMatrix a position as contemplated by Rule 14e-2(a) under the Exchange Act or complying with the provisions of Rule 14d-9 under the Exchange Act (other than Rule 14d-9(f) under the Exchange Act), (ii) making any disclosure to the stockholders of CombiMatrix if the CombiMatrix Board of Directors determines in good faith, after consultation with its outside legal counsel, that the failure to make such disclosure would be inconsistent with its fiduciary duties to the stockholders of CombiMatrix under applicable Legal Requirements, and (iii) making a "stop, look and listen" communication to the stockholders of CombiMatrix pursuant to Rule 14d-9(f) under the Exchange Act, *provided, however*, that (A) in the case of each of the foregoing clauses (i) and (ii), any such disclosure or public statement shall be deemed to be a CombiMatrix Board Adverse Recommendation Change subject to the terms and conditions of this Agreement unless CombiMatrix's Board of Directors reaffirms the CombiMatrix Board Recommendation in such disclosure or public statement or within three (3) Business Days of such disclosure or public statement; (B) in the case of clause (iii), any such disclosure or public statement shall be deemed to be a CombiMatrix Board Adverse Recommendation Change subject to the terms and conditions of this Agreement unless the CombiMatrix Board of Directors reaffirms the CombiMatrix Board Recommendation in such disclosure or public statement or within five (5) Business Days of such disclosure or public statement; and (C) CombiMatrix shall not affect a CombiMatrix Board Adverse Recommendation Change unless specifically permitted pursuant to the terms of Section 5.2(c).

5.3 Regulatory Approvals . Each Party shall use commercially reasonable efforts to file or otherwise submit, as soon as practicable after the date of this Agreement, all applications, notices, reports and other

documents reasonably required to be filed by such Party with or otherwise submitted by such Party to any Governmental Body with respect to the Merger and the other Contemplated Transactions, and to submit promptly any additional information requested by any such Governmental Body. Without limiting the generality of the foregoing, the Parties shall, promptly after the date of this Agreement, prepare and file, if any, (a) the notification and report forms required to be filed under the HSR Act and (b) any notification or other document required to be filed in connection with the Merger and the Warrant Exchange Offer under any applicable foreign Legal Requirement relating to antitrust or competition matters. CombiMatrix and Invitae shall respond as promptly as is practicable to respond in compliance with: (i) any inquiries or requests received from the Federal Trade Commission or the Department of Justice for additional information or documentation; and (ii) any inquiries or requests received from any state attorney general, foreign antitrust or competition authority or other Governmental Body in connection with antitrust or competition matters.

5.4 Warrants , RSUs and CombiMatrix Options .

(a) At the Effective Time, (i) each in-the-money CombiMatrix Option outstanding and unexercised immediately prior to the Effective Time, whether or not vested or exercisable, shall become immediately vested as of the Effective Time and converted into the number of shares of unrestricted Invitae Common Stock calculated pursuant to Section 1.5(a)(ii)(4) (“ *Converted CombiMatrix Options* ”), and (ii) each out-of-the-money CombiMatrix Option outstanding and unexercised immediately prior to the Effective Time, whether or not vested or exercisable, shall be cancelled and terminated as of the Effective Time for no consideration (the “ *Terminated CombiMatrix Options* ”). From and after the date of this Agreement, no further awards will be made under the 2006 Plan or the CombiMatrix Molecular Diagnostics 2005 Stock Award Plan (the “ *CMDX 2005 Plan* ”) adopted by CombiMatrix’s wholly owned subsidiary, CombiMatrix Molecular Diagnostics, Inc. (“ *CMDX* ”). Prior to the Effective Time, the CombiMatrix Board of Directors will adopt appropriate resolutions (which draft resolutions shall be provided to Invitae for reasonable review and approval by Invitae prior to adoption by the CombiMatrix Board of Directors) and will have taken all other actions necessary and appropriate (under the 2006 Plan, the CombiMatrix Options and otherwise) to effectuate the provisions of this Section 5.4(a), including to ensure that (x) as of the Effective Time each Converted CombiMatrix Option shall become immediately vested as of the Effective Time and converted into the number of shares of unrestricted Invitae Common Stock calculated pursuant to Section 1.5(a)(ii)(4) and (y) from and after the Effective Time holders of Terminated CombiMatrix Options have no rights with respect thereto and all Terminated CombiMatrix Options shall have been cancelled.

(b) Immediately after announcement of the Merger, CombiMatrix shall repurchase half of the outstanding and unexercised CombiMatrix Series A Warrants, CombiMatrix Series B Warrants, CombiMatrix Series C Warrants, CombiMatrix Series E Warrants and CombiMatrix PIPE Warrants, and upon the Closing, CombiMatrix shall repurchase the remainder of the outstanding and unexercised CombiMatrix Series A Warrants, CombiMatrix Series B Warrants, CombiMatrix Series C Warrants, CombiMatrix Series E Warrants and CombiMatrix PIPE Warrants, all pursuant to the terms of that certain CombiMatrix Common Stock Purchase Warrants Repurchase Agreement dated July 11, 2016 (collectively, the “ *CombiMatrix Warrant Repurchase* ”). CombiMatrix will have taken all other actions necessary and appropriate under each such warrant series to effectuate the CombiMatrix Warrant Repurchase and the provisions of this Section 5.4(b) and to ensure that, from and after the Effective Time, holders of CombiMatrix Series A Warrants, CombiMatrix Series B Warrants, CombiMatrix Series C Warrants, CombiMatrix Series E Warrants and CombiMatrix PIPE Warrants have no rights with respect thereto and such warrants have been cancelled.

(c) At the Effective Time, all CombiMatrix Series D Warrants and CombiMatrix Series F Warrants that are outstanding and unexercised at the Effective Time (i.e., to the extent not exchanged in the Warrant Exchange Offer, as to the CombiMatrix Series F Warrants, or exercised prior to consummation of the Merger) shall be converted into and become warrants to purchase Invitae Common Stock, and Invitae shall assume each such CombiMatrix Series D Warrant and CombiMatrix Series F Warrant in accordance with its terms. All rights with respect to CombiMatrix Common Stock under CombiMatrix Series D Warrants and CombiMatrix Series F Warrants assumed by Invitae shall thereupon be converted into rights with respect to Invitae Common Stock. Accordingly, from and after the Effective Time: (i) each CombiMatrix Series D Warrant and CombiMatrix Series

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F Warrant assumed by Invitae may be exercised solely for shares of Invitae Common Stock; (ii) the number of shares of Invitae Common Stock subject to each CombiMatrix Series D Warrant and CombiMatrix Series F Warrant assumed by Invitae shall be determined by multiplying (A) the number of shares of CombiMatrix Common Stock that were subject to such CombiMatrix Series D Warrant or CombiMatrix Series F Warrant immediately prior to the Effective Time by (B) the Exchange Ratio; (iii) the per share exercise price for the Invitae Common Stock issuable upon exercise of each CombiMatrix Series D Warrant or CombiMatrix Series F Warrant assumed by Invitae shall be determined by dividing the per share exercise price of CombiMatrix Common Stock subject to such CombiMatrix Series D Warrant or CombiMatrix Series F Warrant, as in effect immediately prior to the Effective Time, by the Exchange Ratio; and (iv) any restriction on any CombiMatrix Series D Warrant or CombiMatrix Series F Warrant assumed by Invitae shall continue in full force and effect, and the term and other provisions of such CombiMatrix Series D Warrant or CombiMatrix Series F Warrant shall otherwise remain unchanged.

(d) Prior to the Effective Time, CombiMatrix shall take all actions that may be necessary (under the 2006 Plan, the Converted CombiMatrix Options, the Terminated CombiMatrix Options, the CombiMatrix RSUs, the CombiMatrix Warrants and otherwise) to effectuate the provisions of this [Section 5.4](#) and to ensure that, from and after the Effective Time, holders of Converted CombiMatrix Options, Terminated CombiMatrix Options, CombiMatrix RSUs and CombiMatrix Warrants have no rights with respect thereto other than those specifically provided in this [Section 5.4](#) or, as applicable, [Section 1.5](#).

5.5 Employee Benefits .

(a) Effective no later than the day immediately preceding the Closing Date, CombiMatrix shall terminate (i) all CombiMatrix Employee Plans that are “employee benefit plans” within the meaning of ERISA, including any CombiMatrix Employee Plans intended to include a Code Section 401(k) arrangement (each, a “*CombiMatrix 401(k) Plan*”), and (ii) each other CombiMatrix Employee Plan set forth on [Schedule 5.5](#) unless written notice is provided by Invitae to CombiMatrix no later than three (3) calendar days prior to the Closing Date, instructing CombiMatrix not to terminate any such CombiMatrix Employee Plan. CombiMatrix shall provide Invitae with evidence that such CombiMatrix Employee Plan(s) have been terminated (effective no later than the day immediately preceding the Closing Date) pursuant to resolutions of the CombiMatrix Board of Directors. The form and substance of such resolutions shall be subject to review and approval of Invitae. CombiMatrix also shall take such other actions in furtherance of terminating such CombiMatrix Employee Plan(s) as Invitae may reasonably require. In the event that termination of any CombiMatrix 401(k) Plan would reasonably be anticipated to trigger liquidation charges, surrender charges or other fees, then CombiMatrix shall take such actions as are necessary to reasonably estimate the amount of such charges and/or fees and provide such estimate in writing to Invitae no later than fourteen (14) calendar days prior to the Closing Date.

(b) Without limiting the provisions of [Section 10.7](#), Invitae shall exercise commercially reasonable efforts to cause its employee benefit plan intended to include a Code Section 401(k) arrangement (an “*Invitae 401(k) Plan*”) to (i) effective on the Closing Date, add CombiMatrix to the Invitae 401(k) Plan as a participating employer, (ii) accept, in accordance with applicable law, a “direct rollover” (within the meaning of Section 401(a)(31) of the Code) of the account balances (including earnings thereon through the date of transfer and any promissory notes evidencing outstanding loans) of each CombiMatrix employee under the CombiMatrix 401(k) Plan if such employee continues to be employed by CombiMatrix (or Invitae) through the Closing Date and if such rollover to the Invitae 401(k) Plan is elected in accordance with applicable law by such CombiMatrix employee and (iii) waive all limitations as to eligibility waiting periods with respect to participation applicable under such Invitae 401(k) Plan for CombiMatrix employees continuing to be employed by CombiMatrix (or Invitae) through the Closing Date.

5.6 Indemnification of Officers and Directors .

(a) From the Effective Time through the sixth (6th) anniversary of the date on which the Effective Time occurs, the Surviving Corporation shall indemnify and hold harmless each person who is now, or has been at any time prior to the date of this Agreement, or who becomes prior to the Effective Time, a director or officer of

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CombiMatrix (the “*D&O Indemnified Parties*”), against all claims, losses, liabilities, damages, judgments, fines and reasonable fees, costs and expenses, including attorneys’ fees and disbursements incurred in connection with any claim, action, suit, proceeding or investigation, whether civil, criminal, administrative or investigative, arising out of or pertaining to the fact that the D&O Indemnified Party is or was a director or officer of CombiMatrix, whether asserted or claimed prior to, at or after the Effective Time, to the fullest extent permitted under the DGCL for directors or officers of Delaware corporations. Each D&O Indemnified Party will be entitled to advancement of expenses incurred in the defense of any such claim, action, suit, proceeding or investigation from the Surviving Corporation upon receipt by the Surviving Corporation from the D&O Indemnified Party of a request therefor; *provided*, that any person to whom expenses are advanced provides an undertaking, to the extent then required by the DGCL, as applicable, to repay such advances if it is ultimately determined that such person is not entitled to indemnification.

(b) The Certificate of Incorporation and Bylaws of the Surviving Corporation shall contain, and Invitae shall cause the Certificate of Incorporation and Bylaws of the Surviving Corporation to so contain, provisions no less favorable with respect to indemnification, advancement of expenses and exculpation of present and former directors and officers of CombiMatrix than are presently set forth in the Certificate of Incorporation and Bylaws of CombiMatrix, which provisions shall not be amended, modified or repealed for a period of six years’ time from the Effective Time in a manner that would adversely affect the rights thereunder of individuals who, at or prior to the Effective Time, were officers or directors of CombiMatrix.

(c) CombiMatrix shall, prior to the Closing, purchase an insurance policy with an effective date as of the Closing which maintains in effect for six years from the Closing the current directors’ and officers’ liability insurance policies maintained by CombiMatrix.

(d) The Surviving Corporation shall pay all expenses, including reasonable attorneys’ fees, that may be incurred by the persons referred to in this [Section 5.6](#) in connection with their enforcement of their rights provided in this [Section 5.6](#).

(e) The provisions of this [Section 5.6](#) are intended to be in addition to the rights otherwise available to the current and former officers and directors of CombiMatrix by law, charter, statute, bylaw or agreement, and shall operate for the benefit of, and shall be enforceable by, each of the D&O Indemnified Parties, their heirs and their representatives.

(f) In the event the Surviving Corporation or any of its successors or assigns (i) consolidates with or merges into any other person and shall not be the continuing or surviving corporation or entity of such consolidation or merger, (ii) transfers all or substantially all of its properties and assets to any person, or (iii) dissolves, then, and in each such case, proper provision shall be made so that the successors and assigns of the Surviving Corporation (or Invitae, in the case of dissolution) shall succeed to the obligations set forth in this [Section 5.6](#).

5.7 Additional Agreements . The Parties shall use commercially reasonable efforts to cause to be taken all actions necessary to consummate the Merger and make effective the other Contemplated Transactions. Without limiting the generality of the foregoing, each Party: (i) shall make all Filings (if any) and give all notices (if any) required to be made and given by such Party in connection with the Merger and the other Contemplated Transactions; (ii) shall use commercially reasonable efforts to obtain each Consent (if any) reasonably required to be obtained pursuant to any applicable Legal Requirement, Contract or otherwise by such Party in connection with the Merger or any of the other Contemplated Transactions or for any such Contract to remain in full force and effect (including, in the case of Invitae, the Oxford Consent); (iii) shall use commercially reasonable efforts to lift any injunction prohibiting, or any other legal bar to, the Merger or any of the other Contemplated Transactions; and (iv) shall use commercially reasonable efforts to satisfy the conditions precedent to the obligations of CombiMatrix, in the case of Invitae and Merger Sub, or Invitae and Merger Sub, in the case of CombiMatrix, to effect the Merger and otherwise consummate the Contemplated Transactions.

5.8 Disclosure . Without limiting any of either Party’s obligations under the Confidentiality Agreement, each Party shall not, and shall not permit any of its Subsidiaries or any Representative of such Party to, issue any

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press release or make any disclosure (to any customers or employees of such Party, to the public or otherwise) regarding the Merger or any of the other Contemplated Transactions unless: (a) the other Parties shall have approved such press release or disclosure in writing; or (b) such Party shall have determined in good faith, upon the advice of outside legal counsel, that such disclosure is required by applicable Legal Requirements and, to the extent practicable, before such press release or disclosure is issued or made, such Party advises the other Parties of, and consults with the other Parties regarding, the text of such press release or disclosure; *provided, however*, that each of CombiMatrix and Invitae may make any public statement in response to specific questions by the press, analysts, investors or those attending industry conferences or financial analyst conference calls, so long as any such statements are consistent with previous press releases, public disclosures or public statements made by CombiMatrix or Invitae in compliance with this [Section 5.8](#).

5.9 Tax Matters

(a) Invitae, Merger Sub and CombiMatrix shall use their respective commercially reasonable efforts to cause the Merger, together with the Warrant Exchange Offer, to qualify, and agree not to, and not to permit or cause any affiliate or any Subsidiary to, take any actions or cause any action to be taken which would reasonably be expected to prevent the Merger, together with the Warrant Exchange Offer, from qualifying, as a “reorganization” under Section 368(a) of the Code.

(b) This Agreement is intended to constitute, and the Parties hereby adopt this Agreement as, a “plan of reorganization” within the meaning of Section 1.368-2(g) of the Treasury Regulations. The Parties shall treat and shall not take any tax reporting position inconsistent with the treatment of the Merger, together with the Warrant Exchange Offer, as a reorganization within the meaning of Section 368(a) of the Code for U.S. federal, state and other relevant Tax purposes, unless otherwise required pursuant to a “determination” within the meaning of Section 1313(a) of the Code.

(c) CombiMatrix shall deliver to Stradling and Pillsbury a “Tax Representation Letter,” dated as of the date of the tax opinions referenced in [Section 5.1\(a\)](#) and signed by an officer of CombiMatrix, containing representations of CombiMatrix, and Invitae shall deliver to Pillsbury and Stradling a “Tax Representation Letter,” dated as of the date of the tax opinions referenced in [Section 5.1\(a\)](#) and signed by an officer of Invitae, containing representations of Invitae, in each case as shall be reasonably necessary or appropriate to enable Stradling and Pillsbury to render the applicable opinions described in [Sections 5.1\(a\)](#) and [5.1\(b\)](#) of this Agreement.

5.10 Securityholder Litigation . CombiMatrix shall give Invitae the opportunity to participate, subject to a customary joint defense agreement, in the defense or settlement of any litigation (including litigation brought by stockholders or securityholders of CombiMatrix) against CombiMatrix and/or its directors relating to the Contemplated Transactions, and CombiMatrix shall not settle or compromise any litigation arising or resulting from the Contemplated Transactions without Invitae’s prior consent, which consent shall not be unreasonably withheld, conditioned or delayed.

5.11 Legends . Invitae shall be entitled to place appropriate legends on the certificates evidencing any shares of Invitae Common Stock to be received in the Merger by equityholders of CombiMatrix who may be considered Affiliates of Invitae for purposes of Rules 144 and 145 under the Securities Act reflecting the restrictions set forth in Rules 144 and 145 and to issue appropriate stop transfer instructions to the transfer agent for Invitae Common Stock.

5.12 Cooperation . Each Party shall cooperate reasonably with the other Party and shall provide the other Party with such assistance as may be reasonably requested for the purpose of facilitating the performance by each Party of its respective obligations under this Agreement and to enable the combined entity to continue to meet its obligations following the Closing.

5.13 Directors and Officers . CombiMatrix shall obtain and deliver to Invitae at or prior to the Effective Time the resignation of each officer and director of CombiMatrix who is not continuing, at the sole discretion of Invitae, as an officer or director of the Surviving Corporation following the Effective Time.

5.14 Section 16 Matters . Prior to the Effective Time, Invitae shall take all such steps as may be required to cause any acquisitions of Invitae Common Stock resulting from the Merger and the other actions contemplated by this Agreement, by each individual who is reasonably expected to become subject to the reporting requirements of Section 16(a) of the Exchange Act with respect to Invitae, to be exempt under Rule 16b-3 promulgated under the Exchange Act.

5.15 CombiMatrix Transaction Bonus Payout Agreements. Bonus payments under the CombiMatrix Transaction Bonus Plan shall be paid in cash to all participants in accordance with the terms of the CombiMatrix Transaction Bonus Plan, other than the executive officers, the Vice President of Billing & Reimbursement and the directors of CombiMatrix. Pursuant to the CombiMatrix Transaction Bonus Payout Agreements entered into with each of the executive officers and the Vice President of Billing & Reimbursement of CombiMatrix concurrently with the execution of this Agreement, the bonus payments for each such executive officer and Vice President of Billing & Reimbursement shall be paid in RSUs of Invitae (to be settled in shares of Invitae Common Stock) calculated using the Invitae Trailing Average Share Value and subject to time-based vesting with acceleration upon a change in control of Invitae and/or certain other events as set forth in the applicable CombiMatrix Transaction Bonus Payout Agreement. Pursuant to the CombiMatrix Transaction Bonus Payout Agreements entered into with each of the outside directors of CombiMatrix concurrently with the execution of this Agreement, the bonus payments for each such director shall be paid in unrestricted shares of Invitae Common Stock calculated using the Invitae Trailing Average Share Value.

5.16 Allocation Certificate . CombiMatrix shall prepare and deliver to Invitae at least two (2) Business Days prior to the Closing Date a certificate signed by the Chief Financial Officer and the Chief Executive Officer of CombiMatrix, in a form reasonably acceptable to Invitae, which sets forth a true and complete list, as of immediately prior to the Effective Time, of the following (the “*Allocation Certificate*”): (i) the record holders of CombiMatrix Common Stock, CombiMatrix RSUs, CombiMatrix Series F Preferred Stock, CombiMatrix Series D Warrants and CombiMatrix Series F Warrants; (ii) the number of shares of CombiMatrix Common Stock owned and/or underlying the CombiMatrix RSUs, CombiMatrix Series F Preferred Stock, CombiMatrix Series D Warrants and CombiMatrix Series F Warrants held by such record holders; (iii) the exercise price for each such CombiMatrix Series D Warrant and CombiMatrix Series F Warrant and the conversion price for the CombiMatrix Series F Preferred Stock; (iv) the number of shares of Invitae Common Stock each record holder of CombiMatrix Common Stock, CombiMatrix RSUs, or CombiMatrix Series F Preferred Stock is entitled to receive as a result of application of the Exchange Ratio; (v) the number of shares of Invitae Common Stock that will be issuable upon the exercise of CombiMatrix Series D Warrants and CombiMatrix Series F Warrants (to the extent not tendered for exchange or exercised prior to the Closing Date) by the record holders thereof as a result of application of the Exchange Ratio; (vi) confirmation of the pending CombiMatrix Warrant Repurchase, including the pay-out details with respect to the holders of the CombiMatrix Warrants at issue; and (vii) the holders of the outstanding CombiMatrix Options, together with confirmation of the pending conversion of the in-the-money CombiMatrix Options pursuant to [Sections 5.4\(a\)](#) and [1.5\(a\)\(ii\)\(4\)](#) and the termination of the out-of-the-money CombiMatrix Options pursuant to [Section 5.4\(a\)](#).

5.17 Disclosure of Liabilities . For purposes of the computation of Net Cash pursuant to [Section 1.6](#), on or prior to the Determination Date, CombiMatrix shall provide Invitae with a list of all Liabilities of CombiMatrix as of the Determination Date as well as projected through the Anticipated Closing Date which are individually in excess of \$25,000 or in excess of \$25,000 in the aggregate, that had not previously been disclosed to Invitae in the CombiMatrix Disclosure Schedules.

5.18 Takeover Statutes . If any “control share acquisition,” “fair price,” “moratorium” or other anti-takeover Legal Requirement becomes or is deemed to be applicable to Invitae, CombiMatrix, Merger Sub, or the Contemplated Transactions, then each of Invitae, CombiMatrix, Merger Sub, and their respective board of directors shall grant such approvals and take such actions as are necessary so that the Merger and the other Contemplated Transactions may be consummated as promptly as practicable on the terms contemplated hereby and otherwise act to render such anti-takeover Legal Requirement inapplicable to the foregoing.

Section 6. CONDITIONS PRECEDENT TO OBLIGATIONS OF EACH PARTY

The obligations of each Party to effect the Merger and otherwise consummate the transactions to be consummated at the Closing are subject to the satisfaction or, to the extent permitted by applicable law, the written waiver by each of the Parties, at or prior to the Closing, of each of the following conditions:

6.1 Effectiveness of Registration Statement . Each Registration Statement shall have become effective in accordance with the provisions of the Securities Act, and shall not be subject to any stop order or proceeding (or threatened proceeding by the SEC) seeking a stop order with respect to such Registration Statement.

6.2 No Restraints . No temporary restraining order, preliminary or permanent injunction or other order preventing the consummation of the Merger or the Warrant Exchange Offer shall have been issued by any court of competent jurisdiction or other Governmental Body of competent jurisdiction and remain in effect, and there shall not be any Legal Requirement which has the effect of making the consummation of the Merger or the Warrant Exchange Offer illegal.

6.3 Stockholder Approval . The Merger Proposal shall have been duly adopted and approved by the Required CombiMatrix Stockholder Vote.

6.4 Regulatory Matters . Any waiting period applicable to the consummation of the Merger and the Warrant Exchange Offer under the HSR Act shall have expired or been terminated, and there shall not be in effect any voluntary agreement between Invitae, Merger Sub and/or CombiMatrix, on the one hand, and the Federal Trade Commission, the Department of Justice or any foreign Governmental Body, on the other hand, pursuant to which such Party has agreed not to consummate the Merger or the Warrant Exchange Offer for any period of time; *provided* , that neither CombiMatrix, on the one hand, nor Invitae or Merger Sub, on the other hand, shall enter into any such voluntary agreement without the written consent of all Parties.

6.5 No Governmental Proceedings Relating to Contemplated Transactions or Right to Operate Business . There shall not be any Legal Proceeding pending, or overtly threatened in writing by an official of a Governmental Body in which such Governmental Body indicates that it intends to conduct any Legal Proceeding or take any other action: (a) challenging or seeking to restrain or prohibit the consummation of the Merger, the Warrant Exchange Offer or any of the other Contemplated Transactions; (b) relating to the Merger, the Warrant Exchange Offer or any of the other Contemplated Transactions and seeking to obtain from Invitae, Merger Sub or CombiMatrix any damages or other relief that may be material to Invitae or CombiMatrix; (c) seeking to prohibit or limit in any material and adverse respect the ability to vote, transfer, receive dividends with respect to or otherwise exercise ownership rights with respect to any Invitae Common Stock to be issued in the Merger or the Warrant Exchange Offer; (d) that would materially and adversely affect the right or ability of Invitae or CombiMatrix, respectively, to own the assets or operate the business of Invitae or CombiMatrix (including, from and after the Merger, with CombiMatrix as a subsidiary of Invitae); or (e) seeking to compel CombiMatrix or Invitae (or any of their respective Subsidiaries) to dispose of or hold separate any material assets as a result of the Merger, the Warrant Exchange Offer or any of the other Contemplated Transactions.

6.6 Listing . The shares of Invitae Common Stock to be issued in the Merger and the Warrant Exchange Offer shall be approved for listing on the NYSE as of the Effective Time.

Section 7. ADDITIONAL CONDITIONS PRECEDENT TO OBLIGATIONS OF INVITAE AND MERGER SUB

The obligations of Invitae and Merger Sub to effect the Merger and otherwise consummate the transactions to be consummated at the Closing are subject to the satisfaction or the written waiver by Invitae, at or prior to the Closing, of each of the following conditions:

7.1 Accuracy of Representations . The representations and warranties of CombiMatrix in Sections 2.1, 2.2, 2.3, 2.4, 2.11, 2.17, 2.19, 2.20 and 2.23 are true and correct in all material respects as of the date of this

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Agreement and are true and correct in all material respects on and as of the Closing Date with the same force and effect as if made on the Closing Date, except for those representations and warranties which address matters only as of a particular date (which representations were so true and correct as of such particular date); and (b) all other representations and warranties of CombiMatrix in [Section 2](#) are true and correct as of the date of this Agreement and are true and correct on and as of the Closing Date with the same force and effect as if made on the Closing Date except (with respect solely to this clause (b)) (i) in each case, or in the aggregate, where the failure to be true and correct would not have a CombiMatrix Material Adverse Effect (provided that all “CombiMatrix Material Adverse Effect” qualifications and other materiality qualifications limiting the scope of the representations and warranties of CombiMatrix in [Section 2](#) will be disregarded), or (ii) for those representations and warranties which address matters only as of a particular date (which representations were so true and correct, subject to the qualifications as set forth in the preceding clause (i), as of such particular date). It is understood that, for purposes of determining the accuracy of any such representations and warranties, any update of or modification to the CombiMatrix Disclosure Schedule made or purported to have been made after the date of this Agreement shall be disregarded.

7.2 Performance of Covenants . Each of the covenants and obligations in this Agreement that CombiMatrix is required to comply with or to perform at or prior to the Closing shall have been complied with and performed by CombiMatrix in all material respects.

7.3 No CombiMatrix Material Adverse Effect . Since the date of this Agreement, there shall not have occurred any CombiMatrix Material Adverse Effect that is continuing.

7.4 Warrant Exchange Offer . The Warrant Exchange Offer shall have been consummated (or shall be in the process of being consummated substantially simultaneous with the Closing), and the Minimum Warrant Exchange Participation shall have been met (or shall be assured of being met assuming the Warrant Exchange Offer is consummated substantially simultaneous with the Closing); *provided, however*, that Invitae has offered shares of Invitae Common Stock with a value (based on the Invitae Trailing Average Share Value) of at least \$2.90 (rounded to the nearest cent) per CombiMatrix Series F Warrant in the Warrant Exchange Offer.

7.5 CombiMatrix Warrant Repurchase . CombiMatrix shall have effected the CombiMatrix Warrant Repurchase.

7.6 CombiMatrix Transaction Bonus Payout Agreements . The CombiMatrix Transaction Bonus Payout Agreements entered into concurrently with this Agreement by and among CombiMatrix, Invitae and each of the participants in the CombiMatrix Transaction Bonus Plan remain in full force and effect.

7.7 Consulting Agreements . Consulting agreements with each of Mark McDonough (CombiMatrix’s President and Chief Executive Officer) and Scott Burell (CombiMatrix’s Chief Financial Officer), acceptable in each instance to the applicable individual and Invitae, shall have been executed, with such agreements to commence effectiveness immediately upon the Effective Time.

7.8 Credit Facility Waiver or Consent . Invitae shall have received any Consent required pursuant to the terms of that certain Loan and Security Agreement dated as of March 15, 2017 between Oxford Capital, LLC and Invitae (as it may be amended from time to time) such that none of the Merger, the Warrant Exchange Offer nor any of the other Contemplated Transactions shall cause or represent a breach of event of default thereunder (the “*Oxford Consent*”).

7.9 Agreements and Other Documents . Invitae shall have received the following agreements and other documents, each of which shall be in full force and effect:

(a) a certificate executed by the Chief Executive Officer and Chief Financial Officer of CombiMatrix confirming that the conditions set forth in [Sections 7.1](#), [7.2](#), [7.3](#), [7.5](#) and [7.6](#) have been duly satisfied;

(b) certificates of good standing (or equivalent documentation) of CombiMatrix and each CombiMatrix Subsidiary in its jurisdiction of organization and the various foreign jurisdictions in which it is qualified, certified charter documents of CombiMatrix and each CombiMatrix Subsidiary, and a certificate as to the incumbency of officers and the adoption of resolutions of the CombiMatrix Board of Directors authorizing the execution of this Agreement and the consummation of the Contemplated Transactions;

(c) written resignations in forms satisfactory to Invitae, dated as of the Closing Date and effective as of the Closing, executed by the officers and directors of CombiMatrix who will not be officers or directors of the Surviving Corporation pursuant to [Section 5.13](#);

(d) the Allocation Certificate; and

(e) a form of FIRPTA certificate to the Internal Revenue Service in accordance with the requirements of Treasury Regulation Section 1.897-2(h), and in form and substance reasonably acceptable to Invitae, along with written authorization for Invitae to deliver such notice form to the Internal Revenue Service on behalf of CombiMatrix upon the Closing.

Section 8. ADDITIONAL CONDITIONS PRECEDENT TO OBLIGATION OF COMBIMATRIX

The obligations of CombiMatrix to effect the Merger and otherwise consummate the transactions to be consummated at the Closing are subject to the satisfaction or the written waiver by CombiMatrix, at or prior to the Closing, of each of the following conditions:

8.1 Accuracy of Representations . The representations and warranties of Invitae and Merger Sub in [Sections 3.1, 3.2, 3.3, 3.4, 3.7 and 3.8](#) are true and correct in all material respects as of the date of this Agreement and are true and correct in all material respects on and as of the Closing Date with the same force and effect as if made on the Closing Date, except for those representations and warranties which address matters only as of a particular date (which representations were so true and correct as of such particular date); and (b) all other representations and warranties of Invitae and Merger Sub in [Section 3](#) are true and correct as of the date of this Agreement and are true and correct on and as of the Closing Date with the same force and effect as if made on the Closing Date except (with respect solely to this clause (b)) (i) in each case, or in the aggregate, where the failure to be true and correct would not have an Invitae Material Adverse Effect (provided that all “Invitae Material Adverse Effect” qualifications and other materiality qualifications limiting the scope of the representations and warranties of Invitae and Merger Sub in [Section 3](#) will be disregarded), or (ii) for those representations and warranties which address matters only as of a particular date (which representations were so true and correct, subject to the qualifications as set forth in the preceding clause (i), as of such particular date). It is understood that, for purposes of determining the accuracy of any such representations and warranties, any update of or modification to the Invitae Disclosure Schedule made or purported to have been made after the date of this Agreement shall be disregarded.

8.2 Performance of Covenants . All of the covenants and obligations in this Agreement that either Invitae or Merger Sub is required to comply with or to perform at or prior to the Closing shall have been complied with and performed in all material respects.

8.3 No Invitae Material Adverse Effect. Since the date of this Agreement, there shall not have occurred any Invitae Material Adverse Effect that is continuing.

8.4 Certificate . CombiMatrix shall have received a certificate executed by the Chief Executive Officer and Chief Financial Officer of Invitae confirming that the conditions set forth in [Sections 8.1, 8.2 and 8.3](#) have been duly satisfied.

Section 9. TERMINATION

9.1 Termination . This Agreement may be terminated prior to the Effective Time (whether before or after adoption and approval of the Merger Proposal by CombiMatrix's stockholders, unless otherwise specified below):

(a) by mutual written consent duly authorized by the Boards of Directors of Invitae and CombiMatrix;

(b) by either Invitae or CombiMatrix if the Merger shall not have been consummated by January 31, 2018 (subject to possible extension as provided in this [Section 9.1\(b\)](#), the "**End Date**"); *provided, however*, that the right to terminate this Agreement under this [Section 9.1\(b\)](#) shall not be available to CombiMatrix, on the one hand, or to Invitae and Merger Sub, on the other hand, if such Party's action or failure to act has been a principal cause of the failure of the Merger to occur on or before the End Date and such action or failure to act constitutes a breach of this Agreement; and *provided, further*, that, in the event the waiting period under the HSR Act has not expired or a request for additional information has been made by any Governmental Authority, or in the event that the SEC has not declared effective under the Securities Act either Registration Statement by the date which is sixty (60) days prior to the End Date, then either CombiMatrix or Invitae shall be entitled to extend the End Date for an additional sixty (60) days;

(c) by either Invitae or CombiMatrix if a court of competent jurisdiction or other Governmental Body shall have issued a final and nonappealable order, decree or ruling, or shall have taken any other action, having the effect of permanently restraining, enjoining or otherwise prohibiting the Merger;

(d) by either Invitae or CombiMatrix if (i) the CombiMatrix Stockholders' Meeting (including any adjournments and postponements thereof) shall have been held and completed and CombiMatrix's stockholders shall have taken a final vote on the Merger Proposal and (ii) the Merger Proposal shall not have been approved and adopted at the CombiMatrix Stockholders' Meeting (or any adjournment or postponement thereof) by the Required CombiMatrix Stockholder Vote; *provided, however*, that the right to terminate this Agreement under this [Section 9.1\(d\)](#) shall not be available to CombiMatrix where the failure to obtain the Required CombiMatrix Stockholder Vote for the Merger Proposal shall have been caused by the action or failure to act of CombiMatrix and such action or failure to act constitutes a material breach by CombiMatrix of this Agreement;

(e) by Invitae if a CombiMatrix Triggering Event shall have occurred;

(f) by CombiMatrix, upon a breach of any representation, warranty, covenant or agreement on the part of Invitae or Merger Sub set forth in this Agreement, or if any representation or warranty of Invitae or Merger Sub shall have become inaccurate, in either case such that the conditions set forth in [Section 8.1](#) or [Section 8.2](#) would not be satisfied as of the time of such breach or as of the time such representation or warranty shall have become inaccurate, or if there shall have occurred any Invitae Material Adverse Effect that is continuing such that the condition set forth in [Section 8.3](#) would not be satisfied, *provided*, that if such inaccuracy in Invitae's or Merger Sub's representations and warranties or breach by Invitae or Merger Sub is curable by Invitae or Merger Sub, or if the Effect(s) constituting the Invitae Material Adverse Effect at issue is/are capable of being ameliorated so as to not constitute an Invitae Material Adverse Effect, then this Agreement shall not terminate pursuant to this [Section 9.1\(f\)](#) as a result of such particular breach or inaccuracy or Invitae Material Adverse Effect until the earlier of (i) the expiration of a thirty (30) day period commencing upon delivery of written notice to Invitae or Merger Sub (as applicable) of such breach or inaccuracy or Invitae Material Adverse Effect and (ii) Invitae or Merger Sub (as applicable) ceasing to exercise commercially reasonable efforts to cure such breach or ameliorate such Invitae Material Adverse Effect (it being understood that this Agreement shall not terminate pursuant to this [Section 9.1\(f\)](#) as a result of such particular breach or inaccuracy or Invitae Material Adverse Effect if such breach by Invitae or Merger Sub is cured or such Invitae Material Adverse Effect is ameliorated prior to such termination becoming effective); or

(g) by Invitae, upon a breach of any representation, warranty, covenant or agreement on the part of CombiMatrix set forth in this Agreement, or if any representation or warranty of CombiMatrix shall have become inaccurate, in either case such that the conditions set forth in [Section 7.1](#) or [Section 7.2](#) would not be satisfied as of the time of such breach or as of the time such representation or warranty shall have become

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inaccurate, or if there shall have occurred any CombiMatrix Material Adverse Effect that is continuing such that the condition set forth in Section 7.3 would not be satisfied, *provided*, that if such inaccuracy in CombiMatrix's representations and warranties or breach by CombiMatrix is curable by CombiMatrix, or if the Effect(s) constituting the CombiMatrix Material Adverse Effect at issue is/are capable of being ameliorated so as to not constitute a CombiMatrix Material Adverse Effect, then this Agreement shall not terminate pursuant to this Section 9.1(g) as a result of such particular breach or inaccuracy or CombiMatrix Material Adverse Effect until the earlier of (i) the expiration of a thirty (30) day period commencing upon delivery of written notice to CombiMatrix of such breach or inaccuracy or CombiMatrix Material Adverse Effect and (ii) CombiMatrix ceasing to exercise commercially reasonable efforts to cure such breach or ameliorate such CombiMatrix Material Adverse Effect (it being understood that this Agreement shall not terminate pursuant to this Section 9.1(g) as a result of such particular breach or inaccuracy or CombiMatrix Material Adverse Effect if such breach by CombiMatrix is cured or such CombiMatrix Material Adverse Effect is ameliorated prior to such termination becoming effective).

The Party desiring to terminate this Agreement pursuant to this Section 9.1 (other than pursuant to Section 9.1(a)) shall give a notice of such termination to the other Party specifying the provisions hereof pursuant to which such termination is made and the basis therefor described in reasonable detail.

9.2 Effect of Termination . In the event of the termination of this Agreement as provided in Section 9.1, this Agreement shall be of no further force or effect; *provided, however*, that (i) this Section 9.2, Section 9.3 and Section 10 shall survive the termination of this Agreement and shall remain in full force and effect, and (ii) the termination of this Agreement shall not relieve any Party for its fraud or from any liability for any willful and material breach of any representation, warranty, covenant, obligation or other provision contained in this Agreement.

9.3 Expenses; Termination Fees .

(a) Except as set forth in this Section 9.3, all fees and expenses incurred in connection with this Agreement and the Contemplated Transactions (including any attorneys' and accountants' fees and expenses) shall be paid by the Party incurring such expenses, whether or not the Merger is consummated; *provided, however*, that Invitae and CombiMatrix shall share equally all filing fees and expenses, other than attorneys' and accountants' fees and expenses, incurred in relation to the Filings by the Parties under any Filing requirement under the HSR Act and any foreign antitrust Legal Requirement applicable to this Agreement and the Contemplated Transactions; and *provided, further*, that Invitae and CombiMatrix shall also share equally all fees and expenses, other than attorneys' and accountants' fees and expenses, of the Exchange Agent and in relation to preparation and filing with the SEC of the Registration Statements (including any preliminary materials related thereto and all amendments and supplements thereto, as well as any financial statements and schedules thereto) as well as the printing (*e.g.* , paid to a financial printer) of the Registration Statements and the printing or mailing of the Proxy Statement/Prospectus and the Offer Documents.

(b) If (i) this Agreement is terminated by Invitae or CombiMatrix pursuant to Section 9.1(d) or by Invitae pursuant to Section 9.1(e), (ii) at any time before the CombiMatrix Stockholders' Meeting a bona fide Acquisition Proposal with respect to CombiMatrix shall have been publicly announced or disclosed or, in the event this Agreement is terminated pursuant to Section 9.1(e), otherwise communicated to CombiMatrix's Board of Directors, and (iii) in the event this Agreement is terminated pursuant to Section 9.1(d), within twelve (12) months after the date of such termination, CombiMatrix enters into a definitive agreement with respect to a Subsequent Transaction or consummates a Subsequent Transaction, then CombiMatrix shall pay to Invitae, within ten (10) Business Days after termination (or, if applicable, upon such entry into a definitive agreement or consummation of a Subsequent Transaction), a nonrefundable fee in an amount equal to \$1,400,000 (the "**Termination Fee**"), in addition to any amount payable to Invitae pursuant to Section 9.3(e); *provided, however*, that such Termination Fee shall be reduced by any amount already paid to Invitae pursuant to Section 9.3(d).

(c) (i) If this Agreement is terminated by CombiMatrix pursuant to Section 9.1(f) other than as a result of an Invitae Material Adverse Effect or (ii) in the event of a failure of CombiMatrix to consummate the

transactions to be consummated at the Closing solely as a result of an Invitae Material Adverse Effect as set forth in [Section 8.3](#) (*provided*, that at such time all of the conditions precedent to the obligations of Invitae to a Closing set forth in [Section 6](#) and [Section 7](#) of this Agreement have been satisfied by CombiMatrix, are capable of being satisfied by CombiMatrix, or have been waived by Invitae), then Invitae shall reimburse CombiMatrix for all reasonable fees and expenses incurred by CombiMatrix in connection with this Agreement and the Contemplated Transactions, including (A) all fees and expenses incurred by engagement of the Exchange Agent and in relation to preparation and filing with the SEC of the Registration Statements (including any preliminary materials related thereto and all amendments and supplements thereto, as well as any financial statements and schedules thereto) as well as the printing (*e.g.*, paid to a financial printer) of the Registration Statements and the printing or mailing of the Proxy Statement/Prospectus and the Offer Documents and (B) all fees and expenses incurred in connection with the preparation and Filing under any Filing requirement of any Governmental Authority applicable to this Agreement and the Contemplated Transactions (such expenses, including (A) and (B) above, collectively, the “*Third Party Expenses*”), up to a maximum of \$400,000, by wire transfer of same-day funds within ten (10) Business Days following the date on which CombiMatrix submits to Invitae true and correct copies of reasonable documentation supporting such Third Party Expenses; *provided*, *however*, that such Third Party Expenses shall not include any amounts for a financial advisor to CombiMatrix except for reasonably documented out-of-pocket expenses otherwise reimbursable by CombiMatrix to such financial advisor pursuant to the terms of CombiMatrix’s engagement letter or similar arrangement with such financial advisor.

(d) (i) If this Agreement is terminated by Invitae pursuant to [Sections 9.1\(d\)](#), [9.1\(e\)](#) or [9.1\(g\)](#) (other than, in the instance of [Section 9.1\(g\)](#), as a result of a CombiMatrix Material Adverse Effect), (ii) if this Agreement is terminated by CombiMatrix pursuant to [Section 9.1\(d\)](#), or (iii) in the event of a failure of Invitae to consummate the transactions to be consummated at the Closing solely as a result of a CombiMatrix Material Adverse Effect as set forth in [Section 7.3](#) (*provided*, that at such time all of the conditions precedent to the obligations of CombiMatrix to a Closing set forth in [Section 6](#) and [Section 8](#) of this Agreement have been satisfied by Invitae or Merger Sub, are capable of being satisfied by Invitae or Merger Sub, or have been waived by CombiMatrix), then CombiMatrix shall reimburse Invitae for all Third Party Expenses incurred by Invitae, up to a maximum of \$400,000, by wire transfer of same-day funds within ten (10) Business Days following the date on which Invitae submits to CombiMatrix true and correct copies of reasonable documentation supporting such Third Party Expenses; *provided*, *however*, that such Third Party Expenses shall not include any amounts for a financial advisor to Invitae except for reasonably documented out-of-pocket expenses otherwise reimbursable by Invitae to such financial advisor pursuant to the terms of Invitae’s engagement letter or similar arrangement with such financial advisor.

(e) If either Party fails to pay when due any amount payable by such Party under [Sections 9.3\(b\)](#), [9.3\(c\)](#) or [9.3\(d\)](#), then (i) such Party shall reimburse the other Party for reasonable costs and expenses (including reasonable fees and disbursements of counsel) incurred in connection with the collection of such overdue amount and the enforcement by the other Party of its rights under this [Section 9.3](#), and (ii) such Party shall pay to the other Party interest on such overdue amount (for the period commencing as of the date such overdue amount was originally required to be paid and ending on the date such overdue amount is actually paid to the other Party in full) at a rate per annum equal to the “prime rate” (as announced by Bank of America or any successor thereto) in effect on the date such overdue amount was originally required to be paid.

(f) The Parties agree that the payment of the fees and expenses set forth in this [Section 9.3](#), subject to [Section 9.2](#), shall be the sole and exclusive remedy of each Party following a termination of this Agreement under the circumstances described in this [Section 9.3](#), it being understood that in no event shall either Invitae or CombiMatrix be required to pay fees or damages payable pursuant to this [Section 9.3](#) on more than one occasion. Subject to [Section 9.2](#), the payment of the fees and expenses set forth in this [Section 9.3](#), and the provisions of [Section 10.11](#), each of the Parties and their respective Affiliates shall have no liability, shall not be entitled to bring or maintain any other claim, action or proceeding against the other, shall be precluded from any other remedy against the other, at law or in equity or otherwise, and shall not seek to obtain any recovery, judgment or damages of any kind against the other (or any partner, member, stockholder, director, officer, employee, Subsidiary, affiliate, agent or other representative of such Party) in connection with or arising out of the

termination of this Agreement, any breach by any Party giving rise to such termination or the failure of the Merger and the other Contemplated Transactions to be consummated. Each of the Parties acknowledges that (i) the agreements contained in this [Section 9.3](#) are an integral part of the Contemplated Transactions, (ii) without these agreements, the Parties would not enter into this Agreement and (iii) any amount payable pursuant to this [Section 9.3](#) is not a penalty, but rather is liquidated damages in a reasonable amount that will compensate the Parties in the circumstances in which such amount is payable.

Section 10. MISCELLANEOUS PROVISIONS

10.1 Non-Survival of Representations and Warranties . The representations and warranties of CombiMatrix, Merger Sub and Invitae contained in this Agreement or any certificate or instrument delivered pursuant to this Agreement shall terminate at the Effective Time, and only the covenants that by their terms survive the Effective Time and this [Section 10](#) shall survive the Effective Time.

10.2 Amendment . This Agreement may be amended with the approval of the respective Boards of Directors of CombiMatrix, Merger Sub and Invitae at any time (whether before or after the adoption and approval of the Merger Proposal by CombiMatrix's stockholders); *provided, however*, that after any such adoption and approval of the Merger Proposal by the CombiMatrix stockholders, no amendment shall be made which by law requires further approval of the CombiMatrix stockholders without the further approval of such stockholders. This Agreement may not be amended except by an instrument in writing signed on behalf of each of CombiMatrix, Merger Sub and Invitae.

10.3 Waiver .

(a) No failure on the part of any Party to exercise any power, right, privilege or remedy under this Agreement, and no delay on the part of any Party in exercising any power, right, privilege or remedy under this Agreement, shall operate as a waiver of such power, right, privilege or remedy; and no single or partial exercise of any such power, right, privilege or remedy shall preclude any other or further exercise thereof or of any other power, right, privilege or remedy.

(b) No Party shall be deemed to have waived any claim arising out of this Agreement, or any power, right, privilege or remedy under this Agreement, unless the waiver of such claim, power, right, privilege or remedy is expressly set forth in a written instrument duly executed and delivered on behalf of such Party; and any such waiver shall not be applicable or have any effect except in the specific instance in which it is given.

10.4 Entire Agreement; Counterparts; Exchanges by Facsimile or Electronic Transmission . This Agreement and the other agreements referred to in this Agreement constitute the entire agreement and supersede all prior agreements and understandings, both written and oral, among or between any of the Parties with respect to the subject matter hereof and thereof; *provided, however*, that the Confidentiality Agreement shall not be superseded and shall remain in full force and effect in accordance with its terms. This Agreement may be executed in several counterparts, each of which shall be deemed an original and all of which shall constitute one and the same instrument. The exchange of a fully executed Agreement (in counterparts or otherwise) by all Parties by facsimile or electronic transmission in .PDF format shall be sufficient to bind the Parties to the terms and conditions of this Agreement.

10.5 Applicable Law; Jurisdiction . This Agreement shall be governed by, and construed in accordance with, the laws of the State of Delaware, regardless of the laws that might otherwise govern under applicable principles of conflicts of laws. In any action or suit between any of the Parties arising out of or relating to this Agreement or any of the Contemplated Transactions: (a) each of the Parties irrevocably and unconditionally consents and submits to the exclusive jurisdiction and venue of the state and federal courts located in the State of Delaware; (b) if any such action or suit is commenced in a state court, then, subject to applicable Legal Requirements, no Party shall object to the removal of such action or suit to any federal court located in the District of Delaware; and (c) each of the Parties irrevocably waives the right to trial by jury.

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10.6 Attorneys' Fees . In any action at law or suit in equity to enforce this Agreement or the rights of any of the Parties under this Agreement, the prevailing Party in such action or suit shall be entitled to receive a reasonable sum for its attorneys' fees and all other reasonable costs and expenses incurred in such action or suit.

10.7 Assignability; No Third Party Beneficiaries . This Agreement shall be binding upon, and shall be enforceable by and inure solely to the benefit of, the Parties and their respective successors and assigns; *provided, however* , that neither this Agreement nor any of a Party's rights or obligations hereunder may be assigned or delegated by such Party without the prior written consent of the other Parties, and any attempted assignment or delegation of this Agreement or any of such rights or obligations by such Party without the other Parties' prior written consent shall be void and of no effect. Nothing in this Agreement, express or implied, is intended to or shall confer upon any Person (other than the Parties and the D&O Indemnified Parties to the extent of their respective rights pursuant to [Section 5.6](#)) any right, benefit or remedy of any nature whatsoever under or by reason of this Agreement.

10.8 Notices . Any notice or other communication required or permitted to be delivered to any Party under this Agreement shall be in writing and shall be deemed properly delivered, given and received when delivered by hand, by registered mail, by courier or express delivery service or by facsimile to the address or facsimile number set forth beneath the name of such Party below (or to such other address or facsimile number as such Party shall have specified in a written notice given to the other Parties):

if to Invitae or Merger Sub:

Invitae Corporation
1400 16th Street
San Francisco, California 94103
Attention: Chief Financial Officer

with a copy to:

Pillsbury Winthrop Shaw Pittman LLP
12255 El Camino Real, Suite 300
San Diego, California 92130
Fax: (858) 509-4010
Attention: Mike Hird

if to CombiMatrix:

CombiMatrix Corporation
300 Goddard, Suite 100
Irvine, California 92618
Fax: 949.753.1504
Attention: Chief Financial Officer

with a copy to:

Stradling Yocca Carlson & Rauth, P.C.
660 Newport Center Drive, Suite 1600
Newport Beach, CA 92660
Email: pschweich@sycr.com
Attention: Parker Schweich

10.9 Cooperation . Each Party agrees to cooperate fully with the other Parties and to execute and deliver such further documents, certificates, agreements and instruments and to take such other actions as may be reasonably requested by any other Party to evidence or reflect the Contemplated Transactions and to carry out the intent and purposes of this Agreement.

10.10 Severability . Any term or provision of this Agreement that is invalid or unenforceable in any situation in any jurisdiction shall not affect the validity or enforceability of the remaining terms and provisions of this Agreement or the validity or enforceability of the offending term or provision in any other situation or in any other jurisdiction. If a final judgment of a court of competent jurisdiction declares that any term or provision of this Agreement is invalid or unenforceable, the Parties agree that the court making such determination shall have the power to limit such term or provision, to delete specific words or phrases or to replace such term or provision with a term or provision that is valid and enforceable and that comes closest to expressing the intention of the invalid or unenforceable term or provision, and this Agreement shall be valid and enforceable as so modified. In the event such court does not exercise the power granted to it in the prior sentence, the Parties agree to replace such invalid or unenforceable term or provision with a valid and enforceable term or provision that will achieve, to the extent possible, the economic, business and other purposes of such invalid or unenforceable term or provision.

10.11 Other Remedies; Specific Performance . Except as otherwise provided herein, any and all remedies herein expressly conferred upon a Party will be deemed cumulative with and not exclusive of any other remedy conferred hereby, or by law or equity upon such Party, and the exercise by a Party of any one remedy will not preclude the exercise of any other remedy. The Parties agree that irreparable damage would occur in the event that any of the provisions of this Agreement were not performed in accordance with their specific terms or were otherwise breached. It is accordingly agreed that the Parties shall be entitled to an injunction or injunctions to prevent breaches of this Agreement and to enforce specifically the terms and provisions hereof in any court of the United States or any state having jurisdiction, this being in addition to any other remedy to which they are entitled at law or in equity, and each of the Parties waives any bond, surety or other security that might be required of any other Party with respect thereto.

10.12 Construction .

(a) For purposes of this Agreement, whenever the context requires: the singular number shall include the plural, and vice versa; the masculine gender shall include the feminine and neuter genders; the feminine gender shall include the masculine and neuter genders; and the neuter gender shall include masculine and feminine genders.

(b) The Parties agree that any rule of construction to the effect that ambiguities are to be resolved against the drafting Party shall not be applied in the construction or interpretation of this Agreement.

(c) As used in this Agreement, the words “include” and “including,” and variations thereof, shall not be deemed to be terms of limitation, but rather shall be deemed to be followed by the words “without limitation.”

(d) Except as otherwise indicated, all references in this Agreement to “Sections,” “Exhibits” and “Schedules” are intended to refer to Sections of this Agreement and Exhibits and Schedules to this Agreement, respectively.

(e) The bold-faced headings contained in this Agreement are for convenience of reference only, shall not be deemed to be a part of this Agreement and shall not be referred to in connection with the construction or interpretation of this Agreement.

[Remainder of page intentionally left blank]

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed as of the date first above written.

INVITAE CORPORATION

By: /s/ Lee Bendekgey
Name: Lee Bendekgey
Title: Chief Operating Officer

CORONADO MERGER SUB, INC.

By: /s/ Lee Bendekgey
Name: Lee Bendekgey
Title: Chief Executive Officer

COMBIMATRIX CORPORATION

By: /s/ Mark McDonough
Name: Mark McDonough
Title: President & Chief Executive Officer

Exhibits:

- Exhibit A Certain Definitions
- Exhibit B-1 Form of Transaction Bonus Payout Agreement (Executive Officers)
- Exhibit B-2 Form of Transaction Bonus Payout Agreement (Directors)

EXHIBIT A
CERTAIN DEFINITIONS

For purposes of the Agreement (including this [Exhibit A](#)):

“**2006 Plan**” shall have the meaning set forth in [Section 2.3\(c\)](#).

“**ACA**” shall have the meaning set forth in [Section 2.13\(p\)](#).

“**Accounting Firm**” shall have the meaning set forth in [Section 1.6\(e\)](#).

“**Acquired Corporations**” shall mean CombiMatrix and each of the CombiMatrix Subsidiaries, collectively.

“**Acquisition Agreement**” shall have the meaning set forth in [Section 4.4\(a\)](#).

“**Acquisition Inquiry**” shall mean an inquiry, indication of interest or request for information (other than an inquiry, indication of interest or request for information made or submitted by or on behalf of Invitae) that could reasonably be expected to lead to an Acquisition Proposal.

“**Acquisition Proposal**” shall mean any offer or proposal (other than an offer or proposal made or submitted by or on behalf of Invitae), whether written or oral, contemplating or otherwise relating to any Acquisition Transaction.

“**Acquisition Transaction**” shall mean any transaction or series of transactions involving:

- any merger, consolidation, amalgamation, share exchange, business combination, issuance of securities, acquisition of securities, reorganization, recapitalization, tender offer, exchange offer or other similar transaction: (i) in which CombiMatrix is a constituent corporation; (ii) in which a Person or “group” (as defined in the Exchange Act and the rules promulgated thereunder) of Persons directly or indirectly acquires beneficial or record ownership of securities representing more than 20% of the outstanding securities of any class of voting securities of CombiMatrix or any of its Subsidiaries; or (iii) in which CombiMatrix or any of its Subsidiaries issues securities representing more than 20% of the outstanding securities of any class of voting securities of CombiMatrix or any of its Subsidiaries;
- any sale, lease, exchange, transfer, license, acquisition or disposition of any business or businesses or assets that constitute or account for 20% or more of the consolidated book value or the fair market value of the assets of CombiMatrix and its Subsidiaries, taken as a whole; or
- any liquidation or dissolution of CombiMatrix.

“**Affiliates**” shall have the meaning for such term as used in Rule 145 under the Securities Act.

“**Agreement**” shall mean the Agreement and Plan of Merger and Reorganization to which this [Exhibit A](#) is attached, as it may be amended from time to time.

“**Allocation Certificate**” shall have the meaning set forth in [Section 5.16](#).

“**Anticipated Closing Date**” shall have the meaning set forth in [Section 1.6\(a\)](#).

“**BIS**” shall have the meaning set forth in [Section 2.11\(o\)](#).

“**Business Day**” shall mean any day other than a day on which banks in the State of California are authorized or obligated to be closed.

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“**CAP**” shall have the meaning set forth in [Section 2.11\(b\)](#).

“**Certificate of Merger**” shall have the meaning set forth in [Section 1.3](#).

“**CLIA**” shall mean the Clinical Laboratory Improvement Amendments, 42 C.F.R. Part 493, and all regulations promulgated thereunder.

“**Closing**” shall have the meaning set forth in [Section 1.3](#).

“**Closing Date**” shall have the meaning set forth in [Section 1.3](#).

“**CMDX**” shall have the meaning set forth in [Section 5.4\(a\)](#).

“**CMDX 2005 Plan**” shall have the meaning set forth in [Section 5.4\(a\)](#).

“**COBRA**” shall mean the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended, as set forth in Section 4980B of the Code and Part 6 of Title I of ERISA.

“**Code**” shall mean the Internal Revenue Code of 1986, as amended.

“**Collaboration Partner**” shall mean any Person that co-develops or co-markets (or has a license to develop, market or sell) any product, technology or service of CombiMatrix or any CombiMatrix Subsidiary.

“**CombiMatrix**” shall have the meaning set forth in the Preamble.

“**CombiMatrix 401(k) Plan**” shall have the meaning set forth in [Section 5.5](#).

“**CombiMatrix 409A Plan**” shall have the meaning set forth in [Section 2.13\(f\)](#).

“**CombiMatrix Affiliate**” shall mean any Person that is (or at any relevant time was) under common control with CombiMatrix within the meaning of Sections 414(b), (c), (m) and (o) of the Code, and the regulations issued thereunder.

“**CombiMatrix Associate**” shall mean any current or former employee, independent contractor, officer or director of CombiMatrix or any CombiMatrix Affiliate.

“**CombiMatrix Board Adverse Recommendation Change**” shall have the meaning set forth in [Section 5.2\(c\)](#).

“**CombiMatrix Board of Directors**” shall mean the board of directors of CombiMatrix.

“**CombiMatrix Board Recommendation**” shall have the meaning set forth in [Section 5.2\(b\)](#).

“**CombiMatrix Capital Stock**” shall mean the CombiMatrix Common Stock and the CombiMatrix Preferred Stock.

“**CombiMatrix Certifications**” shall have the meaning set forth in [Section 2.4\(a\)](#).

“**CombiMatrix Common Stock**” shall mean the Common Stock, \$0.001 par value per share, of CombiMatrix.

“**CombiMatrix Contract**” shall mean any Contract: (a) to which CombiMatrix or any of its Subsidiaries is a Party; (b) by which CombiMatrix or any CombiMatrix Subsidiary or any CombiMatrix IP Rights or any other

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asset of CombiMatrix or any of its Subsidiaries is or may become bound or under which CombiMatrix or any CombiMatrix Subsidiary has, or may become subject to, any obligation; or (c) under which CombiMatrix or CombiMatrix Subsidiary has or may acquire any right or interest.

“ **CombiMatrix D&O Policies** ” shall have the meaning set forth in [Section 2.15\(b\)](#).

“ **CombiMatrix Disclosure Schedule** ” shall have the meaning set forth in [Section 2](#).

“ **CombiMatrix Employee Plan** ” shall have the meaning set forth in [Section 2.13\(d\)](#).

“ **CombiMatrix IP Rights** ” shall mean all Intellectual Property owned, licensed or controlled by CombiMatrix or any of its Subsidiaries that is necessary or used in the business of CombiMatrix or any of its Subsidiaries as presently conducted or as presently proposed to be conducted.

“ **CombiMatrix IP Rights Agreement** ” shall mean any instrument or agreement governing, related or pertaining to any CombiMatrix IP Rights.

“ **CombiMatrix Material Adverse Effect** ” shall mean any Effect that, considered together with all other Effects that have occurred prior to the date of determination of the occurrence of the CombiMatrix Material Adverse Effect, is or could reasonably be expected to be materially adverse to, or has or could reasonably be expected to have or result in a material adverse effect on: (a) the business, condition (financial or otherwise), capitalization, assets (including Intellectual Property), operations or financial performance of CombiMatrix and its Subsidiaries taken as a whole; or (b) the ability of CombiMatrix to consummate the Merger or any of the other Contemplated Transactions or to perform any of its covenants or obligations under the Agreement in all material respects; *provided*, *however*, that Effects from the following shall not be deemed to constitute (nor shall Effects from any of the following be taken into account in determining whether there has occurred) a CombiMatrix Material Adverse Effect: (i) any rejection by a Governmental Body of a registration or Filing by CombiMatrix relating to the CombiMatrix IP Rights; (ii) any change in the cash position of CombiMatrix which results from operations in the Ordinary Course of Business; (iii) conditions generally affecting the industries in which CombiMatrix and its Subsidiaries participate or the United States or global economy or capital markets as a whole, to the extent that such conditions do not have a disproportionate impact on CombiMatrix and its Subsidiaries taken as a whole; (iv) any failure by CombiMatrix or any of its Subsidiaries to meet internal projections or forecasts or third party revenue or earnings predictions for any period ending (or for which revenues or earnings are released) on or after the date of this Agreement (it being understood, however, that any Effect causing or contributing to any such failure to meet projections or predictions or any change in stock price or trading volume may constitute a CombiMatrix Material Adverse Effect and may be taken into account in determining whether a CombiMatrix Material Adverse Effect has occurred); (v) the execution, delivery, announcement or performance of the obligations under this Agreement or the announcement, pendency or anticipated consummation of the Merger; (vi) any natural disaster or any acts of terrorism, sabotage, military action or war or any escalation or worsening thereof, to the extent that any such event does not have a disproportionate impact on CombiMatrix and its Subsidiaries taken as a whole; (vii) changes in regulatory, legislative or political conditions in the United States or any other country or region in the world, to the extent that such changes do not have a disproportionate impact on CombiMatrix and its Subsidiaries taken as a whole; (viii) changes in conditions in the financial markets, credit markets or capital markets in the United States or any other country or region in the world, to the extent that such changes do not have a disproportionate impact on CombiMatrix and its Subsidiaries taken as a whole, including (1) changes in interest rates or credit ratings in the United States or any other country; (2) changes in exchange rates for the currencies of any country; or (3) any suspension of trading in securities (whether equity, debt, derivative or hybrid securities) generally on any securities exchange or over-the-counter market operating in the United States or any other country or region in the world; or (ix) any changes (after the date of this Agreement) in GAAP or applicable Legal Requirements, to the extent that such changes do not have a disproportionate impact on CombiMatrix and its Subsidiaries taken as a whole.

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“ **CombiMatrix Material Contract** ” shall have the meaning set forth in [Section 2.9](#) .

“ **CombiMatrix Options** ” shall mean options or other rights to purchase shares of CombiMatrix Common Stock issued or granted by CombiMatrix.

“ **CombiMatrix PIPE Warrants** ” shall mean the CombiMatrix warrants exercisable for shares of CombiMatrix Common Stock at current per share exercise prices of \$16.50 and \$32.51 that expire on August 13, 2020.

“ **CombiMatrix Preferred Stock** ” shall have the meaning set forth in [Section 2.3\(a\)](#) .

“ **CombiMatrix Registered IP** ” shall mean all CombiMatrix IP Rights that are registered, filed or issued under the authority of, with or by any Governmental Body, including all patents, registered copyrights and registered trademarks and all applications for any of the foregoing.

“ **CombiMatrix Regulatory Permits** ” shall have the meaning set forth in [Section 2.11\(c\)](#) .

“ **CombiMatrix RSUs** ” shall mean the right to receive shares of CombiMatrix Common Stock upon settlement of such award issued or granted by CombiMatrix.

“ **CombiMatrix SEC Documents** ” shall have the meaning set forth in [Section 2.4\(a\)](#) .

“ **CombiMatrix Series A Warrants** ” shall mean the CombiMatrix warrants exercisable for shares of CombiMatrix Common Stock (i) at a current per share exercise price of \$29.55 that expire on October 1, 2018 and (ii) at a current per share exercise price of \$30.90 that expire on April 1, 2018.

“ **CombiMatrix Series B Warrants** ” shall mean the CombiMatrix warrants exercisable for shares of CombiMatrix Common Stock at a current per share exercise price of \$29.55 that expire on March 20, 2019.

“ **CombiMatrix Series C Warrants** ” shall mean the CombiMatrix warrants exercisable for shares of CombiMatrix Common Stock at a current per share exercise price of \$29.55 that expire on May 6, 2019 and June 28, 2019.

“ **CombiMatrix Series D Warrants** ” shall mean the CombiMatrix warrants exercisable for shares of CombiMatrix Common Stock at a current per share exercise price of \$46.80 that expire on December 19, 2018.

“ **CombiMatrix Series E Warrants** ” shall mean the CombiMatrix warrants exercisable for shares of CombiMatrix Common Stock at a current per share exercise price of \$16.50 that expire on August 18, 2020.

“ **CombiMatrix Series F Preferences Certificate** ” shall have the meaning set forth in [Section 2.3\(f\)](#) .

“ **CombiMatrix Series F Preferred Stock** ” shall mean the 8,000 shares of CombiMatrix convertible preferred stock, par value \$0.001 per share, which have been designated as Series F pursuant to the Certificate of Designation of Preferences, Rights and Limitations of Series F Convertible Preferred Stock.

“ **CombiMatrix Series F Warrants** ” shall mean the CombiMatrix warrants exercisable for shares of CombiMatrix Common Stock at a current per share exercise price of \$5.17 that expire on March 24, 2021.

“ **CombiMatrix Stock Certificate** ” shall have the meaning set forth in [Section 1.7](#) .

“ **CombiMatrix Stockholders ' Meeting** ” shall have the meaning set forth in [Section 5.2\(a\)](#) .

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“**CombiMatrix Transaction Bonus Payout Agreements**” shall mean each of (i) the Transaction Bonus Plan Agreements in the form substantially attached hereto as [Exhibit B-1](#), entered into with each of the executive officers and the Vice President of Billing & Reimbursement of CombiMatrix concurrently with the execution of this Agreement, and (ii) the Transaction Bonus Plan Agreements in the form substantially attached hereto as [Exhibit B-2](#), entered into with each of the outside directors of CombiMatrix concurrently with the execution of this Agreement.

“**CombiMatrix Transaction Bonus Plan**” shall mean the Transaction Bonus Plan of CombiMatrix which was adopted on December 2, 2015 which provides for certain bonus payments to be made, upon the consummation of a qualifying change of control transaction, to certain employees of CombiMatrix as determined from time to time by the compensation committee of the CombiMatrix Board of Directors.

A “**CombiMatrix Triggering Event**” shall be deemed to have occurred if: (i) the CombiMatrix Board of Directors shall have failed to recommend that CombiMatrix’s stockholders vote to adopt and approve the Merger Proposal or shall for any reason have withdrawn or shall have modified in a manner adverse to Invitae the CombiMatrix Board Recommendation; (ii) CombiMatrix shall have failed to include in the Proxy Statement/Prospectus the CombiMatrix Board Recommendation; (iii) the CombiMatrix Board of Directors shall have approved, endorsed or recommended any Acquisition Proposal; (iv) CombiMatrix shall have entered into any letter of intent or similar document or any Contract relating to any Acquisition Proposal (other than a confidentiality agreement permitted pursuant to [Section 4.4](#)); or (v) CombiMatrix or any Representative of CombiMatrix shall have breached the provisions set forth in [Section 4.4](#) of the Agreement.

“**CombiMatrix Unaudited Interim Balance Sheet**” shall mean the unaudited consolidated balance sheet of CombiMatrix and its consolidated Subsidiaries as of April 30, 2017, provided to Invitae prior to the date of this Agreement.

“**CombiMatrix Warrant Repurchase**” shall have the meaning set forth in [Section 5.4\(b\)](#).

“**CombiMatrix Warrants**” shall have the meaning set forth in [Section 2.3\(a\)](#).

“**Confidentiality Agreement**” shall mean the Mutual Confidentiality Agreement and Standstill Agreement made on May 6, 2016 by and between CombiMatrix and Invitae.

“**Consent**” shall mean any approval, consent, ratification, permission, waiver or authorization (including any Governmental Authorization).

“**Contemplated Transactions**” shall mean the Merger, the Warrant Exchange Offer, the CombiMatrix Warrant Repurchase, the termination of all outstanding CombiMatrix Options immediately prior to the Effective Time, and the other transactions and actions contemplated by the Agreement.

“**Contract**” shall, with respect to any Person, mean any written agreement, contract, subcontract, lease (whether real or personal property), mortgage, understanding, arrangement, instrument, note, option, warranty, purchase order, license, sublicense, insurance policy, benefit plan or legally binding commitment or undertaking of any nature to which such Person is a party or by which such Person or any of its assets are bound or affected under applicable law.

“**Converted CombiMatrix Options**” shall have the meaning set forth in [Section 5.4\(a\)](#).

“**D&O Indemnified Parties**” shall have the meaning set forth in [Section 5.6\(a\)](#).

“**Data**” shall mean all data, information, databases, data files and other collections of data, including patient data, case study data, expression level data and risk outcomes, as well as all documentation and media on which any of the foregoing is recorded.

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“**Data Security Requirements**” shall mean, collectively, all of the following, to the extent relating to privacy or data security and applicable to CombiMatrix or any CombiMatrix Subsidiary or to the business of CombiMatrix or any CombiMatrix Subsidiary as presently conducted and as presently proposed to be conducted: (i) CombiMatrix’s own rules, policies, and procedures; (ii) all applicable Legal Requirements; (iii) industry standards applicable to the industry in which CombiMatrix or any CombiMatrix Subsidiary operates; and (iv) Contracts into which CombiMatrix or any CombiMatrix Subsidiary has entered or by which CombiMatrix or any CombiMatrix Subsidiary is otherwise bound.

“**Determination Date**” shall have the meaning set forth in [Section 1.6\(a\)](#).

“**DGCL**” shall mean the General Corporation Law of the State of Delaware.

“**Dispute Notice**” shall have the meaning set forth in [Section 1.6\(b\)](#).

“**Effect**” shall mean any effect, change, event, circumstance, or development.

“**Effective Time**” shall have the meaning set forth in [Section 1.3](#).

“**Encumbrance**” shall mean any lien, pledge, hypothecation, charge, mortgage, security interest, encumbrance, claim, infringement, interference, option, right of first refusal, preemptive right, community property interest or restriction of any nature (including any restriction on the voting of any security, any restriction on the transfer of any security or other asset, any restriction on the receipt of any income derived from any asset, any restriction on the use of any asset and any restriction on the possession, exercise or transfer of any other attribute of ownership of any asset).

“**End Date**” shall have the meaning set forth in [Section 9.1\(b\)](#).

“**Entity**” or “**Entities**” shall mean any corporation (including any non-profit corporation), partnership (including any general partnership, limited partnership or limited liability partnership), joint venture, estate, trust, company (including any company limited by shares, limited liability company or joint stock company), firm, society or other enterprise, association, organization or entity, and each of its successors.

“**Environmental Law**” shall mean any federal, state, local or foreign Legal Requirement relating to pollution or protection of human health or the environment (including ambient air, surface water, ground water, land surface or subsurface strata), including any law or regulation relating to emissions, discharges, releases or threatened releases of Hazardous Materials, or otherwise relating to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of Hazardous Materials.

“**ERISA**” shall mean the Employee Retirement Income Security Act of 1974, as amended.

“**Exchange Act**” shall mean the Securities Exchange Act of 1934, as amended.

“**Exchange Agent**” shall have the meaning set forth in [Section 1.8\(a\)](#).

“**Exchange Fund**” shall have the meaning set forth in [Section 1.8\(a\)](#).

“**Exchange Ratio**” shall mean, subject to [Section 1.5\(f\)](#), the greater of **X** or **Y**, where:

- X** = The *quotient* obtained by dividing **A** by **B** where:
- A** = The Invitae Merger Shares; and
- B** = The CombiMatrix Outstanding Shares,

and where:

- “ **Adjusted Aggregate Value** ” means the *sum* of (i) \$27,000,000, *plus or minus* (ii) Net Cash (determined pursuant to [Section 1.6](#)).
- “ **CombiMatrix Outstanding Shares** ” means the total number of shares of CombiMatrix Capital Stock outstanding immediately prior to the Effective Time expressed on a fully diluted and as-converted to CombiMatrix Common Stock basis and assuming, without limitation, (i) the settlement of all CombiMatrix RSUs, whether unvested or vested, as of immediately prior to the Effective Time, (ii) the cash exercise of all CombiMatrix Options outstanding as of immediately prior to the Effective Time (*i.e.* , to the extent not terminated without the right to receive any consideration as contemplated for out-of-the-money CombiMatrix Options by [Section 5.4\(a\)](#)), (iii) the cash exercise of all CombiMatrix Series F Warrants outstanding as of the Effective Time (*i.e.* , to the extent not exchanged in the Warrant Exchange Offer or exercised prior to consummation of the Warrant Exchange Offer), (iv) the conversion of all CombiMatrix Series F Preferred Stock outstanding as of the Effective Time and (v) the issuance of shares of CombiMatrix Common Stock in respect of all other options, warrants, convertible securities or rights to receive such shares, whether conditional or unconditional and including any options, warrants, convertible securities or rights triggered by or associated with the consummation of the Merger; *provided that*, notwithstanding the foregoing, the following shares of CombiMatrix Common Stock shall be excluded from such total: (x) shares of CombiMatrix Common Stock issuable upon exercise of the CombiMatrix Series D Warrants so long as the terms of the CombiMatrix Series D Warrants have not been modified following the date of this Agreement; (y) shares of CombiMatrix Common Stock issuable upon exercise of the CombiMatrix Series F Warrants that are exchanged in the Warrant Exchange Offer; and (z) Terminated CombiMatrix Options.
- “ **Invitae Merger Shares** ” mean a total number of shares of Invitae Common Stock equal to the *quotient* determined by *dividing* the Adjusted Aggregate Value *by* the Invitae Trailing Average Share Value.
- “ **Invitae Trailing Average Share Value** ” means the average closing price for shares of Invitae Common Stock on the NYSE (or any other exchange which is then the primary exchange upon which shares of Invitae Common Stock are traded) for the immediately preceding period of thirty (30) trading days prior to the date of this Agreement.

As an example, if Net Cash is \$0.00, the CombiMatrix Outstanding Shares amount is 3,750,000 and the Invitae Trailing Average Share Value is \$9.00, then X would be determined as follows:

$$X = \frac{\left(\frac{\text{Adjusted Aggregate Value}}{\text{India Trailing Average Share Value}} \right)}{\text{Coronado Outstanding Shares}} = \frac{\left(\frac{\$27,000,000 \pm \text{Net Cash}}{\text{India Trailing Average Share Value}} \right)}{\text{Coronado Outstanding Shares}}$$
$$X = \frac{\left(\frac{[\$27,000,000 \pm \$0]}{\$9.00} \right)}{3,750,000} = \frac{3,000,000}{3,750,000} = 0.80$$

The Exchange Ratio would thus be 0.80 shares of Invitae Common Stock issuable per share of CombiMatrix Common Stock, subject to Y (below) being greater.

Y = The *quotient* obtained by dividing (x) the *sum* of (i) \$8.25 *minus* (ii) the Adjustment Amount, by (y) the Invitae Trailing Average Share Value, where

- “ **Adjustment Amount** ” means the *quotient* represented by C *divided by* D, where

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- C** = The *sum* of the following:
- (i) the amount, if any, by which Net Cash (determined pursuant to [Section 1.6](#), but not taking into account any gross proceeds from exercises of CombiMatrix Series F Warrants after the date of this Agreement) is below (x) negative \$1,000,000.00 if the aggregate payouts in shares of Invitae Common Stock (calculated using the Invitae Trailing Average Share Value) pursuant to the CombiMatrix Transaction Bonus Plan Agreements will be greater than \$2,000,000, and otherwise (y) \$0.00, *plus*
 - (ii) the *product* of \$8.25 *multiplied by* the *sum*, if any, of (x) any shares of CombiMatrix Common Stock that are issued or that become issuable (including upon any conversion or exercise of any securities) after the date of this Agreement (other than pursuant to conversion or exercise of any securities outstanding as of the date of this Agreement) *plus* (y) the excess, if any, of (A) the total number of shares of CombiMatrix Common Stock actually outstanding as of the date of this Agreement over (B) the total number of shares of CombiMatrix Common Stock represented to be outstanding as of the date of this Agreement pursuant to [Section 2.3](#), calculated in each instance on a fully diluted and as-converted/as-exercised to CombiMatrix Common Stock basis but excluding shares issuable upon the exercise of Terminated CombiMatrix Options or CombiMatrix Warrants subject to the CombiMatrix Warrant Repurchase; and
- D** = The CombiMatrix Outstanding Shares.

As an example, if Net Cash (excluding CombiMatrix Series F Warrant proceeds) is negative \$1,285,000 (and the aggregate payouts in shares of Invitae Common Stock (calculated using the Invitae Trailing Average Share Value) pursuant to the CombiMatrix Transaction Bonus Plan Agreements will be greater than \$2,000,000), there are 20,000 shares of CombiMatrix Common Stock issued or that become issuable after the date of this Agreement (other than pursuant to conversion or exercise of any securities outstanding as of the date of this Agreement), the represented capitalization of CombiMatrix pursuant to [Section 2.3](#) as of the date of this Agreement is accurate, the Invitae Trailing Average Share Value is \$9.00 and **D** is 3,000,000, then **Y** would be determined as follows:

$$Y = \frac{\$8.25 - \text{Adjustment Amount}}{\text{India Trailing Average Share Value}} = \frac{\$8.25 - \left(\frac{C}{\text{Coronado Outstanding Shares}} \right)}{\text{India Trailing Average Share Value}}$$
$$Y = \frac{\$8.25 - \left[\frac{(\$1,285,000 - \$1,000,000) + (20,000)(\$8.25)}{3,000,000} \right]}{\$9.00}$$
$$Y = \frac{\$8.25 - \left[\frac{\$285,000 + \$165,000}{3,000,000} \right]}{\$9.00} = \frac{\$8.25 - \left[\frac{\$450,000}{3,000,000} \right]}{\$9.00} = \frac{\$8.25 - \$0.15}{\$9.00} = \frac{\$8.10}{\$9.00} = 0.90$$

The Exchange Ratio would thus be 0.90 shares of Invitae Common Stock issuable per share of CombiMatrix Common Stock, subject to **X** (above) being greater.

“**FCPA**” shall have the meaning set forth in [Section 2.11\(n\)](#).

“**FDA**” shall mean the United States Food and Drug Administration or any successor entity.

“**Filing**” shall mean any registration, petition, statement, application, schedule, form, declaration, notice, notification, report, submission or information or other filing.

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“ **Form S-4 Merger Registration Statement** ” shall mean the registration statement on Form S-4 to be filed with the SEC by Invitae registering the public offering and sale of Invitae Common Stock to some or all holders of CombiMatrix Common Stock in the Merger, including all shares of Invitae Common Stock to be issued in exchange for all shares of CombiMatrix Capital Stock in the Merger, as said registration statement may be amended prior to the time it is declared effective by the SEC.

“ **Form S-4 Warrant Exchange Offer Registration Statement** ” shall have the meaning set forth in [Section 5.1\(b\)](#).

“ **FSE List** ” shall have the meaning set forth in [Section 2.11\(o\)](#).

“ **GAAP** ” shall have the meaning set forth in [Section 2.4\(b\)](#).

“ **Government Official** ” shall mean any official, officer, employee, or representative of any Governmental Authority or instrumentality thereof, or for or on behalf of a public international organization within the meaning of the FCPA, as well as any person acting in an official capacity for or on behalf of any such government or department, agency, or instrumentality, or for or on behalf of any such public international organization.

“ **Governmental Authority** ” shall mean any court or tribunal, governmental, quasi-governmental or regulatory body, administrative agency or bureau, commission or authority or other body exercising similar powers or authority.

“ **Governmental Authorization** ” shall mean any: (a) permit, license, certificate, franchise, permission, variance, exceptions, orders, clearance, registration, qualification or authorization issued, granted, given or otherwise made available by or under the authority of any Governmental Body or pursuant to any Legal Requirement (including 510(k)s, pre-market approval applications approved by the FDA in accordance with 21 U.S.C. § 360(e) and 21 C.F.R. Part 814, Investigational Device Exemptions, Medicare, Medicaid and other provider numbers, state laboratory licenses, CLIA and DEA certifications and other permits, as well as corresponding foreign permits and licenses); or (b) right under any Contract with any Governmental Body.

“ **Governmental Body** ” shall mean any: (a) federal, state, commonwealth, province, territory, county, municipality, local, district, foreign or other jurisdiction of any nature; (b) federal, state, county, local, municipal, foreign or other government; (c) governmental or quasi-Governmental Authority of any nature (including any governmental division, department, agency, commission, instrumentality, official, ministry, fund, foundation, center, organization, unit, body or Entity and any court or other tribunal, and for the avoidance of doubt, any Taxing authority); or (d) self-regulatory organization (including the NYSE).

“ **Grant Date** ” shall have the meaning set forth in [Section 2.13\(e\)](#).

“ **Hazardous Materials** ” shall mean any pollutant, chemical, substance and any toxic, infectious, carcinogenic, reactive, corrosive, ignitable or flammable chemical, or chemical compound, or hazardous substance, material or waste, whether solid, liquid or gas, that is subject to regulation, control or remediation under any Environmental Law, including crude oil or any fraction thereof, and petroleum products or by-products.

“ **Health Authority** ” shall mean the Governmental Authorities that administer Health Laws, including the FDA.

“ **Health Law** ” shall mean any Legal Requirement applicable to the products, technology and services of CombiMatrix or any CombiMatrix Subsidiary, including any Legal Requirement the purpose of which is to ensure the safety, efficacy and quality of medical, pharmaceutical, biotechnology and similar products, technologies and services by regulating the research and development of these products, technologies and

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services, including Legal Requirements relating to good clinical practices, investigational use, record keeping and Filing of required reports. Without limiting the foregoing, Health Law includes (i) the Federal Food, Drug, and Cosmetic Act, 21 U.S.C. § 321 et seq., and all regulations promulgated thereunder, (ii) the Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act of 2009 (codified at 42 U.S.C. § 300gg and 29 U.S.C. § 1181 et seq. and 42 USC 1320d et seq.), (iii) the Federal Ethics in Patient Referrals Act, 42 U.S.C. § 1395nn, and all regulations promulgated thereunder (the “**Stark Law**”), (iv) the Federal Health Care Program Anti-Kickback Statute, 42 U.S.C. § 1320a-7b(b), and all regulations promulgated thereunder (the “**Anti-Kickback Statute**”), (v) the Federal False Claim Act, 31 U.S.C. § 3729, and all regulations promulgated thereunder, (vi) the Occupational Safety and Health Act, and all regulations promulgated thereunder (“**OSHA**”), (vii) CLIA, (viii) applicable Legal Requirements of the U.S. Drug Enforcement Administration (“**DEA**”), (ix) state anti-kickback, fee-splitting and patient brokering Legal Requirements, (x) all applicable state Information Privacy and Security Laws and (xi) state Legal Requirements governing self-referral and the licensure and operation of clinical laboratories.

“**HSR Act**” shall mean the Hart-Scott-Rodino Antitrust Improvements Act of 1976, as amended.

“**Information Privacy and Security Laws**” shall mean all Legal Requirements concerning the privacy, protection, transfer or security of Personal Information, including any applicable Legal Requirement, and all regulations promulgated and guidance issued by Governmental Authorities (including staff reports) thereunder, including the following Legal Requirements and their implementing regulations or regulatory guidance, each as amended from time to time: HIPAA, guidance and regulations issued by the FDA regarding clinical trials or the de-identification of biological samples, the Federal Trade Commission Act, the CAN-SPAM Act, the Telephone Consumer Protection Act, the Telemarketing and Consumer Fraud and Abuse Prevention Act, Children’s Online Privacy Protection Act, state data security laws, state social security number protection laws, state data breach notification laws, state consumer protection laws, Directive 95/46/EC of the European Parliament and of the Council of 24 October 1995 on the protection of individuals with regard to the processing of personal data and on the free movement of such data and the related national implementing laws and regulations of the European Union Member States, any Legal Requirements pertaining to privacy or data security of health information, genetic information or biological samples, and any applicable Legal Requirements concerning requirements for website and mobile application privacy policies and practices, call or electronic monitoring or recording or any outbound communications (including outbound calling and text messaging, telemarketing, and email marketing).

“**Intellectual Property**” shall mean (a) United States, foreign and international patents, patent applications, including provisional applications, statutory invention registrations, invention disclosures and inventions, (b) trademarks, service marks, trade names, domain names, URLs, trade dress, logos and other source identifiers, including registrations and applications for registration thereof, (c) copyrights, including registrations and applications for registration thereof, and (d) software, formulae, customer lists, trade secrets, know-how, confidential information and other proprietary rights and intellectual property, whether patentable or not.

“**Invitae**” shall have the meaning set forth in the Preamble.

“**Invitae Board of Directors**” shall mean the board of directors of Invitae.

“**Invitae Certifications**” shall have the meaning set forth in [Section 3.3\(a\)](#).

“**Invitae Common Stock**” shall mean the Common Stock, \$0.0001 par value per share, of Invitae.

“**Invitae Disclosure Schedule**” shall have the meaning set forth in [Section 3](#).

“**Invitae Material Adverse Effect**” shall mean any Effect that, considered together with all other Effects that have occurred prior to the date of determination of the occurrence of the Invitae Material Adverse Effect, is or could reasonably be expected to be or to become materially adverse to, or has or could reasonably be expected to

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have or result in a material adverse effect on: (a) the business, condition (financial or otherwise), capitalization, assets, operations or financial performance of Invitae; or (b) the ability of Invitae to consummate the Merger or any of the other Contemplated Transactions or to perform any of its covenants or obligations under the Agreement in all material respects; *provided, however*, that Effects from the following shall not be deemed to constitute (nor shall Effects from any of the following be taken into account in determining whether there has occurred) an Invitae Material Adverse Effect: (i) conditions generally affecting the industries in which Invitae participates or the United States or global economy or capital markets as a whole, to the extent that such conditions do not have a disproportionate impact on Invitae; (ii) any failure by Invitae to meet internal projections or forecasts or third party revenue or earnings predictions for any period ending (or for which revenues or earnings are released) on or after the date of this Agreement or any change in the price or trading volume of Invitae Common Stock (it being understood, however, that any Effect causing or contributing to any such failure to meet projections or predictions or any change in stock price or trading volume may constitute an Invitae Material Adverse Effect and may be taken into account in determining whether an Invitae Material Adverse Effect has occurred); (iii) the execution, delivery, announcement or performance of the obligations under this Agreement or the announcement, pendency or anticipated consummation of the Merger; (iv) any natural disaster or any acts of terrorism, sabotage, military action or war or any escalation or worsening thereof, to the extent that any such event does not have a disproportionate impact on Invitae; (v) changes in regulatory, legislative or political conditions in the United States or any other country or region in the world, to the extent that such changes do not have a disproportionate impact on Invitae; (vi) changes in conditions in the financial markets, credit markets or capital markets in the United States or any other country or region in the world, to the extent that such changes do not have a disproportionate impact on Invitae, including (1) changes in interest rates or credit ratings in the United States or any other country; (2) changes in exchange rates for the currencies of any country; or (3) any suspension of trading in securities (whether equity, debt, derivative or hybrid securities) generally on any securities exchange or over-the-counter market operating in the United States or any other country or region in the world; or (vii) any changes (after the date of this Agreement) in GAAP or applicable Legal Requirements, to the extent that such changes do not have a disproportionate impact on Invitae.

“ *Invitae SEC Documents* ” shall have the meaning set forth in [Section 3.4\(a\)](#).

“ *IRS* ” shall mean the United States Internal Revenue Service.

“ *IT Assets* ” shall mean computers, storage media, databases, applications, websites, software, servers, workstations, routers, hubs, switches, circuits, networks, computer network equipment or systems, data communications lines, and all other information technology equipment including parts of any of the foregoing such as firmware, screens, terminals, disks, cabling, related infrastructure, and other peripheral and associated electronic equipment and services owned, controlled, used, or held for use by or on behalf of any Acquired Corporation.

“ *Key Employee* ” shall mean the Chief Executive Officer and the Chief Financial Officer of CombiMatrix-as well as employee who reports directly to either such officer.

“ *Knowledge* ” shall mean, with respect to an individual, that such individual is actually aware of the relevant fact or such individual would reasonably be expected to know such fact in the ordinary course of the performance of the individual’s employee or professional responsibility. Any Person that is an Entity shall have Knowledge if any officer or director of such Person as of the date such knowledge is imputed has Knowledge of such fact or other matter, after reasonable inquiry.

“ *LDTs* ” shall have the meaning set forth in [Section 2.11\(j\)](#).

“ *Legal Proceeding* ” shall mean any action, suit, litigation, arbitration, proceeding (including any civil, criminal, administrative, investigative or appellate proceeding), hearing, inquiry, audit, examination or investigation commenced, brought, conducted or heard by or before, or otherwise involving, any court or other Governmental Body or any arbitrator or arbitration panel.

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“**Legal Requirement**” shall mean any federal, state, foreign, local or municipal or other law, statute, constitution, principle of common law, resolution, ordinance, code, edict, decree, rule, regulation, ruling or requirement issued, enacted, adopted, promulgated, implemented or otherwise put into effect by or under the authority of any Governmental Body (or under the authority of the NYSE or the Financial Industry Regulatory Authority).

“**Liability**” shall have the meaning set forth in [Section 2.10](#).

“**Merger**” shall have the meaning set forth in the recitals.

“**Merger Consideration**” shall have the meaning set forth in [Section 1.5\(a\)](#).

“**Merger Proposal**” shall have the meaning set forth in the recitals.

“**Merger Sub**” shall have the meaning set forth in the Preamble.

“**Minimum Warrant Exchange Participation**” shall have the meaning set forth in [Section 5.1\(b\)](#).

“**Multiemployer Plan**” shall mean (A) a “multiemployer plan,” as defined in Section 3(37) or 4001(a)(3) of ERISA, or (B) a plan which if maintained or administered in or otherwise subject to the laws of the United States would be described in paragraph (A).

“**Multiple Employer Plan**” shall mean (A) a “multiple employer plan” within the meaning of Section 413(c) of the Code or Section 3(40) of ERISA, or (B) a plan which if maintained or administered in or otherwise subject to the laws of the United States would be described in paragraph (A).

“**NASDAQ**” shall mean The Nasdaq Stock Market.

“**Net Cash**” shall mean the *sum* of the following:

- (a) CombiMatrix’s current assets (*i.e.*, cash and cash equivalents (inclusive of any cash resulting from exercises of CombiMatrix Options or CombiMatrix Series F Warrants), marketable securities, short-term investments, accounts receivable (but less allowance for doubtful accounts), deposits (to the extent refundable to CombiMatrix), supplies and prepaid expenses and other current assets (excluding deferred tax assets), in each case determined in a manner consistent with this Agreement or the manner, if applicable, in which such items were historically determined and in accordance with CombiMatrix’s Audited Financial Statements and Unaudited Interim Balance Sheet, *minus*
- (b) the sum of CombiMatrix’s accounts payable, accrued expenses and other current liabilities (other than accrued expenses listed below and deferred tax liabilities), capital lease obligations, secured promissory note payable and all other liabilities (including any amounts payable for the CombiMatrix Warrant Repurchase, any amounts payable in satisfaction of CombiMatrix’s obligations under [Section 5.6\(c\)](#), and any amounts that will become payable to participants pursuant to CombiMatrix’s Restated Executive Change of Control Severance Plan), in each case determined in a manner consistent with this Agreement to the extent applicable or the manner, if applicable, in which such items were historically determined and in accordance with CombiMatrix’s Audited Financial Statements and Unaudited Interim Balance Sheet, *minus*
- (c) the amount of \$250,000, *minus*
- (d) without double counting if otherwise included above, any unpaid fees and expenses (including any attorney’s, accountant’s, financial advisor’s or finder’s fees) incurred by CombiMatrix or any of its Subsidiaries in connection with this Agreement and the Contemplated Transactions or for which CombiMatrix or any of its Subsidiaries is otherwise liable, *minus*

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- (e) without double counting if otherwise included above, all amounts payable to any of CombiMatrix's employees, officers, directors, consultants, advisors and representatives in connection with this Agreement and the Contemplated Transactions (including pursuant to the CombiMatrix Transaction Bonus Plan), regardless of whether any recipient agrees to accept any portion of any such payment in equity (such as RSUs for shares of Invitae Common Stock pursuant to a CombiMatrix Transaction Bonus Payout Agreement) or cash, *minus*
- (f) any fees and expenses payable by CombiMatrix pursuant to [Section 1.6\(e\)](#), *plus or minus*
- (g) the amount of any reimbursement owed to, or owed by, CombiMatrix pursuant to [Section 9.3\(a\)](#).

“**Net Cash Calculation**” shall have the meaning set forth in [Section 1.6\(a\)](#).

“**Net Cash Schedule**” shall have the meaning set forth in [Section 1.6\(a\)](#).

“**NYSE**” shall have the meaning set forth in [Section 3.2\(b\)](#).

“**OFAC**” shall have the meaning set forth in [Section 2.11\(o\)](#).

“**Offer Documents**” shall have the meaning set forth in [Section 5.1\(b\)](#).

“**Open Source Software**” shall mean any software that is licensed pursuant to: (i) any license or other Contract that is approved by the Open Source Initiative and listed at <http://www.opensource.org/licenses>, which licenses include all versions of the GNU General Public License (GPL), the GNU Lesser General Public License (LGPL), the GNU Affero GPL, the BSD license, the MIT license, the Eclipse Public License, the Common Public License, the Mozilla Public License, and the Artistic License; or (ii) any license or other Contract under which software or other materials are distributed or licensed as “free software,” “open source software,” “public source code,” “freeware,” “shareware” or any similar terms.

“**Ordinary Course of Business**” shall mean such actions taken in the ordinary course of a Party's normal operations and consistent with its past practices, and with respect to CombiMatrix for periods following the date of this Agreement consistent with any operating plan of CombiMatrix delivered to Invitae.

“**Oxford Consent**” shall have the meaning set forth in [Section 7.8](#).

“**Party**” or “**Parties**” shall mean CombiMatrix, Merger Sub and Invitae.

“**Payment Programs**” shall have the meaning set forth in [Section 2.11\(m\)](#).

“**PCI DSS**” shall mean the Payment Card Industry Data Security Standard, issued by the Payment Card Industry Security Standards Council, as may be revised from time to time.

“**Person**” shall mean any individual, Entity or Governmental Body.

“**Personal Information**” shall mean, collectively (i) a natural person's name, street address, telephone number, e-mail address, photograph, social security number or tax identification number, driver's license number, passport number, credit card number, bank information, or customer or account number, biometric identifiers, health or genetic information, biological sample or any other piece of information that allows for the identification of that person or that person's device, (ii) any other information defined as “personal data,” “personally identifiable information,” “individually identifiable health information,” “protected health information,” or “personal information” or any similar or comparable term under any Legal Requirement, or (iii) any information that is covered by the PCI DSS.

“**PII Consents**” shall have the meaning set forth in [Section 2.11\(p\)](#).

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“ **Pillsbury** ” shall have the meaning set forth in [Section 5.1\(a\)](#).

“ **Pre-Closing Period** ” shall have the meaning set forth in [Section 4.1](#).

“ **Proxy Statement/Prospectus** ” shall mean the prospectus to be provided to CombiMatrix’s stockholders in connection with the CombiMatrix Stockholders’ Meeting and the shares of Invitae Common Stock to be issued in the Merger.

“ **Registration Statements** ” shall mean the Form S-4 Merger Registration Statement and the Form S-4 Warrant Exchange Offer Registration Statement.

“ **Representatives** ” shall mean directors, officers, other employees, agents, attorneys, accountants, advisors and representatives.

“ **Required CombiMatrix Stockholder Vote** ” shall have the meaning set forth in [Section 2.19](#).

“ **Response Date** ” shall have the meaning set forth in [Section 1.6\(b\)](#).

“ **Restricted Parties** ” shall have the meaning set forth in [Section 2.11\(o\)](#).

“ **RSU** ” shall mean restricted stock unit.

“ **Sarbanes-Oxley Act** ” shall mean the Sarbanes-Oxley Act of 2002, as it may be amended from time to time.

“ **SDN List** ” shall have the meaning set forth in [Section 2.11\(o\)](#).

“ **SEC** ” shall mean the United States Securities and Exchange Commission.

“ **Securities Act** ” shall mean the Securities Act of 1933, as amended.

“ **Security Risk Assessments** ” shall have the meaning set forth in [Section 2.11\(t\)](#).

“ **SSI List** ” shall have the meaning set forth in [Section 2.11\(o\)](#).

“ **Stockholder** ” shall mean a stockholder of CombiMatrix, and “ **Stockholders** ” shall mean all stockholders of CombiMatrix.

“ **Stradling** ” shall have the meaning set forth in [Section 5.1\(a\)](#).

“ **Subsequent Transaction** ” shall mean any Acquisition Transaction that results or would result in any third party beneficially owning securities of CombiMatrix representing more than fifty percent (50%) of the voting power of the outstanding securities of CombiMatrix or owning or exclusively licensing tangible or intangible assets representing more than fifty percent (50%) of the fair market value of the income-generating assets of CombiMatrix and its Subsidiaries, taken as a whole; however, notwithstanding the foregoing, “Subsequent Transaction” shall not include any equity or debt financing entered into by CombiMatrix for bona fide capital raising purposes.

An entity shall be deemed to be a “ **Subsidiary** ” of another Person if such Person directly or indirectly owns or purports to own, beneficially or of record, (a) an amount of voting securities of other interests in such entity that is sufficient to enable such Person to elect at least a majority of the members of such entity’s board of directors or other governing body, or (b) at least 50% of the outstanding equity, voting, beneficial or financial interests in such Entity.

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“**Superior Offer**” shall mean a bona fide written offer by a third party to enter into (i) a merger, consolidation, amalgamation, share exchange, business combination, issuance of securities, acquisition of securities, reorganization, recapitalization, tender offer, exchange offer or other similar transaction as a result of which either (A) CombiMatrix’s stockholders prior to such transaction in the aggregate cease to own at least 50% of the voting securities of the entity surviving or resulting from such transaction (or the ultimate parent entity thereof) or (B) in which a Person or “group” (as defined in the Exchange Act and the rules promulgated thereunder) directly or indirectly acquires beneficial or record ownership of securities representing 50% or more of CombiMatrix’s capital stock or (ii) a sale, lease, exchange transfer, license, acquisition or disposition of any business or other disposition of at least 50% of the assets of CombiMatrix and its Subsidiaries, taken as a whole, in a single transaction or a series of related transactions that (in each case of the foregoing clauses (i) and (ii)): (a) was not obtained or made as a direct or indirect result of a breach of (or in violation of) this Agreement (including [Section 4.4](#)); and (b) is on terms and conditions that the CombiMatrix Board of Directors determines, in its reasonable, good faith judgment, after obtaining and taking into account such matters that it deems relevant following consultation with its outside legal counsel and financial advisor, if any: (x) is reasonably likely to be more favorable, from a financial point of view, to CombiMatrix’s stockholders than the terms of the Merger; and (y) is reasonably capable of being consummated; *provided, however*, that any such offer shall not be deemed to be a “Superior Offer” if any financing required to consummate the transaction contemplated by such offer is not committed and is not reasonably capable of being obtained, or if the consummation of such transaction is contingent on any such financing being obtained.

“**Surviving Corporation**” shall have the meaning set forth in [Section 1.1](#).

“**Tax**” shall mean any federal, state, local, foreign or other tax, including any income tax, franchise tax, capital gains tax, gross receipts tax, value-added tax, surtax, estimated tax, unemployment tax, national health insurance tax, excise tax, ad valorem tax, transfer tax, stamp tax, sales tax, use tax, property tax, business tax, withholding tax, payroll tax, customs duty, alternative or add-on minimum or other tax of any kind whatsoever, and including any fine, penalty, addition to tax or interest, whether disputed or not.

“**Tax Return**” shall mean any return (including any information return), report, statement, declaration, estimate, schedule, notice, notification, form, election, certificate or other document or information, and any amendment or supplement to any of the foregoing, filed with or submitted to, or required to be filed with or submitted to, any Governmental Body in connection with the determination, assessment, collection or payment of any Tax or in connection with the administration, implementation or enforcement of or compliance with any Legal Requirement relating to any Tax.

“**Terminated CombiMatrix Options**” shall have the meaning set forth in [Section 5.4\(a\)](#).

“**Termination Fee**” shall have the meaning set forth in [Section 9.3\(b\)](#).

“**Third Party Expenses**” shall have the meaning set forth in [Section 9.3\(c\)](#).

“**Trade Control Laws**” shall have the meaning set forth in [Section 2.11\(o\)](#).

“**Treasury Regulations**” shall mean the United States Treasury regulations promulgated under the Code.

“**Warrant Exchange Offer**” shall have the meaning set forth in [Section 5.1\(b\)](#).

EXHIBIT B-1

TRANSACTION BONUS PAYOUT AGREEMENT
[Executives]

This TRANSACTION BONUS PAYOUT AGREEMENT (this “*Agreement*”) is entered into as of July 31, 2017 by and among Invitae Corporation, a Delaware corporation (“*Invitae*”), CombiMatrix Corporation, a Delaware corporation (“*CombiMatrix*”), and [●] (the “*Recipient*”). For purposes of this Agreement, the “*Invitae Group*” refers to Invitae, CombiMatrix and their respective affiliates.

WHEREAS, on December 2, 2015, CombiMatrix adopted the CombiMatrix Transaction Bonus Plan (the “*Transaction Bonus Plan*”) pursuant to which certain employees of CombiMatrix may receive transaction bonuses on a Qualifying Transaction (as defined in the Transaction Bonus Plan);

WHEREAS, the merger (the “*Merger*”) of Coronado Merger Sub, Inc., a Delaware corporation (“*Merger Sub*”), with and into CombiMatrix, with CombiMatrix continuing as the surviving corporation, pursuant to that Agreement and Plan of Merger, dated as of the date hereof (the “*Merger Agreement*”), by and among Invitae, CombiMatrix and Merger Sub, shall constitute a Qualifying Transaction under the Transaction Bonus Plan;

WHEREAS, one or more Recipients concurrently herewith have entered into Independent Contractor Agreements with Invitae to become effective as of the Closing Date (each an “*Independent Contractor Agreement*”); and

WHEREAS, Invitae and CombiMatrix desire to set forth herein the terms and conditions pursuant to which the Recipient’s right to be paid a transaction bonus as defined in the Transaction Bonus Plan (the “*Transaction Bonus*”) shall be settled in connection with the Merger.

NOW, THEREFORE, in consideration of the covenants and premises described in this Agreement and other valuable consideration, the sufficiency of which the parties hereby acknowledge, the parties, intending to be legally bound, agree as follows:

1. Effective Date. This Agreement is effective as of the date on which the closing of the Merger occurs (such date, the “*Closing Date*”). In the event that the Merger Agreement is terminated in accordance with its terms, this Agreement shall automatically be deemed null and void and of no further force and effect.
2. Transaction Bonus. Subject to the terms and conditions of this Agreement and the Transaction Bonus Plan as modified herein, Invitae shall grant the Recipient restricted stock units (“*RSUs*”) with respect to shares of Invitae Common Stock (as defined in the Merger Agreement) on the Closing Date (or as soon as practicable thereafter). The number of shares of Invitae Common Stock subject to such RSUs shall be equal to the dollar amount of the transaction bonus awarded to the Recipient under the Transaction Bonus Plan divided by the Invitae Trailing Average Share Value (as defined in the Merger Agreement). Such RSUs shall (a) be evidenced by, and subject to the terms of, an RSU award agreement in the form attached hereto as Exhibit A (the “*RSU Award Agreement*”); (b) be settled in shares of Invitae Common Stock; and (c) vest upon the Closing Date and be settled in three equal monthly installments following the Closing Date in accordance with Section 5(j) of this Agreement, subject to acceleration of settlement upon a Change in Control (as defined in Invitae’s 2015 Stock Incentive Plan); provided, however, that if the Recipient has an Independent Contractor Agreement in effect as of the Closing Date, then the shares shall vest as follows:
 - (i) On the Closing Date (or as soon thereafter as practical, subject to Section 5(j) of this Agreement), RSUs represented by (x) the dollar amount of the transaction bonus awarded to Recipient under the Transaction Bonus Plan minus \$[817,834-Mark/\$40,000-Scott], divided by (y) the Invitae Trailing Average Share Value shall vest and be settled; and

(ii) On the eight-month anniversary of the Closing Date, RSUs represented by \$[817,834-Mark/\$40,000-Scott] divided by the Invitae Trailing Average Share Value shall vest and be settled so long as the Recipient has rendered services as required by the Independent Contractor Agreement through the eight-month anniversary of the Closing Date except that, in the event of a Change in Control (as defined in Invitae's 2015 Stock Incentive Plan) or a termination pursuant to Section 9(a), 9(c) or 9(e) of the Independent Contractor Agreement, all unvested RSUs shall vest immediately and shall be settled within five days of the consummation of the Change in Control or termination of the Independent Contractor Agreement, as applicable.

The grant of RSUs in accordance with this Agreement shall constitute payment of the Transaction Bonus in full settlement of all of the Recipient's rights under the Transaction Bonus Plan, without regard to whether the Recipient ultimately earns or forfeits all or any portion of the RSUs subject to the grant. To the extent the shares of Invitae Common Stock underlying the RSUs are not covered by a registration statement that is effective before the Closing Date under the Securities Act of 1933, as amended (the "*Act*"), and if the Recipient has an Independent Contractor Agreement in effect as of the Closing Date, Invitae will use commercially reasonable efforts to file a registration statement on Form S-8 with the Securities and Exchange Commission for such shares within fifteen days after the Closing Date, and if the Recipient does not have an Independent Contractor Agreement in effect as of the Closing Date and Form S-8 is not otherwise available for such registration, Invitae will use commercially reasonable efforts to register the shares for resale as soon as reasonably practicable on a registration statement on Form S-3 or another appropriate form in accordance with the Act.

3. Conditions to Receipt of Transaction Bonus. The Recipient's right to receive RSUs is conditioned on the Recipient's execution of this Agreement and the Recipient's continued employment with CombiMatrix until immediately prior to the Closing Date.
4. Tax Withholding. Notwithstanding any provision herein to the contrary, prior to settlement of any RSUs the Recipient shall pay, or make arrangements satisfactory to Invitae to satisfy, all associated tax withholding and payment obligations in accordance with the terms of the RSU Award Agreement.
5. Miscellaneous.
 - (a) *Entire Agreement; Amendment*. This Agreement and the Transaction Bonus Plan embody the entire agreement and understanding of the parties in respect of its subject matter and supersede all prior agreements and understandings between the parties with respect to such subject matter (whether or not written). In the event of a conflict between the provisions of this Agreement and the Transaction Bonus Plan, the provisions of this Agreement shall control and the Transaction Bonus Plan shall be deemed amended with the consent of the Recipient accordingly. This Agreement may be amended or modified only by written agreement signed by the parties.
 - (b) *No Contract for Continuing Services*. This Agreement shall not be construed as creating any contract for continued services between the Invitae Group and the Recipient and nothing herein contained shall give the Recipient the right to be retained as an employee, consultant or director of the Invitae Group.
 - (c) *No Transfers*. The Recipient's rights in the Transaction Bonus may not be assigned or transferred other than to the Recipient's heirs by reason of the Recipient's death.
 - (d) *Governing Law*. This Agreement shall be construed in accordance with and governed by the laws of the State of Delaware, without regard to any principles of conflict of laws of such state that would require the application of the laws of any other jurisdiction.
 - (e) *Enforceability*. If any portion or provision of this Agreement shall to any extent be declared illegal or unenforceable by a court of competent jurisdiction, then the remainder of this Agreement, or the application of such portion or provision in circumstances other than those as to which it is so declared illegal or unenforceable, shall not be affected thereby, and each portion and provision of this Agreement shall be valid and enforceable to the fullest extent permitted by law.

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- (f) *Waiver* . No waiver of any provision hereof shall be effective unless made in writing and signed by the waiving party. The failure of any party to require the performance of any term or obligation of this Agreement, or the waiver by any party of any breach of this Agreement, shall not prevent any subsequent enforcement of such term or obligation or be deemed a waiver of any subsequent breach.
- (g) *Successors; Assignability* . This Agreement shall inure to the benefit of and be binding upon the parties, their respective successors, executors, administrators, heirs and permitted assigns; nothing in this Agreement, express or implied, is intended to confer on any person or entity other than the parties and their respective successors and assigns any rights, remedies, obligations or liabilities under or by reason of this Agreement. The Recipient may not assign, delegate or otherwise transfer any of the Recipient's rights or obligations under this Agreement. Invitae or CombiMatrix may transfer or assign, in whole or from time to time in part, to one or more of its affiliates, or to any successor to one or more of its businesses, its rights or obligations under this Agreement without the prior written consent signed by the Recipient.
- (h) *Counterparts* . This Agreement may be executed in any number of counterparts, each of which shall be deemed an original but all of which together shall constitute one and the same instrument.
- (i) *Section 280G*. In the event that the payments and other benefits provided for in this Agreement or otherwise payable to the Recipient (i) constitute "parachute payments" within the meaning of Section 280G of the Internal Revenue Code of 1986, as amended, and the regulations issued thereunder (the "*Code*"), and (ii) would be subject to the excise tax imposed by Section 4999 of the Code, then the Recipient's payments and benefits under this Agreement or otherwise payable to the Recipient outside of this Agreement shall be either delivered in full (without CombiMatrix or Invitae paying any portion of such excise tax or any other additional amount), or delivered as to 2.99 times of the Recipient's base amount (within the meaning of Section 280G of the Code) so as to result in no portion of such payments and benefits being subject to such excise tax, whichever of the foregoing amounts, taking into account the applicable federal, state and local income taxes and such excise tax, results in the receipt by the Recipient on an after-tax basis of the greatest amount of payments and benefits.
- (j) *Section 409A* . This Agreement is intended to comply with Section 409A of the Code ("*Section 409A* ") or an exemption therefrom and shall be interpreted, construed and administered in accordance with Section 409A or such exemption. To the extent that any amounts payable hereunder are determined to constitute "nonqualified deferred compensation" within the meaning of Section 409A, such amounts shall be subject to such additional rules and requirements in order to comply with Section 409A and the settlement of any such amounts may not be accelerated or delayed except to the extent permitted by Section 409A. All vested payments shall be paid or settled by March 15 of the subsequent year and provided further that the Recipient shall have no discretion to designate the timing of such payments or settlements for purposes of Treasury Regulation Section 1.409A-3(b). The Invitae Group makes no representation or warranty and shall have no liability to the Recipient or any other person if any payments under any provisions of this Agreement are determined to constitute deferred compensation under Section 409A that are subject to the 20% tax under Section 409A.
- (k) *Cooperation*. The parties shall cooperate reasonably with each other, at the request of any party, to modify the arrangements contemplated by this Agreement so long as any such modified arrangements do not leave any party in a worse position (in such party's sole discretion).

[*Signature page follows*]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the date first written above.

COMBIMATRIX CORPORATION

By _____
Name:
Title:

INVITAE CORPORATION

By _____
Name:
Title:

RECIPIENT

Name:

Attachment: Exhibit A – Form of RSU Award Agreement

[*Signature Page to Executive Officer Transaction Bonus Payout Agreement*]

EXHIBIT A
INVITAE CORPORATION
NOTICE OF RESTRICTED STOCK UNIT AWARD

You have been granted the following Restricted Stock Units representing shares of common stock (“Shares”) of Invitae Corporation (the “Company”).

<i>Name of Recipient:</i>	[NAME]
<i>Total Number of Restricted Stock Units Granted:</i>	[SHARES GRANTED]
<i>Grant Date:</i>	[EFFECTIVE DATE]
<i>Vesting Commencement Date:</i>	[EFFECTIVE DATE]
<i>Vesting Schedule:</i>	Vesting of this award (this “Award”) shall occur pursuant to the vesting schedule set forth in Section 2 of that certain Transaction Bonus Payout Agreement dated [], 2017, entered into between the Company and the Recipient (the “Transaction Bonus Payout Agreement”), a copy of which is attached hereto.

By your signature and the signature of the Company’s representative below, you and the Company agree that this Restricted Stock Unit Award is granted under and governed by the term and conditions of the attached Restricted Stock Unit Agreement (the “Agreement”) and Transaction Bonus Payout Agreement which are made a part of this document.

By signing this document you further agree that the Company may deliver by e-mail all documents relating to this Award (including without limitation, prospectuses required by the Securities and Exchange Commission) and all other documents that the Company is required to deliver to its security holders (including without limitation, annual reports and proxy statements). You also agree that the Company may deliver these documents by posting them on a website maintained by the Company or by a third party under contract with the Company. If the Company posts these documents on a website, it will notify you by e-mail.

Recipient	INVITAE CORPORATION

Name: _____	By: _____
	Name: _____
	Title: _____

INVITAE CORPORATION

RESTRICTED STOCK UNIT AGREEMENT

Payment for Restricted Stock Units	No cash payment is required for the Restricted Stock Units you receive. You are receiving the Restricted Stock Units pursuant to the Transaction Bonus Payout Agreement in consideration for services rendered by you.
Vesting	The Restricted Stock Units that you are receiving may vest in one or more installments as shown in the Notice of Restricted Stock Unit Award and the Transaction Bonus Payout Agreement referenced therein.
Nature of Restricted Stock Units	Your Restricted Stock Units are mere bookkeeping entries. They represent only the Company's unfunded and unsecured promise to issue Shares on a future date. As a holder of Restricted Stock Units, you have no rights other than the rights of a general creditor of the Company.
No Voting Rights or Dividends	Your Restricted Stock Units carry neither voting rights nor rights to dividends. You, or your estate or heirs, have no rights as a stockholder of the Company unless and until your Restricted Stock Units are settled by issuing Shares. No adjustments will be made for dividends or other rights if the applicable record date occurs before your Shares are issued.
Restricted Stock Units Nontransferable	You may not sell, transfer, assign, pledge or otherwise dispose of any Restricted Stock Units. For instance, you may not use your Restricted Stock Units as security for a loan. If you attempt to do any of these things, your Restricted Stock Units will immediately become invalid.
Settlement of Restricted Stock Units	<p>Each of your vested Restricted Stock Units will be settled as provided in the Transaction Bonus Payout Agreement; provided, however, that if a settlement date does not fall on a permissible trading day for the Shares, settlement shall be deferred to the first permissible trading day for the Shares, but in no event later than December 31 of the calendar year in which the Restricted Stock Units are no longer subject to a substantial risk of forfeiture for purposes of Section 409A (as defined below).</p> <p>For purposes of this Agreement, "permissible trading day" means a day that satisfies all of the following requirements: (a) the exchange on which the Shares are traded is open for trading on that day; (b) you are permitted to sell Shares on that day without incurring liability under Section 16(b) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), (c) either (i) you are not in possession of material non-public information that would make it illegal for you to sell Shares on that day under Rule 10b-5 under the Exchange Act or (ii) Rule 10b5-1 under the Exchange Act would apply to the sale; (d) you are permitted to sell Shares on that day under such written insider trading policy as may have been adopted by the Company; and (e) you are not prohibited from selling Shares on that day by a written agreement between you and the Company or a third party.</p> <p>At the time of settlement, you will receive one Share for each vested Restricted Stock Unit; provided, however, that no fractional Shares will be issued or delivered pursuant to this Agreement, and the Company will determine whether cash will be paid in lieu of any fractional Share or whether such fractional Share and any rights thereto will be canceled, terminated or otherwise eliminated.</p>

In addition, Shares shall not be issued under this Agreement unless the issuance and delivery of such Shares complies with (or is exempt from) all applicable requirements of law, including (without limitation) the Securities Act of 1933, as amended, the rules and regulations promulgated thereunder, state securities laws and regulations and the regulations of any stock exchange on which the Company's securities may then be listed, and the Company has obtained the approval or favorable ruling from any governmental agency which the Company determines is necessary or advisable. The Company shall not be liable to you or other persons as to (a) the non-issuance or sale of Shares as to which the Company has not obtained from any regulatory body having jurisdiction the authority deemed by the Company's counsel to be necessary to the lawful issuance and sale of any Shares under this Agreement, and (b) any tax consequences expected, but not realized, by you or other person due to the receipt, vesting or settlement of this Award.

**Withholding Taxes and Stock
Withholding**

Regardless of any action the Company and/or the subsidiary or affiliate employing you or for which you are providing consulting services to takes with respect to any or all income tax, social insurance, payroll tax, payment on account or other tax-related withholding ("Tax-Related Items"), you acknowledge that the ultimate liability for all Tax-Related Items legally due by you is and remains your responsibility and that the Company and/or its subsidiary or affiliate (1) make no representations or undertakings regarding the treatment of any Tax-Related Items in connection with any aspect of this Award, including the settlement of the Restricted Stock Units, the subsequent sale of Shares acquired pursuant to such settlement and the receipt of any dividends; and (2) does not commit to structure the terms of this Award or any aspect of the Restricted Stock Units to reduce or eliminate your liability for Tax-Related Items.

Prior to the settlement of your Restricted Stock Units, you shall pay or make adequate arrangements satisfactory to the Company and/or the subsidiary or affiliate to satisfy all withholding and payment on account obligations of the Company and/or the subsidiary or affiliate. In this regard, if such withholding is legally required, you authorize the Company and/or the subsidiary or affiliate to withhold any applicable Tax-Related Items legally payable by you from your wages or other cash compensation paid to you by the Company and/or the subsidiary or affiliate. With the Company's consent, these arrangements may also include, if permissible under local law, (a) withholding Shares that otherwise would be issued to you when your Restricted Stock Units are settled, provided that the Company only withholds the amount of Shares necessary to satisfy the minimum statutory withholding amount, (b) having the Company withhold taxes from the proceeds of the sale of the Shares, either through a voluntary sale or through a mandatory sale arranged by the Company (on your behalf pursuant to this authorization), or (c) any other arrangement approved by the Company. The fair market value of these Shares, determined as of the effective date when taxes otherwise would have been withheld in cash, will be applied as a credit against the withholding taxes. Finally, you shall pay to the Company or the subsidiary or affiliate any amount of Tax-Related Items that the Company or the subsidiary or affiliate may be required to withhold as a result of your acquisition of Shares that cannot be satisfied by the means previously described. The Company may refuse to deliver the Shares if you fail to comply with your obligations in connection with the Tax-Related Items as described in this section, and your rights to the Shares shall be forfeited if you do not comply with such obligations on or

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No Retention Rights	before December 31 of the calendar year in which the applicable settlement date for the Restricted Stock Units occurs. Neither your Award nor this Agreement gives you the right to be employed or retained by the Company or any subsidiary or affiliate of the Company to provide services in any capacity. The Company and its subsidiaries and affiliates reserve the right to terminate your employment or service at any time, with or without cause.
Adjustments; Merger and Reorganization	<p>The number of Restricted Stock Units covered by this Award shall be subject to adjustment in the event of a stock split, a stock dividend or a similar change in Company Shares. The restrictions described above will apply to all new, substitute or additional Restricted Stock Units or securities to which you are entitled by reason of this Award.</p> <p>In the event that the Company is a party to a merger or other reorganization, this Award shall, subject to the terms of the Transaction Bonus Payout Agreement, be subject to the agreement of merger or reorganization.</p>
Successors and Assigns	Except as otherwise provided in this Agreement, every term of this Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, legatees, legal representatives, successors, transferees and assigns.
Notice	Any notice required or permitted under this Agreement shall be given in writing and shall be deemed effectively given upon the earliest of personal delivery, receipt or the third full day following mailing with postage and fees prepaid, addressed to the other party hereto at the address last known in the Company's records or at such other address as such party may designate by ten (10) days' advance written notice to the other party hereto.
Section 409A of the Code	To the extent this Agreement is subject to and not exempt from Section 409A of the Internal Revenue Code of 1986, as amended, and the regulations issued thereunder ("Section 409A"), this Agreement is intended to comply with Section 409A, and its provisions shall be interpreted in a manner consistent with such intent. You acknowledge and agree that changes may be made to this Agreement to avoid adverse tax consequences to you under Section 409A.
Applicable Law and Choice of Venue	This Agreement will be interpreted and enforced under the laws of the State of Delaware (without regard to their choice-of-law provisions). For purposes of litigating any dispute that arises directly or indirectly from the relationship of the parties evidenced by this Award or the Agreement, the parties hereby submit to and consent to the exclusive jurisdiction of the State of California and agree that such litigation shall be conducted only in the courts of Santa Clara County, California, or the federal courts for the United States for the Northern District of California, and no other courts, where this grant is made and/or to be performed.
Miscellaneous	<p>You understand and acknowledge that (i) the grant of your Award does not in any way create any contractual or other right to receive additional grants of awards (or benefits in lieu of awards) at any time or in any amount and (ii) all determinations with respect to any additional grants, including (without limitation) the times when awards will be granted, the number of Shares subject to the awards, and the vesting schedule, will be at the sole discretion of the Company.</p> <p>The attached Notice, this Agreement and the Transaction Bonus Payout Agreement constitute the entire understanding between you and the Company regarding this</p>

Award. Any prior agreements, commitments or negotiations concerning this Award are superseded. This Agreement may be amended only by another written agreement, signed by you and the Company.

Except as otherwise provided in the Transaction Bonus Payout Agreement, the value of this Award shall be an extraordinary item of compensation outside the scope of your employment or consulting contract, if any, and shall not be considered a part of your normal or expected compensation for purposes of calculating severance, resignation, redundancy or end-of-service payments, bonuses, long-service awards, pension or retirement benefits or similar payments.

You hereby authorize the Company or any subsidiary or affiliate to disclose among and between themselves any information regarding your employment or consulting services and the nature and amount of your compensation, as the Company deems necessary or appropriate.

You consent to the collection, use and transfer of your personal data as described in this subsection. You understand and acknowledge that the Company and the Company's other Subsidiaries and affiliates hold certain personal information regarding you, including (without limitation) your name, home address, telephone number, date of birth, social insurance number of other government identification number, salary, nationality, job title, any Shares or directorships held in the Company and details of all awards or any other entitlements to Shares awarded, canceled, exercised, vested, unvested or outstanding in your favor (the "Data"). You further understand and acknowledge that the Company, its Subsidiaries and/or its affiliates will transfer Data among themselves as necessary and that the Company and/or any subsidiary may each further transfer Data to any third party assisting the Company. You understand and acknowledge that the recipients of Data may be located in the United States or elsewhere, and that the laws of a recipient's country of operation (e.g., the United States) may not have equivalent privacy protections as local laws where you reside or work. You authorize such recipients to receive, possess, use, retain and transfer Data, in electronic or other form, including a transfer to any broker or other third party with whom you elect to deposit Shares of such Data. You may, at any time, view the Data, require any necessary modifications of Data, make inquiries about the treatment of Data or withdraw the consents set forth in this subsection by contacting the Human Resources Department of the Company in writing.

**BY SIGNING THE ATTACHED NOTICE, YOU AGREE TO ALL OF THE TERMS
AND CONDITIONS DESCRIBED ABOVE.**

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EXHIBIT B-2

TRANSACTION BONUS PAYOUT AGREEMENT
[Outside Directors]

This TRANSACTION BONUS PAYOUT AGREEMENT (this “*Agreement*”) is entered into as of July 31, 2017 by and among Invitae Corporation, a Delaware corporation (“*Invitae*”), CombiMatrix Corporation, a Delaware corporation (“*CombiMatrix*”), and [●] (the “*Recipient*”). For purposes of this Agreement, the “*Invitae Group*” refers to Invitae, CombiMatrix and their respective affiliates.

WHEREAS, on December 2, 2015, CombiMatrix adopted the CombiMatrix Transaction Bonus Plan (the “*Transaction Bonus Plan*”) pursuant to which certain employees of CombiMatrix may receive transaction bonuses on a Qualifying Transaction (as defined in the Transaction Bonus Plan); and

WHEREAS, the merger (the “*Merger*”) of Coronado Merger Sub, Inc., a Delaware corporation (“*Merger Sub*”), with and into CombiMatrix, with CombiMatrix continuing as the surviving corporation, pursuant to that Agreement and Plan of Merger, dated as of the date hereof (the “*Merger Agreement*”), by and among Invitae, CombiMatrix and Merger Sub, shall constitute a Qualifying Transaction under the Transaction Bonus Plan; and

WHEREAS, Invitae and CombiMatrix desire to set forth herein the terms and conditions pursuant to which the Recipient’s right to be paid a transaction bonus as defined in the Transaction Bonus Plan (the “*Transaction Bonus*”) shall be settled in connection with the Merger.

NOW, THEREFORE, in consideration of the covenants and premises described in this Agreement and other valuable consideration, the sufficiency of which the parties hereby acknowledge, the parties, intending to be legally bound, agree as follows:

1. Effective Date. This Agreement is effective as of the date on which the closing of the Merger occurs (such date, the “*Closing Date*”). In the event that the Merger Agreement is terminated in accordance with its terms, this Agreement shall automatically be deemed null and void and of no further force and effect.
2. Transaction Bonus. Subject to the terms and conditions of this Agreement and the Transaction Bonus Plan, Invitae shall grant the Recipient unrestricted shares of Invitae Common Stock (as defined in the Merger Agreement) on the Closing Date (or as soon as practicable thereafter). The number of shares of Invitae Common Stock shall be equal to the dollar amount of the transaction bonus awarded to the Recipient under the Transaction Bonus Plan *divided by* the Invitae Trailing Average Share Value (as defined in the Merger Agreement). The grant of the unrestricted shares of Invitae Common Stock in accordance with this Agreement shall constitute payment of the Transaction Bonus in full settlement of all of the Recipient’s rights under the Transaction Bonus Plan. To the extent such shares of Invitae Common Stock are not covered by a registration statement that is effective before the Closing Date under the Securities Act of 1933, as amended (the “*Act*”), Invitae will use commercially reasonable efforts to register the shares for resale as soon as reasonably practicable on a registration statement on Form S-3 or another appropriate form in accordance with the Act.
3. Conditions to Receipt of Transaction Bonus. The Recipient’s right to receive the Transaction Bonus is conditioned on the Recipient’s execution of this Agreement and the Recipient’s continued service with CombiMatrix until immediately prior to the Closing Date.
4. [RESERVED]
5. Miscellaneous.
 - (a) *Entire Agreement; Amendment*. This Agreement and the Transaction Bonus Plan embody the entire agreement and understanding of the parties in respect of its subject matter and supersede all prior agreements and understandings between the parties with respect to such subject matter (whether or not

- written). In the event of a conflict between the provisions of this Agreement and the Transaction Bonus Plan, the provisions of this Agreement shall control and the Transaction Bonus Plan shall be deemed amended with the consent of the Recipient accordingly. This Agreement may be amended or modified only by written agreement signed by the parties.
- (b) *No Contract for Continuing Services* . This Agreement shall not be construed as creating any contract for continued services between the Invitae Group and the Recipient and nothing herein contained shall give the Recipient the right to be retained as an employee, consultant or director of the Invitae Group.
 - (c) *No Transfers* . The Recipient's rights in the Transaction Bonus may not be assigned or transferred other than to the Recipient's heirs by reason of the Recipient's death.
 - (d) *Governing Law* . This Agreement shall be construed in accordance with and governed by the laws of the State of Delaware, without regard to any principles of conflict of laws of such state that would require the application of the laws of any other jurisdiction.
 - (e) *Enforceability* . If any portion or provision of this Agreement shall to any extent be declared illegal or unenforceable by a court of competent jurisdiction, then the remainder of this Agreement, or the application of such portion or provision in circumstances other than those as to which it is so declared illegal or unenforceable, shall not be affected thereby, and each portion and provision of this Agreement shall be valid and enforceable to the fullest extent permitted by law.
 - (f) *Waiver* . No waiver of any provision hereof shall be effective unless made in writing and signed by the waiving party. The failure of any party to require the performance of any term or obligation of this Agreement, or the waiver by any party of any breach of this Agreement, shall not prevent any subsequent enforcement of such term or obligation or be deemed a waiver of any subsequent breach.
 - (g) *Successors; Assignability* . This Agreement shall inure to the benefit of and be binding upon the parties, their respective successors, executors, administrators, heirs and permitted assigns; nothing in this Agreement, express or implied, is intended to confer on any person or entity other than the parties and their respective successors and assigns any rights, remedies, obligations or liabilities under or by reason of this Agreement. The Recipient may not assign, delegate or otherwise transfer any of the Recipient's rights or obligations under this Agreement. Invitae or CombiMatrix may transfer or assign, in whole or from time to time in part, to one or more of its affiliates, or to any successor to one or more of its businesses, its rights or obligations under this Agreement without the prior written consent signed by the Recipient.
 - (h) *Counterparts* . This Agreement may be executed in any number of counterparts, each of which shall be deemed an original but all of which together shall constitute one and the same instrument.
 - (i) *Section 409A* . This Agreement is intended to comply with Section 409A of the Code and the regulations promulgated thereunder (“**Section 409A**”) or an exemption therefrom and shall be interpreted, construed and administered in accordance with Section 409A or such exemption. To the extent that any amounts payable hereunder are determined to constitute “nonqualified deferred compensation” within the meaning of Section 409A, such amounts shall be subject to such additional rules and requirements in order to comply with Section 409A and the settlement of any such amounts may not be accelerated or delayed except to the extent permitted by Section 409A. The Invitae Group makes no representation or warranty and shall have no liability to the Recipient or any other person if any payments under any provisions of this Agreement are determined to constitute deferred compensation under Section 409A that are subject to the 20% tax under Section 409A.
 - (j) *Cooperation* . The parties shall cooperate reasonably with each other, at the request of any party, to modify the arrangements contemplated by this Agreement so long as any such modified arrangements do not leave any party in a worse position (in such party's sole discretion).

[Signature page follows]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the date first written above.

COMBIMATRIX CORPORATION

By _____
Name:
Title:

INVITAE CORPORATION

By _____
Name:
Title:

RECIPIENT

Name:

[*Signature Page to Director Transaction Bonus Payout Agreement*]

Annex B



555 Madison Avenue, Suite 1201
New York, NY 10022
(212) 257-5801

CONFIDENTIAL

July 30, 2017

Board of Directors
CombiMatrix Corporation
300 Goddard, Suite 100
Irvine, CA 92618

Dear Directors:

You have requested our opinion (the “Opinion”) as to the fairness, from a financial point of view, to the stockholders of CombiMatrix Corporation (“CombiMatrix” or the “Company”) of the Consideration (as defined below) pursuant to the terms of the Agreement and Plan of Merger (the “Agreement”) by and among the Company, Coronado Merger Sub, Inc., a wholly owned subsidiary of Invitae Corporation (“Invitae”), and Invitae.

As more specifically set forth in the Agreement, Invitae intends to acquire all of the outstanding equity of CombiMatrix (the “Transaction”) in exchange for a total merger consideration (the “Consideration”) as specified below. The terms and conditions of the Transaction are more fully set forth in the Agreement.

Invitae has agreed to pay CombiMatrix equity holders an aggregate Consideration of \$33 million in a stock-for-stock merger, of which \$27 million (subject to a net cash adjustment, if any, and a price floor of \$8.25, which is also subject to specified net cash and capitalization adjustments, if any) will be paid to the Company’s common stockholders and \$6 million will be used to provide an all-stock exchange tender offer to all Series F Warrant Common Stock Equivalent securities (“CSEs”) outstanding per the terms and conditions of the Agreement (“Warrant Exchange Offer”). The proposed Transaction implies a total enterprise value for CombiMatrix of \$33 million relative to its latest enterprise value of roughly \$12 million according to its most recent SEC filings and public market trading data as of market close on July 28, 2017. As per the Agreement, the proposed Transaction provides a range of Consideration to common stockholders between \$8.00 and \$8.60 per share; this Consideration range to common stockholders is dependent upon the number of CSEs that either tender warrants for Invitae common stock, exercise their right to convert into CombiMatrix common stock and/or do nothing, as well as several additional operating financial estimates at the prospective closing date made by CombiMatrix management. Thus, although CombiMatrix management’s financial assumptions are perceived and intended to be conservative in nature, the final offer price per share to CombiMatrix’s common stockholders may be greater or less than the indicative range provided; the implied pricing for the proposed Transaction can be further scrutinized through careful review of the terms and conditions set forth in the Agreement. In addition, Invitae retains the right to “walk away” from the Transaction if 90% of the CSEs do not participate in the Warrant Exchange Offer.

Torreya Capital (“we” or “Torreya”), as part of its investment banking business, is continually engaged in the valuation of businesses and their securities in connection with mergers and acquisitions and valuations for corporate and other purposes. Torreya Capital is a Division of the Financial West Group.

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We are acting as financial advisor to the Company in connection with the Transaction and will receive a fee from the Company for our services pursuant to the terms of our engagement letter with the Company (the “Engagement Letter”), dated as of April 21, 2016, as amended by subsequent fee adjustment correspondence that took place on both February 9, 2017 and July 11, 2017. Payment of such fee is contingent upon the consummation of the Transaction. In addition, the Company has agreed to reimburse our reasonable out-of-pocket expenses incurred in rendering services to the Company, subject to an agreed maximum amount, and to indemnify us for certain liabilities that may arise out of our engagement.

In connection with our Opinion, we have reviewed and considered, among other things:

- the final draft of the Agreement and Plan of Merger dated July 29, 2017;
- certain publicly available financial and other information for CombiMatrix and certain other relevant financial and operating data furnished to Torreya by CombiMatrix management;
- certain internal financial analyses, reports and other information concerning CombiMatrix prepared by the management of CombiMatrix and certain financial forecasts concerning CombiMatrix prepared by the management of CombiMatrix (collectively, the “CombiMatrix Forecast”);
- certain stock market data of CombiMatrix and certain publicly traded companies Torreya deemed relevant;
- certain acquisition premia paid to other publicly traded companies in the life sciences sector in the last three years Torreya deemed relevant;
- certain financial terms of the merger as compared to the financial terms of certain selected business acquisitions Torreya deemed relevant; and
- such other information, financial studies, academic reports, analyst reports, market research, and such other factors that Torreya deemed relevant for the purposes of its opinion.

In conducting our review and arriving at our Opinion, we have, with your consent, assumed and relied, without independent investigation, upon the accuracy and completeness in all material respects of all financial and other information provided to us by the Company, or which is publicly available or was otherwise reviewed by us. We have not undertaken any responsibility for the accuracy, completeness or reasonableness of, or independent verification of, such information. With respect to the CombiMatrix Forecast, however, we have, with your consent, assumed that it has been reasonably prepared on bases reflecting the best currently available estimates and good faith judgments of the management of CombiMatrix as to the future performance of CombiMatrix. We have relied upon, without independent verifications, the assessment of Company management as to the existing services of the Company and the validity of, and risks associated with, the future services of the Company (including without limitation, the development, testing and marketing of such services, the receipt of all necessary governmental and other regulatory approvals for the development, testing and marketing thereof, and the life and enforceability of all relevant patents and other intellectual and other property rights associated with such services). In addition, we have not conducted nor have assumed any obligation to conduct any physical inspection of the properties or facilities of the Company. We have further relied upon the assurance of management of the Company that they are unaware of any facts that would make the information provided to us incomplete or misleading in any material respect. We expressly disclaim any undertaking or obligations to advise any person of any change in any fact or matter affecting our Opinion of which we become aware after the date hereof. We have not made or obtained any independent evaluations, valuations or appraisals of the assets or liabilities of the Company, nor have we been furnished with such materials. We have relied, with your consent, on the assessments by the Company and its advisors as to all legal, regulatory and tax matters with respect to the Company. Our services to the Company in connection with the Agreement have been comprised solely of rendering an opinion from a financial point of view with respect to the Consideration. We express no view as to any other aspect or implication of the Agreement or any other agreement, arrangement or understanding entered into in connection with the Agreement or otherwise. Our Opinion is necessarily based upon economic and market

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conditions and other circumstances as they exist and can be evaluated by us on the date hereof. It should be understood that although subsequent developments may affect our Opinion, we do not have any obligation to update, revise or reaffirm our Opinion and we expressly disclaim any responsibility to do so.

For purposes of rendering our Opinion we have assumed in all respects material to our analysis, that the final form of the Agreement when signed will be substantially similar to the last draft reviewed by us. We have also assumed that all governmental, regulatory and other consents and approvals contemplated by the Agreement will be obtained and that in the course of obtaining any of those consents no restrictions will be imposed or waivers made that would have an adverse effect on the contemplated benefits of the Agreement.

It is understood that this letter (and the opinion contained herein) is intended for the benefit and use of the Board of Directors of the Company in its consideration of the Agreement and Transaction and may not be used for any other purpose or reproduced, disseminated, quoted or referred to at any time, in any manner or for any purpose without our prior written consent; provided, however, that this letter may be reproduced in full, and a summary of the contents of this letter may be disclosed, in any proxy statement, registration statement or other filing made by the Company with the U.S. Securities and Exchange Commission in connection with the Transaction. This letter does not constitute a recommendation to any stockholder as to how such stockholder should vote with respect to the Agreement or to take any other action in connection with the Agreement or otherwise. We have not been requested to opine as to, and our Opinion does not in any manner address, the Company's underlying business decision to enter into the Agreement or the relative merits of the transactions contemplated by the Agreement as compared to other business strategies or transactions that might be available to the Company. Furthermore, we express no view as to the price or trading range for shares of the common stock of Invitae following the execution of the Agreement or the consummation of the transactions contemplated by the Agreement. The issuance of this opinion was approved by an authorized internal fairness committee of Torrey Capital in accordance with our customary practice.

Based upon and subject to the foregoing, including the various assumptions and limitations set forth herein, it is our opinion that, as of the date hereof, the Consideration is fair, from a financial point of view, to the Company's stockholders.

Very truly yours,

/s/ Tim C. Opler, Ph.D.

Tim C. Opler, Ph.D.
Representative
Torrey Capital

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549**

FORM 10-K

- ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
FOR THE FISCAL YEAR ENDED DECEMBER 31, 2016**
- OR**
- TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
FOR THE TRANSITION PERIOD FROM _____ TO _____.**
- Commission File Number 001-33523**

COMBIMATRIX CORPORATION

(Exact name of registrant as specified in its charter)

DELAWARE
(State or other jurisdiction of
incorporation or organization)
310 GODDARD, SUITE 150,
IRVINE, CA
(Address of principal executive offices)

47-0899439
(I.R.S. Employer
Identification No.)
92618
(Zip Code)

Registrant's telephone number, including area code: **(949) 753-0624**

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class
Common Stock, \$0.001 par value

Name of Each Exchange on Which Registered
The NASDAQ Stock Market LLC

Securities registered pursuant to Section 12(g) of the Act: **None**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark that disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer Accelerated filer
Non-accelerated filer (Do not check if a smaller reporting company) Smaller reporting company

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes No

As of June 30, 2016, the last business day of the registrant's most recently completed second fiscal quarter, the aggregate market value of the registrant's common stock held by non-affiliates was \$4,708,000, based upon the last reported sale price of the registrant's common stock on that date as reported by NASDAQ. For the purposes of the foregoing calculation only, all of the registrant's directors, executive officers and persons known to the registrant to hold ten percent or greater of the registrant's outstanding common stock have been excluded in that such persons may be deemed to be affiliates. This determination of affiliate status is not a determination for other purposes. The number of shares of the registrant's Common Stock, \$0.001 par value, outstanding on February 28, 2017, was 2,864,633.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive Proxy Statement for its 2017 Annual Meeting of Stockholders (the "Proxy Statement"), to be filed with the Securities and Exchange Commission (the "SEC") pursuant to Regulation 14A not later than 120 days after the end of the fiscal year covered by this Annual Report on Form 10-K (the "Form 10-K"), are incorporated by reference into Part III, Items 10-14 of this Form 10-K. Except for the portions of the Proxy Statement specifically incorporated by reference in this Form 10-K, the Proxy Statement shall not be deemed to be filed as a part hereof.

FORM 10-K ANNUAL REPORT
FISCAL YEAR ENDED DECEMBER 31, 2016
COMBIMATRIX CORPORATION

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PART I

CAUTIONARY STATEMENT

This report contains forward-looking statements within the meaning of the “safe harbor” provisions of the Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical fact included in this report, are forward-looking statements. Reference is made in particular to the description of our plans and objectives for future operations, assumptions underlying such plans and objectives, and other forward-looking statements included in this report. Such statements may be identified by the use of forward-looking terminology such as “may,” “will,” “should,” “would,” “could,” “expect,” “believe,” “estimate,” “anticipate,” “intend,” “plan,” “predict,” “seek,” “potential,” “more likely to,” “with a view to,” “our future success depends,” “continue,” “focus,” “ongoing,” or similar terms, variations of such terms or the negative of such terms, and include, but are not limited to, statements regarding projected results of operations, capital expenditures, earnings, management’s future strategic plans, development of new technologies and services, litigation, regulatory matters, market acceptance and performance of our services, the success and effectiveness of our technologies and services, our ability to retain and hire key personnel, the competitive nature of and anticipated growth in our markets, market size, market position of our services, marketing efforts and partnerships, liquidity and capital resources, our accounting estimates, and our assumptions and judgments. Such statements are based on management’s current expectations, estimates and projections about our industry, management’s beliefs, and certain assumptions made by us, all of which are subject to change. These forward looking statements are not guarantees of future results and are subject to a number of risks, uncertainties and assumptions that are difficult to predict and that could cause actual results to differ materially and adversely from those described in the forward-looking statements. The risks and uncertainties referred to above include, but are not limited to, our ability to grow revenue and improve gross margin; delays in achieving cash flow-positive operating results; the risk that operating expenses are not reduced or increase; the risk that test volumes and reimbursements level off or decline; the risk that payors decide to not cover our tests or to reduce the amounts they are willing to pay for our tests; the risk that we will not be able to grow our business as quickly as we need to; our ability to successfully increase the volume of our existing tests, expand the number of tests offered by our laboratory, increase the number of customers and partners and improve reimbursement for our testing; market acceptance of chromosomal microarray analysis, or CMA, as a preferred method over karyotyping; the rate of transition to CMA from karyotyping; changes in consumer demand; third-party reimbursement of CMA; our ability to attract and retain a qualified sales force and key technical personnel; our ability to successfully develop and introduce new technologies and services; rapid technological change in our markets; supply availability; our ability to bill and obtain reimbursement for highly specialized tests; the rate of growth of the in vitro fertilization, or IVF, diagnostic testing market; our ability to comply with regulations to which our business is subject, including changes in coding and reimbursement methods; legislative, regulatory and competitive developments in markets in which we and our subsidiaries operate; our limited market capitalization; our ability to obtain additional financing for working capital on acceptable terms and in a timely manner; future economic conditions; other circumstances affecting anticipated revenues and costs; and other factors as more fully disclosed in our discussion of risk factors in Item 1A of Part II of this report. These forward-looking statements speak only as of the date of this report and we expressly disclaim any obligation or undertaking to release publicly any updates or revisions to any forward-looking statements contained herein to reflect any change in our expectations with regard thereto or any change in events, conditions, or circumstances on which any such statement is based, except as otherwise required by law. Additional factors that could cause such results to differ materially from those described in the forward-looking statements are set forth in connection with the forward-looking statements.

As used in this report, “the Company,” “we,” “us” and “our” refer to CombiMatrix Corporation and its majority-owned subsidiary companies.

Item 1. BUSINESS

Overview

We were originally incorporated in October 1995 as a California corporation. In September 2000, we were reincorporated as a Delaware corporation and in December 2002, we merged with, and became a wholly owned

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subsidiary of, Acacia Research Corporation, or Acacia. In August 2007, we split off from Acacia and became publicly traded on The NASDAQ Stock Market. As a result of the split off, we ceased to be a subsidiary of, or affiliated with Acacia.

We are a family health-focused clinical molecular diagnostic laboratory specializing in pre-implantation genetic screening, prenatal diagnosis, miscarriage analysis, and pediatric developmental disorders. We strive to provide best-in-class clinical laboratory support to healthcare professionals, allowing them to maximize the clinical utility of their patients' test results and to optimize patient care. Our testing focuses on advanced technologies, including single nucleotide polymorphism, or SNP, chromosomal microarray analysis, next-generation sequencing, fluorescent *in situ* hybridization, or FISH, and high resolution chromosome analysis (also referred to as karyotyping). Our approach to testing is to offer sophisticated technology along with high quality clinical support to our ordering physicians and their patients. Our laboratory facilities and corporate headquarters are located in Irvine, California.

We also own a one-third minority interest in Leuchemix, Inc., a private drug development company focused on developing a series of compounds to address a number of oncology-related diseases.

Market Overview

We believe the molecular diagnostics market is one of the fastest-growing segments within the overall diagnostics market. Molecular diagnostics, within the context of this report, refers to the use of an individual's genetic analysis to guide medical decision-making in the area of disease diagnosis and post-diagnostic management. Innovative approaches to re-sequencing of the human genome and a growing clinical appreciation and acceptance of the utility of genomic information in guiding clinical care have enabled the rapid growth of this market. We believe that the use of molecular diagnostics will continue to grow in the coming years and will have a significant impact on the way in which medicine is practiced.

Genes and Proteins

The human body is composed of billions of cells, each containing DNA that encodes the basic instructions for cellular function. The complete set of an individual's DNA is called the genome, and is organized into 23 pairs of chromosomes, which are further divided into smaller regions called genes. Each gene is comprised of a specific sequence involving four nucleotides (also called bases): adenine (A), thymine (T), guanine (G) and cytosine (C). These bases are complementary to one another in that A binds only with T and G binds only with C. This interaction forms base pairs, and is responsible for the double helix structure of DNA.

The human genome has approximately three billion nucleotides. The order of these nucleotides is known as the DNA sequence. When a gene is turned on, or expressed, the genetic information encoded in the DNA is transcribed (or copied) to an intermediate form, called messenger RNA, or mRNA. The mRNA code is then translated into a specific protein product. Proteins direct most cellular functions, some of which lead to the expression of individual traits, such as eye color or height. Some level of normal variability is seen throughout the genome; however, abnormal variations in the sequence of a gene or a region of the genome, such as deletions, duplications, or point mutations, can interfere with the normal physiology of the cells in which that gene is expressed. These abnormal variations may lead to disease, a predisposition to a disease, or an atypical response to certain types of drugs.

Genes and Molecular Diagnostics

There are a number of methods of genetic analysis that are used in diagnostic genetic testing. These methods broadly fall into three main categories: (i) sequencing of individual base pairs of DNA; (ii) assessing DNA copy number variation; and (iii) analyzing gene expression. In some diagnostic situations, it is only necessary to analyze either a single gene or a small number of genes. This diagnostic testing can be accomplished by a

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number of different techniques, depending on the situation. However, when a larger number of genetic factors need to be analyzed, one of the most efficient methods of analysis is to use a CMA, also referred to as microarray, which has the ability to measure millions of DNA variations in a single experiment.

Microarray Testing for DNA Copy Number Variation

Microarray testing assesses genome-wide copy number variation by comparing a patient's genomic DNA to a reference genome to evaluate for relative losses and gains. Some losses and gains of genomic information are known to cause genetic disorders or predispose a person to a genetic disorder. Other gains and losses are considered benign because they occur in regions of the genome that are known to show variability in the normal population and have not been associated with any disease or disease process. Microarray testing is a powerful tool because it allows for simultaneous analysis of copy number variation across the entire genome at a high resolution in a single assay, providing a comprehensive analysis of all 46 chromosomes in a single test. Unlike gene expression arrays, which evaluate mRNA levels to monitor the activity of specific genes, DNA-based microarray analysis identifies quantitative defects in the number of copies of distinct segments of genomic DNA in order to test for conditions that are known to be associated with gains and losses of chromosomal information. Throughout this report, the terms microarray and array are used interchangeably, but always refer to DNA-based microarray testing.

Our Solutions for Molecular Diagnostics and Microarray Testing

In our laboratory facilities, we use the Illumina Infinium CytoSNP-850K BeadChip genome-wide array for our prenatal diagnostics and postnatal developmental disorders markets. Illumina's CytoSNP-850K microarray is comprised of 50 nucleotide base, or 50-mer, probes attached to individual silica beads, which self-assemble into microwells on the array's surface. Each single nucleotide polymorphism, or SNP, probe is represented with a high degree of redundancy to improve sensitivity by increasing the signal-to-noise ratio. To test a patient's genomic DNA, it is first fragmented and then amplified. These fragments are allowed to hybridize with the complementary DNA on the 50-mer probes, and after hybridization, each fragment is extended by a fluorescently-labeled nucleotide (i.e., an A, T, C, or G). The fluorescent signal is subsequently amplified and detected by a scanner, which measures the intensity of each signal and the specific nucleotide detected for each SNP. This information is then compared to a control cluster, which is generated from pooling over 100 normal genomes tested using the same assay and is then evaluated for differences in copy number (i.e., deletions and duplications), as well as for genotypic information (i.e., homozygosity versus heterozygosity). For our miscarriage analysis testing, we utilize Illumina's HumanCytoSNP-12 BeadChip array. These two microarray platforms are similar in many respects. However, as miscarriage analysis is performed primarily to identify the incorrect number of chromosomes (or "aneuploidy"), the slightly lower-resolution CytoSNP-12 microarray provides a more cost-effective solution.

Next Generation Sequencing for DNA Copy Number Variation

For the IVF testing market, we utilize next generation sequencing, or NGS, technology by Illumina's VeriSeq™ preimplantation genetic screening, or PGS, assay to evaluate biopsied embryonic cells for whole chromosome and large segmental aneuploidies. DNA from one or more embryonic biopsied cells is amplified and then simultaneously fragmented and tagged with unique adapter sequences. Next, the samples undergo additional limited amplification, which utilizes the adapter sequences. This process also adds index sequences which is used to pool up to 24 samples in a single library for the sequencing process. The sequence data is de-multiplexed utilizing the index sequence information, aligned to the Human Genome Reference, and the copy number variances of these sequences are visualized using third-party analysis software.

Diagnostics Market Segmentation

In general, our diagnostic services and test menu are focused around our highly specialized genomic microarray and NGS technologies. While there are risks associated with billing and reimbursement of these

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highly specialized tests, we believe that our market position and test portfolio provide significant leverage in the rapidly growing personalized genomics/diagnostics space. Our test menu is further supplemented by what may be considered more routine tests, which allow us access to a broader, yet synergistic market. Our overall clinical market can be divided into four primary markets: (i) IVF testing, (ii) miscarriage analysis (also referred to as products of conception analysis or POC), (iii) prenatal diagnostic testing; and (iv) postnatal developmental disorder testing. Our research indicates that the global market for prenatal and newborn genetic testing is estimated to be valued at \$8.4 billion by 2019. In addition, our market analysis indicates that our potential client base for these markets can be divided into multiple general customer groups, as detailed below. Our services are therefore tailored to meet the specific needs of each of these customer groups.

In Vitro Fertilization, or IVF, Diagnostic Testing

- This market segment consists of approximately 480 IVF clinics nationwide. Testing is focused on screening embryos for aneuploidy and is primarily referred to as PGS. A significant proportion of embryos created through IVF will have an abnormal chromosomal complement, and this percentage dramatically increases with age. The goal of PGS is to determine the chromosomal make-up of each embryo to help the IVF specialist identify the most suitable embryo(s) for transfer. Based on our market research, the majority of IVF clinics in the United States do not have an in-house laboratory capable of performing this high complexity testing, and therefore must send embryo biopsy samples out to reference laboratories. Commercial laboratories providing PGS utilize a variety of technology platforms, including: real-time polymerase chain reaction (RT-PCR), array comparative genomic hybridization (aCGH), SNP microarray, and next-generation sequencing (NGS). We believe this market segment is rapidly growing due to the impact of delayed childbearing, as well as the negative impact of increased obesity on fertility. As most insurers currently do not provide coverage benefits for PGS, our business model requires billing the patient up-front for our services, typically by credit card, or billing the fertility clinic providing the IVF services, both of which eliminate third-party reimbursement risks. We estimate that the current total U.S. market for diagnostic testing in this segment to be approximately \$125 million per year.

Miscarriage Analysis

- *Community-based hospital pathology laboratories and regional reference laboratories:* This segment of the market is characterized by hospitals that provide basic laboratory services but do not offer complex genetic testing, such as SNP microarrays. Generally speaking, in the past decade, most community hospitals have relied on traditional methods of chromosomal analysis, such as karyotyping or FISH for miscarriage testing, which is typically sent out to a specialty laboratory. However, based on more recent, highly compelling data demonstrating the superiority of microarray testing to karyotyping, we believe significant growth opportunities exist in this segment. This segment of the market is characterized by a preponderance of clients that require us to bill the patients' insurers directly, as opposed to engaging in an institutional, direct-bill relationship. We estimate the current total U.S. market for diagnostic testing in this segment to be approximately \$300 million per year.
- *Physician groups:* In the developmental genetics market, physician groups collectively constitute a significant market opportunity. This segment of the market typically outsources all of their genetic testing services, meaning they require a global level of service that necessitates processing all aspects of patient billing. The physicians that make up this market include reproductive endocrinologists, OB-GYNs and maternal fetal medicine specialists, or MFMs.
- *IVF Clinics:* In this market, miscarriage analysis is performed for patients who experience a successful implantation of the embryo, but end up being unable to sustain the pregnancy.

Prenatal Diagnostic Testing

- *Physician groups:* Prenatal diagnostic testing is performed on samples retrieved from specific diagnostic procedures performed during pregnancy. This testing can also be used as a confirmatory diagnostic analysis following maternal serum screening or non-invasive prenatal testing, or NIPT, or as a standalone diagnostic assay. There are two primary diagnostic procedures utilized to obtain a fetal sample: (i) chorionic villus sampling, in which a small sample of the placenta is biopsied; or (ii) amniocentesis, in which a small amount of amniotic fluid is collected. These procedures are performed by MFM specialists and some OB-GYNs. Typically, these physicians order testing directly from our laboratory. This market continues to be important as diagnostic testing during pregnancy is critical to ongoing maternal clinical care. We estimate that the current total U.S. market for diagnostic testing in this segment to be approximately \$100 million per year.

Postnatal Diagnostic Testing

- *Pediatric geneticists, pediatric neurology clinics and Children's Hospitals:* This market segment, particularly the Children's Hospital sector, generally has relatively comprehensive laboratory capabilities and performs most basic genetic and chromosomal testing in-house, such as chromosome analysis, FISH and PCR-based tests. These facilities typically provide comprehensive genetic counseling to their patients, which is a key component in the clinical evaluation and utilization of complex genomic assays in the pediatric diagnostic arena. Due to economic conditions, some institutions find themselves in the untenable situation of having limited access to third-party manufactured kit components and being unable to internalize such highly specialized genomic testing platforms due to lack of expertise in this area. This segment of the market typically outsources the testing completely. From a billing perspective, many of the customers in this segment prefer the direct billing model, and individual test pricing is negotiated with each institution. We estimate that the current total U.S. market for diagnostic testing in this segment to be approximately \$200 million per year.

Technologies

Our objective is to provide a suite of molecular diagnostic tests utilizing the following technologies:

SNP Microarrays

The Illumina microarray that we utilize was designed by a consortium of academic and commercial laboratories (including CombiMatrix), using content recommendations from the International Collaboration for Clinical Cytogenomics and the Sanger Institute. The resulting assay is a dense, high-resolution, whole-genome array that covers 3,262 dosage-sensitive genes that are known to be associated with genetic disorders and/or syndromes. Probe coverage is highly focused in regions of known clinical significance, with additional probes to provide coverage for the remainder of the genome, or the "genomic backbone". In addition to copy number evaluation, SNP probes provide genotypic information that can indicate imprinting disorders, regions of homozygosity that may contain a disease-causing gene, shared ancestry (which can lead to an increased risk for an autosomal recessive disorder in a child), and in the case of prenatal and miscarriage analysis, identification of partial and complete molar pregnancies and maternal cell contamination.

Meta-analyses and large prospective studies have demonstrated that microarray testing provides a significant increase in the detection rate of chromosomal abnormalities compared to standard cytogenetic testing (i.e., karyotyping and evaluation of the tips of chromosomes, called subtelomeres, by FISH). Although the percent increase varies based on the type of sample being tested (i.e., miscarriage tissue, pediatric sample, prenatal sample), the data has shown that standard chromosomal analysis misses many disorders that are easily identifiable by microarray testing. The ability to identify a specific cause for a disorder or the cause of a pregnancy loss assists not only with diagnostic management, but also with anticipatory care.

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SNP Microarray Analysis on FFPE Tissue

Although fresh tissue from a miscarriage is ideal, in some cases, it is not available. In these situations, the tissue has typically been processed by a pathology laboratory using formalin to fix the tissue and embedding it in a paraffin block for storage (referred to as formalin fixed paraffin embedded or FFPE sample). One of the major benefits of using a microarray to evaluate the fetal chromosomes instead of karyotyping is that microarrays are DNA-based, meaning they can analyze DNA from tissue whether or not it is still living, unlike karyotyping which requires fresh, living tissue. To be a comprehensive service provider, it is critical that our microarray platform be able to evaluate genomic alterations not just in fresh miscarriage tissue, but also tissue from FFPE samples. Traditionally, working with FFPE samples has proven challenging because the fixation and storing process degrades the quality of the DNA. We believe we have successfully adapted our array protocol for the optimal analysis of FFPE specimens by using a specialized process, in which the fragmented DNA is restored to longer segments by ligating free DNA ends together prior to analysis. This restoration step makes the array particularly useful in analyzing DNA samples that are of poorer quality, such as older samples or tissue that has been strongly fixed in formalin. We believe this process developed by our laboratory has allowed us to successfully analyze this challenging sample type, which is not amenable to testing by other platforms.

Next Generation Sequencing for IVF Testing

The Illumina VeriSeq PGS kit has been stringently validated by clinical laboratories world-wide for the past four years. While aCGH technology (specifically, Illumina's 24sure microarray) was considered to be an acceptable platform for PGS testing in years past, NGS technology has since been repeatedly demonstrated to be at least as good, if not better than, aCGH in terms of sensitivity and specificity. VeriSeq PGS offers the added advantage of increased sensitivity for the presence of mosaic abnormalities (i.e. when more than one cell line is present). This is in large part due to the BlueFuse Multi Analysis software that we use, which is part of the VeriSeq PGS kit. With BlueFuse, the data processing algorithm has been optimized to create a smoother plot and a much larger dynamic range, making it easier to separate true abnormalities from noise. Not only is VeriSeq PGS able to accurately identify whole chromosome aneuploidies, it is also able to detect segmental aneuploidies of 20 Mb or greater. Segmental aneuploidies of this size are considered detrimental to embryo survival and targeted assays that are not capable of identifying segmental aneuploidies have been associated with worse outcomes compared to whole-genome assays such as VeriSeq PGS. These outcomes included: decreased implantation rates, increased miscarriage rates, and decreased ongoing pregnancy rates.

Our Services

Overview

We utilize the latest technologies to deliver molecular diagnostic services primarily in the area of reproductive health for the diagnosis of developmental disorders associated with intellectual disability, congenital anomalies, dysmorphic features, and autism spectrum disorders. Such disorders may be diagnosed in the prenatal period, the pediatric period, or as one of the factors leading to a miscarriage or stillbirth.

Miscarriage, Intrauterine Fetal Death and Stillbirth Analysis

As with prenatal and pediatric genetics, karyotyping has long been considered the standard of care for evaluating pregnancy losses for chromosomal disorders. However, tissue from miscarriages, fetal deaths and stillbirths is difficult to culture (grow) in the laboratory, and this culturing process is required in order to perform a karyotype. Microarray analysis is particularly useful in this arena, as it does not depend on the successful growth of a cell culture. Instead, it relies solely on the sample's DNA, which can be directly extracted from nearly any fetal tissue sample. While karyotyping fails to provide a result in between 20-40% of these cases, microarray testing is able to provide a result greater than 90% of the time. This is particularly beneficial in the analysis of first trimester pregnancy loss, as it is estimated that 50-60% of all first trimester losses are due to chromosomal abnormalities. Being able to identify the cause of the miscarriage in one out of every two women

means that physicians are better able to provide personalized reproductive counseling and plan future pregnancy management for a much larger segment of their patient population.

IVF: Preimplantation Genetic Screening

In IVF testing, PGS was traditionally performed at cleavage stage (Day 3) embryos by biopsying one or two cells of the early stage embryos for testing. In recent years, there has been a marked shift toward biopsying multiple cells from the trophectoderm of blastocyst (Day 5) embryos after it was demonstrated that Day 3 biopsies were much more harmful to the embryo than Day 5 biopsies. PGS is most often utilized when there is a history of reproductive failure, recurrent pregnancy loss, a previous aneuploid pregnancy, family history of aneuploidy, or advanced maternal age. We believe that approximately 25% of IVF cycles in the United States involve the use of PGS. Throughout the years, a number of different technologies have been employed, including FISH, quantitative PCR, array CGH, SNP microarray, and NGS. At present, it is not clear which of these technologies will prove optimal for routine clinical use. There are a number of studies indicating that NGS may have the greatest accuracy and the most sensitivity with respect to the detection of mosaicism; however, the clinical relevance of this information remains to be determined.

Developmental Disorders: Prenatal and Pediatric Care

The focus of our prenatal and postnatal microarray is to assist in diagnosing genomic syndromes associated with intellectual disability, developmental delays, congenital anomalies, dysmorphic features and autism spectrum disorders.

Prenatal : In 2013, following the publication of a large, prospective, multicenter trial designed to compare karyotyping to microarray analysis in the prenatal population (Wapner et al.), the American College of Obstetricians and Gynecologists, or ACOG, which is the governing body for the practice of medicine in the area of obstetrics and gynecology, recommended that microarray analysis be performed *in lieu of* standard karyotyping when fetal anomalies are present on ultrasound, and any time there is a fetal death or stillbirth. The ACOG also recommended that microarray analysis be offered as an alternative to standard karyotyping for any patient undergoing a prenatal diagnostic procedure, given the increased sensitivity of microarray analysis to detect chromosomal abnormalities, even following a normal karyotype result.

CMA provides critical information for families and their physicians. In prenatal care, it allows the physician and patient to make better pregnancy management and care decisions, as well as allowing for the opportunity to provide anticipatory care with respect to abnormalities that may be associated with a specific disorder that may not yet be recognizable. Such knowledge can inform decisions about where to deliver (such as at a tertiary care center for an infant with complex abnormalities) and how aggressive to be with neonatal support in very severe cases. In pediatric care, the same is true. Once the cause of a child's development disorder and/or congenital anomalies has been identified, parents, teachers and physicians can work toward ensuring that appropriate medical and educational care decisions are made based on the child's condition. As with prenatal care, microarray analysis can assist in providing appropriate anticipatory care, such as initiating screening tests at an earlier age when the child's disorder is associated with an increased risk of a specific disorder or disease complication.

Postnatal : In 2014, the American Academy of Pediatrics, or AAP, released a clinical report in which it proclaimed microarray analysis as a first tier test for children with intellectual disability or global developmental delays. Prior to that, in 2010, the American College of Medical Genetics, or ACMG, which is the governing body for the utilization of genetic testing, recommended microarray testing *in lieu of* standard karyotyping children with intellectual disabilities, developmental disorders, congenital abnormalities, dysmorphic features, and autism/autism spectrum disorders based on the fact that microarray analysis *doubled* the detection rate of chromosomal abnormalities in these patients.

The Evolution of Our Clinical Microarray Testing

In 2006, we introduced our first developmental disorders microarray, which detected over 50 different genetic disorders in one multiplexed analysis. In October 2006, the U.S. Food and Drug Administration, or FDA, indicated that this test did not require approval under its guidance as it did not meet the definition of an *In Vitro* Diagnostics Multivariate Index Analysis, or IVDMIA. Following this determination, we launched our microarray test under the Clinical Laboratory Improvement Amendments of 1988, or CLIA, guidelines for use in the clinical care of patients. Since then, we have launched several upgrades of this test. Our current microarray offering is capable of identifying more than 500 recurrent syndromic and non-syndromic genetic disorders, ranging from common conditions, such as Down syndrome (trisomy 21) and DiGeorge syndrome (deletion 22q11.2), and many more rare disorders.

We actively monitor peer-reviewed publications for relevant information that allows us to analyze and modify our test reporting processes as necessary so as to include the most up-to-date clinical information for the benefit of our patients. We anticipate that these continuous improvement processes may result in either incremental improvement to our current array design, or significant changes for a new version of our arrays in the future. As an example of our publication-driven approach, as early as 2009, we began to include specific coverage of regions shown to be strongly associated with autism spectrum disorders, or ASDs, or predisposition to ASDs, long before the guidelines to testing children with autism/ASDs included microarray analysis. It is now recognized that approximately 7% of all children with an ASD have a genomic abnormality that is identifiable by microarray. This contributes to the clinical recommendation that chromosomal microarray analysis be offered to all individuals with an ASD as part of a first-tier diagnostic evaluation. Implementation and use of this high density whole-genome array provides valuable and clinically actionable information for over 10% of all pediatric patients evaluated for neurodevelopmental disorders. Significantly, recent studies from our group and others have enabled us to have a clearer appreciation of the extent and nature of structural variation in the human genome in health and disease. Additionally, the ability to identify recurrent and rare structural imbalances by microarray analysis is now allowing us to decipher potential mechanisms that result in complex chromosomal rearrangements with adverse phenotypic impact. Therefore, we believe that not only are we solving challenging diagnostic dilemmas for patients and their families, but also providing valuable long-term care and prognostic information.

More significantly, based upon an ongoing evaluation of current medical literature and critical evaluation of multiple microarray platforms available for clinical use, we adopted a microarray platform that analyzes SNPs across the genome at an extremely high resolution. In addition to assessing genomic copy number variations, analysis of SNPs enables detection of regions of heterozygosity involving single or multiple chromosomes, which may provide clues towards identifying possible genetic imprinting disorders and / or situations that increases the risk of autosomal recessive disorders due to shared ancestry. In the miscarriage analysis space, in addition to allowing identification of a whole spectrum of whole-chromosome and segmental genomic imbalances, SNPs readily enable detection of triploidy, molar pregnancies, and maternal cell contamination, thereby decreasing the number of additional ancillary testing often required for such samples.

Our Strategy

Our strategic intent is to become the preeminent diagnostic services laboratory for reproductive healthcare testing using the best technologies available. In our efforts to achieve this objective, we leverage our direct sales team to market our IVF testing, prenatal diagnostic testing, postnatal testing, and miscarriage analysis testing. In addition, we have established pathology partnerships and strategic alliances with industry partners to increase our commercial distribution footprint.

Direct Sales Efforts

Our sales and marketing representatives aggressively market our PGS, miscarriage analysis and prenatal diagnostic microarray testing to four primary physician groups: OB/GYNs, MFMs, reproductive endocrinologists

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in IVF clinics and the historically underserved Pathology community. It is primarily the OB/GYN and occasionally the MFM, who perform the surgical procedure to remove fetal and placental tissue from the uterus following a miscarriage or fetal death. Pathologists are the custodians of this tissue and are often charged with determining which reference lab to utilize for send-out testing on these specimens. Embryologists in the IVF clinics conduct the biopsies of embryos in the clinic. MFMs conduct the CVS and amnio procedures, often in clinic as well. For the miscarriage analysis market, our strategic sales approach is to engage with, and sell to, the multiple decision-makers in the laboratory and the clinic, culminating with the pathologist. We believe this pathology-centric approach to miscarriage analysis testing, where we leverage our expertise in the testing of FFPE, gives us a competitive edge. Whereas our competitors' primary sales call points are the medical office clinicians, and their primary test offerings focus on other product or service lines in developmental testing, we are very focused on the miscarriage analysis market and the unmet clinical need for this testing.

In December 2012, two studies by the National Institute of Health, which were published in the New England Journal of Medicine, demonstrated the diagnostic superiority of microarray analysis compared to traditional karyotyping for both stillbirths (Reddy, et al.) and prenatal diagnosis for ongoing pregnancies (Wapner, et al.). As mentioned above, in December 2013, ACOG issued a Committee Opinion not only recommending microarray analysis in lieu of karyotyping for fetal death and stillbirths (also referred to as POCs), but also as a superior test modality for prenatal diagnosis. In June 2016, our medical team and several thought leaders published the largest study of its kind regarding microarray analysis on POCs, *Genetics in Medicine*. In this study of 8,118 samples analyzed over a period of 44 months, we found an overall success rate of 91.0% for all sample types including both fresh tissue (92.4%) and FFPE (86.4%). In addition to the detection of whole chromosome aneuploidies, we identified polyploidy, whole genome homozygosity (seen in molar pregnancies), segmental genomic imbalances, and cases affected by maternal cell contamination. Given the increased diagnostic power and significantly higher success rate for obtaining results compared to karyotyping, our data supported microarray analysis as the preferred testing modality for pregnancy losses of all gestational ages. We are leveraging our direct sales channel and our strategic partners' channels to capitalize on the prenatal diagnostic testing opportunity and the recommendations of ACOG, which we believe highlight the superiority of microarray testing compared to traditional testing, such as karyotyping and FISH.

Strategic Alliances

Strategic alliances with established industry partners allow us to round-out our test menu to offer complete testing solutions to MFM specialists, reproductive endocrinologists, and OB/GYNs, and to capitalize on the demand for complementary test options, such as NIPT, which remains a screening modality. We have established several key partnerships in the past and we will continue to consider accretive business relationships that add value to our customers.

In addition, we have focused our reimbursement efforts on maximizing collections for all of the tests that we perform. We internalized our billing and collections process in 2012 and continue to augment our billing and reimbursement department to secure future positive coverage decisions and optimize payer relations. In 2016, we observed that several third-party insurance plans altered their coverage decisions and determined that testing products of conception for recurrent pregnancy loss by microarray is indeed clinically valuable and medically necessary. We believe this change from non-coverage to coverage for products of conception testing by microarray is a positive trend. We are also focused on increasing our managed care relationships, and have previously announced payor contracts covering our suite of diagnostics services, and expect to execute additional payor contracts in the future.

Scientific Advisory Board

In 2015 we initiated efforts to build our scientific advisory board (SAB), which as of the date of this filing currently is comprised of six members. We believe that our SAB adds significant intellectual and business expertise to CombiMatrix and to the direction of our current and future test offerings. Our SAB currently

includes leaders in the areas of maternal fetal medicine, obstetrics/gynecology, reproductive endocrinology, clinical embryology and pediatric neurology.

Billing and Reimbursement

Payor Categories

Revenues from our clinical laboratory tests are generated primarily from the provision of test results to the referring healthcare provider. Reimbursement, however, can come from several different sources. Depending on the billing arrangement and applicable law, parties that reimburse us for our services include direct-bill customers, third-party payors and individual patients. Where there is a coverage policy, contract or agreement in place, we bill the third-party payor, the hospital or referring laboratory as well as the patient (for deductibles and coinsurance or copayments, where applicable) in accordance with the policy or contractual terms. Where there is no coverage policy, contract or agreement in place, we pursue reimbursement on behalf of each patient on a case-by-case basis and rely on applicable billing standards to guide our claims process.

Our direct-bill payors include healthcare institutions such as hospitals, clinics, physician offices and in some circumstances, patients themselves. For the direct-bill and individual patient categories, our diagnostic services are billed and revenues are recognized at established contractual rates, once the test results have been delivered to the ordering physician.

Third-party payors include organizations such as commercial insurance companies, as well as government payors including Medicare and Medicaid. We bill our tests to these payors using individual billing codes known as Common Procedural Terminology, or CPT, codes established for array-based laboratory diagnostic testing. For the non-governmental third-party payor category, our diagnostic services are billed at our list prices for the test(s) performed, but they are recognized for accounting and financial reporting purposes as diagnostic service revenues based upon the amounts expected to be collected. The difference between the amount billed to each payor and the amount expected to be collected is recorded as a contractual allowance. For governmental payors, we recognize revenues based upon published fee schedules established by the Centers for Medicare and Medicaid Services, or CMS, or various state Medicaid fee schedules.

CPT Coding

CPT codes are the main data code set used by physicians, hospitals, laboratories and other health care professionals to report separately-payable clinical laboratory tests for reimbursement purposes. The CPT coding system is maintained and updated on an annual basis by the American Medical Association, or AMA. In 2012, the AMA added over one hundred new CPT codes for specific molecular tests such as ours. These new codes replaced the more general “stacking” codes that were previously used to bill for these services, and they became effective January 2013. In the Final Physician Fee Schedule Rule, which was issued in November 2012, CMS stated that it had determined it would pay for the new codes as clinical laboratory tests, which are payable on the Clinical Laboratory Fee Schedule, or CLFS. Although the various Medicare Administrative Contractors, or MACs, established pricing based on a “gap filling” methodology, not all of the codes were priced by CMS, and were omitted from the 2014, 2015, 2016 and 2017 CLFS. Among these were molecular codes we use in billing for our microarray testing.

The omission of certain CPT codes utilized by us from the CLFS could have an adverse impact on our revenue and cash reimbursement going forward. We continue to work with industry advisory groups to determine what information and action is needed to ensure continued reimbursement. There is a possibility that other third-party payors will establish negative or inadequate coverage policies or reimbursement rates.

Reimbursement

For the years ended December 31, 2016 and 2015, approximately 21% and 27% of our diagnostic services revenues were derived from direct bill customers, 71% and 68% from third-party commercial insurance carriers,

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2% and 3% from government payors, including Medicare and several state Medicaid plans, and 6% and 2% from private pay customers, respectively.

With respect to the third-party payors that we bill, we are considered an “out-of-network” provider with the majority of the carriers, resulting in varying expected reimbursement amounts, which we believe is not unusual for a company such as ours that offers highly specialized and/or unique testing. An “in-network” provider has a contracted arrangement with the insurance company or benefits provider. This contract governs, among other things, service-level agreements and reimbursement rates. In certain instances, an insurance company may negotiate an “in-network” rate for our testing rather than pay the typical “out-of-network” rate. During our operating history, we have been able to receive reimbursement for most of our tests from major commercial third-party payors based on their established policies. Our efforts in obtaining reimbursement are based on individual claims, include pursuing appeals or reconsiderations of claim denials, require a substantial amount of time and effort, and may still result in bills not being paid for many months, if at all. Furthermore, if a third-party payor denies coverage after final appeal, payment may not be received. We have implemented a revenue cycle management system and have expanded our billing and collections department to address these issues. We have also executed managed care contracts to become “in-network” with certain third-party payors, and continue to seek additional “in-network” contracts. However, we cannot predict whether, or under what circumstances, payors will reimburse our microarray tests. Payment amounts can also vary across individual policies. Denial of coverage by payors, or reimbursement at inadequate levels, will have a material adverse impact on market acceptance of our tests.

Governmental Regulation

Our business is subject to extensive laws and regulations as described below. It is impossible to predict what future changes will be made to federal, state and local laws and regulations and the impact that such changes may have on us.

The Patient Protection and Affordable Care Act

Comprehensive health care reform legislation passed in 2010 entitled The Patient Protection and Affordable Care Act, or ACA, instituted permanent cuts to the CLFS, which are in addition to the automatic sequestration reductions mandated by the Budget Control Act of 2011. However, due to new government leadership under President Donald Trump, executive orders designed to scale back the impact of the ACA have recently been enacted in 2017. Also, the U.S. Congress, in alliance with President Trump, is likely to propose sweeping legislation during 2017 to repeal and replace the ACA. We believe that a newly revised ACA will likely contain a number of provisions that are expected to impact our business and operations, albeit in ways we cannot currently predict. Provisions governing enrollment in federal healthcare programs, reimbursement changes, and the treatment of fraud and abuse will still impact existing government healthcare programs and will result in the development of new programs. Generally, the ACA and private payers may soon be faced with new legislation designed to contain costs or legislate different financial options for consumers who purchase health care insurance. These reforms present challenges and unpredictability to laboratories like ours.

Clinical Laboratory Improvement Amendments of 1988, or CLIA

As a clinical reference laboratory, we are required to hold certain federal, state and local licenses as well as certain certifications and permits to conduct our business. Under CLIA, we are required to hold a certificate applicable to the type of work we perform and to comply with standards covering personnel, facilities administration, quality systems and proficiency testing. We have a certificate of accreditation under CLIA to perform testing and are accredited by the College of American Pathologists, or CAP. To renew our CLIA certificate, we are subject to periodic inspection standards applicable to the testing we perform. Should regulatory compliance requirements become substantially more complex, operational costs at our lab might increase in the future. If our laboratory is out of compliance with CLIA requirements, we may be subject to

certain sanctions including suspension or revocation of our CLIA certificate and various civil and/or criminal penalties. We must maintain CLIA compliance and certification to be eligible to bill for services provided to Medicare beneficiaries. If we were to be found out of compliance with CLIA program requirements and subjected to sanctions, our business could be harmed. We are not able to guarantee that we will pass all future license and/or certification inspections.

U.S. Food and Drug Administration, or FDA

Regulations by the FDA regarding genetic testing are in a state of flux and changes to these regulations could dramatically affect the molecular diagnostics industry in the near future. While the FDA has the authority to regulate laboratory developed tests, or LDTs, it has generally exercised enforcement discretion in the area of LDTs performed by CLIA-certified laboratories. However, with the advent of Direct-to-Consumer DNA testing (i.e., testing that is marketed directly to the public, does not require a physician's order, and provides risk factor information rather than diagnostic or prognostic information), genomic testing using microarray technology (particularly single nucleotide polymorphism arrays) has come under scrutiny. In July 2010, the FDA held a two-day public meeting to obtain input from key stakeholders, including physicians, laboratory directors, regulatory and accrediting body members and the general public, regarding the structuring of a regulatory framework for LDTs. During this meeting, we believe that it became clear that the FDA's primary concern had less to do with CLIA-certified laboratories (such as ours) performing clinical microarray testing (i.e., testing ordered by a physician for medically necessary reasons, including disease diagnosis, monitoring and treatment decisions) and more to do with Direct-to-Consumer laboratories performing non-clinical testing that relies on what the FDA has referred to as "black box" proprietary algorithms to interpret their microarray data. This meeting came on the heels of a U.S. Government Accountability Office report entitled "Direct-to-Consumer Genetic Tests: Misleading Test Results are Further Complicated By Deceptive Marketing and Other Questionable Practices."

On October 3, 2014, the FDA published two draft guidance documents regarding proposals for the regulation of LDTs in the Federal Register. The 120-day public comment period on the draft documents began at issuance and lasted until February 2, 2015. Since this time, industry stakeholders have responded to the FDA draft guidance document, both for and against, with the only certainty being that a change in how LDTs will be monitored and by what federal agency are on the horizon. In early January of 2017, the FDA announced it would not issue a final guidance on the oversight of LDTs at the request of various stakeholders, such as the AMA and the ACOG in order to allow for further public discussion on an appropriate oversight approach and to give Congressional authorizing committees the opportunity to develop a longer-term, legislative solution. There can be no assurance that changes to the FDA's involvement in LDTs will not negatively impact our business. Generally speaking, the FDA and the legislative branch frequently entertain proposals that would increase FDA oversight of laboratories like ours and the testing that we conduct. The outcome and impact of such proposals on our business is impossible to predict. The FDA may impose a range of penalties for non-compliance with any of its rules, including recalls, injunctions and sanctions, any of which would negatively impact our business.

Health Insurance Portability and Accountability Act, or HIPAA

Under HIPAA, the U.S. Department of Health and Human Services, or HHS, issued regulations to protect the privacy of individuals' personal medical and health information through the implementation of security measures that govern how such data is stored and maintained, and to limit the disclosure of this "protected health information" to only those who receive specific authorization from the individual. The federal Health Information Technology for Economic and Clinical Health Act, or HITECH, enacted in February 2009, expanded the HIPAA rules significantly, in particular HIPAA enforcement. For example, HITECH authorizes state attorneys general to bring civil actions on behalf of state residents and it requires HHS to conduct extensive auditing. Perhaps most importantly, HITECH renders HIPAA directly applicable to the "business associates" of covered entities, which in some cases may mean us. The omnibus regulation implementing most of the HITECH provisions was published in January 2013. In February 2014, CMS issued final rules amending HIPAA to provide individuals or their personal representatives with the right to receive copies of their test reports from

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laboratories covered by HIPAA and/or to request that such test reports be transmitted to certain third parties. This rule preempts many state laws that prohibit laboratories like ours from directly providing individuals with their test reports. Violations of HIPAA regulations include civil and criminal penalties, including up to ten years imprisonment. Consequently, our policies and procedures are designed to comply with such regulations. The requirements under these regulations may change periodically and we will continue to monitor such changes.

There are also a number of state laws governing confidentiality of health information that are applicable to our operations, and new laws governing privacy may be adopted in the future. Violation of such laws could affect our applicable state licensure and could also result in criminal and/or civil penalties.

In addition, HIPAA and many state laws would require that we provide a written notification to affected individuals, certain federal and state agencies, and possibly the media if we suffered a breach of personal medical or health information. While we believe that we comply with regulations currently, we can provide no assurance that we are or will remain in compliance with diverse privacy requirements as they develop.

We believe that we are in compliance with the current Transactions and Code Sets Rule. We have transitioned from use of ICD-9-CM to ICD-10-CM as of October 1, 2015. Experience to date with use of ICD-10-CM shows no negative effects on our receipts and net revenue. We also believe that we are in compliance with the Operating Rules for electronic funds transfers and remittance advice transactions. We will continue to assess our computer systems to ensure compliance with such requirements.

Federal and State Insurance Regulations, Self-referral Prohibitions and Anti-kickback Laws

We are subject to federal and state laws, such as the Federal False Claims Act, state false claims acts, the illegal remuneration provisions of the Social Security Act, the federal anti-kickback laws, state anti-kickback laws, and the federal “Stark” laws, that govern financial and other arrangements among healthcare providers, their owners, vendors and referral sources, and that are intended to prevent healthcare fraud and abuse. Among other things, these laws prohibit kickbacks, bribes and rebates, as well as other direct and indirect payments or fee splitting arrangements that are designed to induce the referral of patients to a particular provider for medical products or services payable by any federal healthcare program, and prohibit presenting a false or misleading claim for payment under a federal or state program. They also prohibit some physician self-referrals. These laws are liberally interpreted and aggressively enforced by multiple state and federal agencies and law enforcement (including individual “qui tam” plaintiffs) and such enforcement is increasing. For example, the ACA increased funding for federal enforcement actions and many states have established their own Medicare/Medicaid Fraud Units and require providers to conspicuously post the applicable Unit’s hotline number. Possible sanctions for violation of any of these restrictions or prohibitions include loss of eligibility to participate in federal and state reimbursement programs and civil and criminal penalties. Changes in these laws at all levels of government are frequent and could increase our cost of doing business. If we fail to comply, even inadvertently, with any of these requirements, we could be required to alter our operations, refund payments to the government, lose our licensure or accreditation, enter into corporate integrity, deferred prosecution or similar agreements with state or federal government agencies, and become subject to significant civil and criminal penalties.

State Laboratory Licensing

In addition to federal certification requirements of laboratories under CLIA, licensure is required and maintained for our clinical reference laboratory under California law. We currently maintain a license in good standing with the California Department of Health Services, or DHS, but if our clinical reference laboratory is found to be out of compliance with California standards, our license may be suspended or revoked by the California DHS, and we may be subject to fines and penalties.

We must also satisfy various applications and provisional requirements for other states in which we desire to conduct business, and we have obtained licenses for Florida, Maryland, Pennsylvania and Rhode Island. We are

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licensed by the New York State Department of Health to perform prenatal and postnatal/pediatric cytogenetic testing, microarray analysis for pediatric care, prenatal, and miscarriage analysis, and our PGS test offering has conditional approval enabling us to offer PGS testing in the state of New York. We may become aware from time to time of additional states that require out-of-state laboratories to obtain licensure in order to accept patient specimens from those states, and it is possible that other states do have such requirements or will have such requirements in the future. If we identify any other state with such requirements or if we are contacted by any other states advising us of such requirements, we intend to strictly adhere to the instructions and guidelines from the state regulators as to how we should comply with such requirements. There can be no assurance, however, that our efforts to comply will be successful.

Commercial Operations

All services offered by us are performed in our CLIA certified, CAP accredited clinical laboratory in Irvine, California. Our commercial operations infrastructure includes sales, marketing, clinical support services and billing/reimbursement. We continue to build a nationally focused commercialization strategy by interacting directly with pathologists, medical geneticists, maternal fetal medicine specialists, reproductive endocrinologists, obstetrician and gynecologists, pediatric neurologists and genetic counselors. The market-specific experience of our direct sales force, coupled with regional and local territory experience, is expected to increase physician awareness and demand for our services. Our marketing and clinical support services teams work in tandem to increase awareness and appropriate utilization of our services by both physicians and patients. Our marketing initiatives include traditional marketing tactics such as physician education, professional medical society and advocacy tradeshows as well as web based initiatives. Our billing and reimbursement team works to facilitate access to our services by assisting ordering physicians and their patients with healthcare insurance billing, appeal processes, patient payment options, and securing managed care contracts with willing payers. In addition to our direct sales approach, we actively market our services to other laboratories through pathology partnerships and through strategic alliances with complementary industry partners.

Seasonality

Our business is subject to the impact of seasonality, particularly during the mid-summer months when patients tend to be less likely to visit their healthcare providers for diagnostic testing due to vacations, and in the latter part of December and early January when many IVF clinics close down for annual maintenance. In addition, during the winter months, disruptions in transportation due to inclement weather may affect not only patients' ability to visit their healthcare providers, but it may also prompt provider concerns about potential disruption or delay in sample processing, both of which negatively impact our business. Consequently, the demand for our services, in general, could be subject to declines in the summer and during periods of severe weather.

Patents, Trademarks and Licenses

As a part of our corporate restructuring that occurred in 2010, many of our issued patents and patent applications were licensed to a private company, CustomArray, Inc., for which we receive minimum royalties of \$100,000 per year. The intellectual property rights that remain are not currently used in our molecular diagnostics services business.

We seek to protect our corporate identity and services with trademarks and service marks. In addition, our trademark strategy includes protecting the identity and goodwill associated with our technologies and services. Currently, our registered trademarks include COMBIMATRIX®.

We attempt to obtain licenses to the patent rights of others when required to meet our business objectives. For example, we purchase chemical reagents from suppliers who are licensed under appropriate patent rights. Further, our policy is to obtain licenses from patent holders for our services whenever such licenses are required. We evaluate if and when a license is needed or required depending upon the individual circumstance.

Competition

We believe that competition within our market is increasing. Our business competitors in the United States include regional clinical microarray laboratories, both commercial and academic, as well as large national companies such as LabCorp, Quest Diagnostics, Natera, Progenity, the Cooper Companies, and several others. Some of these competitors may possess greater financial, technical, human and other resources than we do. In addition, technological advances or entirely different approaches developed by one or more of our competitors could render our services obsolete or uneconomical. The existing approaches of competitors or new approaches or technology developed by competitors may be more effective than those developed by or currently utilized by us.

Our market is rapidly changing, and we expect to face additional competition from new market entrants, new product and service developments and consolidation of our existing competitors. As new competitors emerge, the intensity of competition may increase in the future. An example of this is the emergence of NIPT companies in the past several years. These companies offer a screening test based on the analysis of cell-free fetal DNA in the maternal blood stream as opposed to the analysis of pregnancy-related hormones and proteins, as has been the standard of care for several decades. Despite improvements to detection rates, NIPT remains a screening test, and as such, clinical guidelines recommend that all positive NIPT results be confirmed with diagnostic testing performed using an invasive technique, such as chorionic villus sampling or amniocentesis.

Research and Development

Our research and development activities primarily relate to the development and validation of diagnostic tests in connection with our specialized PGS, miscarriage analysis, prenatal and pediatric developmental disorder genetic tests. For the years ended December 31, 2016 and 2015, we incurred research and development expenses of \$493,000 and \$466,000, respectively.

Employees

As of December 31, 2016, we had 55 full-time-equivalent employees, one of whom is an M.D. and another of whom is a Ph.D. We believe that we maintain good relationships with our employees and are not subject to collective bargaining arrangements.

Environmental Matters

Our operations involve the use, transportation, storage and disposal of hazardous substances. As a result, we are subject to environmental and health and safety laws and regulations. The cost of complying with these and any future environmental regulations could be substantial, though historically such costs have not been significant. In addition, if we fail to comply with environmental laws and regulations, or release any hazardous substances into the environment, we could be exposed to substantial liability in the form of fines, penalties, remediation costs and other damages and could even suffer a curtailment or shut down of our operations.

Available Information

We are subject to the informational requirements of the Securities Exchange Act of 1934. Therefore, we file periodic reports, proxy statements and other information with the SEC. Such reports, proxy statements and other information may be obtained by visiting the Public Reference Room of the SEC at 100 F Street N.E., Washington, D.C. 20549 or by calling the SEC at 1-800-SEC-0330. In addition, the SEC maintains an Internet site (<http://www.sec.gov>) that contains reports, proxy and information statements and other information regarding issuers that file electronically.

Additional financial and company-related information can be found in the Investor Relations section of our website at www.combimatrix.com. Our Annual Reports on Form 10-K, our Quarterly Reports on Form 10-Q, our

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Current Reports on Form 8-K and amendments to those reports filed or furnished pursuant to Section 13(a) or 15(d) of the Securities Exchange Act of 1934, as amended, are made available free of charge on our website as soon as reasonably practicable after we electronically file them with or furnish them to the SEC. Information contained on our web site is not part of this Annual Report on Form 10-K or our other filings with the SEC.

The charters of our Audit Committee, our Compensation Committee and our Nominating and Governance Committee are available on the Investor Relations section of our website under "Corporate Governance." Also available on that section of our website is our Code of Business Conduct and Ethics, which we expect every employee, officer and director to read, understand and abide by. This information is also available by writing to us at CombiMatrix Corporation, 310 Goddard, Suite 150, Irvine, CA 92618, Attn: Corporate Secretary.

Item 1A. RISK FACTORS

An investment in our securities involves a high degree of risk. Before making a decision to purchase our securities, you should carefully consider all of the risks described in this annual report. The risks and uncertainties described below are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our business and results of operations. If any of these risks actually occur, our business, financial condition or results of operations could be seriously harmed. In that event, the market price for our common stock could decline and you may lose part or all of your investment.

Risks Related to Our Business

We may not be able to meet our cash requirements beyond the first quarter of 2018 without obtaining additional capital from external sources and our current outstanding private placement warrants may prevent us from issuing new securities. If we are unable to raise additional capital through future financings or from external sources, we may not be able to continue as a going concern.

As of December 31, 2016, we had \$3.7 million in cash, cash equivalents and short-term investments, which we anticipate will meet our cash requirements through and beyond the fourth quarter of 2017. However, in order for us to continue as a going concern beyond that point, we will have to increase revenue and cash reimbursement, continue to control operating expenses and may be required to obtain capital from external sources. Our ability to continue as a going concern is dependent upon our ability to further implement our business plan, generate sufficient revenues and cash reimbursement and to control operating expenses, of which there can be no assurance.

In order to issue securities at a price below the exercise prices of our outstanding warrants issued in connection with our past preferred stock private placement financings, we must obtain the affirmative consent of holders of at least 67% of each series of such outstanding warrants. If we are unable to obtain the consent of these holders in connection with future financings, we may be unable to raise additional capital on acceptable terms, or at all. If external financing sources are not available in a timely manner or at all, or are inadequate to fund our operations, it could result in reduced revenues and cash flows from the sales of our diagnostic services and/or could jeopardize our ability to launch, market and sell additional services necessary to grow and sustain our operations.

We have a history of losses and expect to incur additional losses in the future.

We have sustained substantial losses since our inception. We may never become profitable, or if we do, we may not be able to sustain profitability. We expect to incur significant research and development, marketing, general and administrative expenses. As a result, we expect to incur losses for the foreseeable future.

To date, we have relied primarily upon selling convertible debt and equity securities to generate the funds needed to finance the implementation of our business strategies. We cannot assure you that we will not encounter

unforeseen difficulties, including the outside influences identified below that may deplete our capital resources more rapidly than anticipated. We may be required to obtain additional financing through bank borrowings, debt or equity financings or otherwise, which would require us to make additional investments or face a dilution of our equity interests. We cannot be sure that additional funding will be available on favorable terms, if at all. In order to issue securities at a price below the exercise prices of our outstanding warrants issued in connection with our past preferred stock private placement financings, we must obtain the affirmative consent of holders of at least 67% of each series of such outstanding warrants. If we are unable to obtain the consent of these holders in connection with future financings, we may be unable to raise additional capital on acceptable terms, or at all. If external financing sources are not available in a timely manner or at all, or are inadequate to fund our operations, it could result in reduced revenues and cash flows from the sales of our diagnostic services and/or could jeopardize our ability to launch, market and sell additional products and services necessary to grow and sustain our operations. If we fail to obtain additional funding when needed, we may not be able to execute our business plans or continue operations, and our business may be materially adversely affected.

We began commercialization of our molecular diagnostics services in 2006. Accordingly, we have a limited operating history of generating revenues from services. In addition, we are still developing our technologies and service offerings and are subject to the risks, expenses and difficulties frequently encountered by companies with such limited operating histories. Since we have a limited operating history, we cannot assure you that our operations will become profitable or that we will generate sufficient revenues to meet our expenditures and support our activities.

Because our business operations are subject to many uncontrollable outside influences, we may not succeed.

Our business operations are subject to numerous risks from outside influences, including the following:

- *Technological advances may make our array-based technology less competitive or even obsolete, and as a result, our revenue and the value of our assets could materially decrease.*

Our services are dependent upon oligonucleotide and SNP array-based technologies. These technologies compete with conventional diagnostic technologies such as karyotyping, FISH and polymerase chain reaction, or PCR-based tests. Many newly developed tests rely on Next Generation Sequencing, or NGS, and there is a trend in the field toward increased usage of NGS-based testing. Our services are substantially dependent upon our ability to offer the latest in microarray technology in the cytogenomic market. We expect to face additional competition from new market entrants and consolidation of our existing competitors. Many of our competitors have existing strategic relationships with major pharmaceutical and biotechnology companies, greater commercial experience and substantially greater financial and personnel resources than we do. We expect new competitors to emerge and the intensity of competition to increase in the future. If these companies are able to offer technological advances, our services may become less valuable or even obsolete. We cannot provide any assurance that existing or new competitors will not enter the market with the same or similar technological advances before we are able to do so.

- *Our technologies face uncertain market value.*

Our business includes many services, some of which were more recently introduced into the market. We cannot provide any assurance that the increase, if any, in market acceptance of these technologies and services will meet or exceed our expectations. Further, we are developing services, some of which have not yet been introduced into the market. A lack of or limited market acceptance of these technologies and services will have a material adverse effect upon our results of operations.

- *We obtain components and raw materials from a limited number of sources and, in some cases, a single source, and the loss or interruption of our supply sources may materially adversely impact our ability to provide testing services to meet our existing or future sales targets.*

Substantially all of the components and raw materials used in providing our testing services, including microarray slides and reagents, are currently provided to us from a limited number of sources or in some cases from a single source. Any supply interruption in a sole-sourced component or raw material might result in up to a several-month delay and materially harm our ability to provide testing services until a new source of supply, if any, could be located and qualified. In addition, an uncorrected impurity or supplier's variation in a raw material, either unknown to us or incompatible with our process, could have a material adverse effect on our ability to provide testing services. We may be unable to find a sufficient alternative supply channel in a reasonable time period, or on commercially reasonable terms, if at all.

Any one of the foregoing outside influences may require us to seek additional financing to meet the challenges presented or to mitigate a loss in revenue, and we may not be able to obtain the needed financing in a timely manner on commercially reasonable terms or at all. Further, any one of the foregoing outside influences affecting our business could make it less likely that we will be able to gain acceptance of our array technology by researchers in the pharmaceutical, biotechnology and academic communities.

Our revenues will be unpredictable, and this may materially adversely affect our financial condition.

The amount and timing of revenues that we may realize from our business will be unpredictable because whether our services are commercialized and generate revenues depends, in part, on the efforts and timing of our potential customers. Also, our sales cycles may be lengthy. As a result, our revenues may vary significantly from quarter to quarter, which could make our business difficult to manage and cause our quarterly results to be below market expectations. If this happens, the price of our common stock may decline significantly. Our revenues are also subject to seasonality factors and can be impacted by circumstances outside of our control, such as patient and IVF clinic vacation schedules and severe weather conditions that hamper or otherwise restrict when a patient seeking genetic diagnostic services such as ours visits the ordering physician.

We face intense competition, and we cannot assure you that we will be successful competing in the market.

The diagnostics market is characterized by rapidly changing technology, evolving industry standards, changes in customer needs, emerging competition and new product and services introductions. One or more of our competitors may offer technology superior to ours and render our technology obsolete or uneconomical. Many of our competitors have greater financial and personnel resources and more experience in marketing, sales and research and development than we have. If we were not able to compete successfully, our business and financial condition would be materially harmed.

If our technology is not widely adopted by physicians and laboratories in the diagnostics market, our business will be materially adversely affected.

In order to be successful, our test offerings must meet the commercial requirements of hospitals and physicians and be considered the standard of care in order to be widely adopted. Market acceptance will depend on many factors, including:

- the benefits and cost-effectiveness of our services relative to others available in the market;
- our ability to provide testing services in sufficient quantities with acceptable quality and reliability and at an acceptable cost;
- our ability to develop and market additional tests and enhance existing tests that are responsive to the changing needs of our customers; and

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- the willingness and ability of customers to adopt new technologies or the reluctance of customers to change technologies upon which they have previously relied.

Uncertainty regarding U.S. healthcare reform legislation may result in significant changes and our business could be adversely impacted if we fail to adapt.

Government oversight of and attention to the healthcare industry in the United States is significant and increasing. In March 2010, U.S. federal legislation known as the Affordable Care Act, or ACA, was enacted to reform healthcare. The legislation provides for reductions in the Medicare clinical laboratory fee schedule beginning in 2011 and also includes a productivity adjustment that reduces the CPI market basket update beginning in 2011. The legislation imposes an excise tax on the seller for the sale of certain medical devices in the United States, including those purchased and used by laboratories, beginning in 2013. The legislation establishes the Independent Payment Advisory Board, which is responsible for submitting proposals aimed at reducing Medicare cost growth while preserving quality. These proposals automatically will be implemented unless Congress enacts alternative proposals that achieve the same savings targets. Further, the legislation calls for the Center for Medicare and Medicaid Innovation to examine alternative payment methodologies and conduct demonstration programs. The legislation provides for extensive health insurance reforms, including the elimination of pre-existing condition exclusions and other limitations on coverage, fixed percentages on medical loss ratios, expansion in Medicaid and other programs, employer mandates, individual mandates, creation of state and regional health insurance exchanges, and tax subsidies for individuals to help cover the cost of individual insurance coverage. The legislation also permits the establishment of accountable care organizations, a new healthcare delivery model.

As sweeping as the ACA is, the recent leadership change by the election of Donald Trump as President of the United States creates significantly more uncertainty, as one of the main tenants of Mr. Trump's campaign was the repeal and replacement of the ACA early in his first term as President. While the ultimate impact of existing health reform and related legislation on the healthcare industry is unknown, it is likely to be extensive and may result in significant change, especially if the ACA is partially or fully repealed and replaced. Our failure to adapt to these changes could have a material adverse effect on our business.

A significant component of our revenue is dependent upon successful insurance claims. Our revenue will be diminished if payors do not adequately cover or reimburse us for our services.

Physicians and patients may decide not to order our high-complexity genomic microarray tests unless third-party payors, such as managed care organizations as well as government payors such as Medicare and Medicaid, pay a substantial portion of the test price. Reimbursement by a third-party payor may depend on a number of factors, including a payor's determination that tests using our technologies are:

- not experimental or investigational;
- medically necessary;
- appropriate for the specific patient;
- cost-effective;
- supported by peer-reviewed publications; and
- included in clinical practice guidelines.

A substantial portion of the testing for which we bill our hospital and laboratory clients is ultimately paid by third-party payors. However, there is uncertainty concerning third-party payor reimbursement of any test, including our high-complexity genomic microarray tests. Several entities conduct technology assessments of medical tests and devices and provide the results of their assessments for informational purposes to other parties. These assessments may be used by third-party payors and health care providers as grounds to deny coverage for a test or procedure. It is possible that federal, state and third-party insurers may limit their coverage of our tests in the future.

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Increasing emphasis on managed care in the United States is likely to put pressure on the pricing of healthcare services. Uncertainty exists as to the coverage and reimbursement status of new applications or services. Governmental payors and private payors are scrutinizing new medical products and services. Such third-parties may not cover, or may limit coverage and resulting reimbursement for our services.

Additionally, third-party insurance coverage may not be available to patients for any of our existing tests or tests we may add in the future. Any pricing pressure exerted by these third-party payors on our customers may, in turn, be exerted by our customers on us. If governmental payors, including their contracted administrators, and other third-party payors do not provide adequate coverage and/or timely reimbursement for our services, our operating results, cash flows, or financial condition may materially decline.

Our cash flows and financial condition may materially decline if payors do not reimburse us for our services in a timely manner.

A significant portion of our billings to third-party payors are concentrated within a relatively small number of payors. We depend on our payors to reimburse us for our services in timely manner. If our payors do not reimburse us in a timely manner, our cash flows and financial condition may materially decline.

Third-party billing is extremely complicated and could result in us incurring significant additional costs.

Billing for molecular laboratory services is extremely complicated. The client is the party that orders the tests and the payor is the party that pays for the tests, and the two are not typically the same. Depending on the billing arrangement and/or applicable law, we need to bill various payors, such as patients, health insurance companies, Medicare, Medicaid, doctors and employer groups, all of which have different billing requirements. Health insurance companies and governmental payors also generally require complete and correct billing information within certain filing deadlines. Additionally, our billing relationships require us to undertake internal audits to evaluate compliance with applicable laws and regulations as well as internal compliance policies and procedures. Health insurance companies also impose routine external audits to evaluate payments made. Additional factors complicating billing include:

- pricing differences between our fee schedules and the reimbursement rates of the payors;
- disputes with payors as to which party is responsible for payment; and
- disparity in coverage and information requirements among various carriers.

We incur significant additional costs as a result of our participation in the Medicare and Medicaid programs, as billing and reimbursement for laboratory testing are subject to considerable and complex federal and state regulations. The additional costs we expect to incur as a result of our participation in the Medicare and Medicaid programs include costs related to, among other factors: (1) complexity added to our billing processes; (2) training and education of our employees and customers; (3) implementing compliance procedures and oversight; (4) collections and legal costs; (5) challenging coverage and payment denials; and (6) providing patients with information regarding claims processing and services, such as advanced beneficiary notices. If these costs increase, our results of operations will be materially adversely affected.

Loss of or adverse changes to our accreditations or licenses could materially and adversely affect our business, prospects and results of operations.

The clinical laboratory testing industry is highly regulated. We are subject to the Clinical Laboratory Improvement Amendments of 1988, or CLIA, a federal law that regulates clinical laboratories that perform testing on specimens derived from humans for the purpose of providing information for the diagnosis, prevention or treatment of disease. CLIA is intended to ensure the quality and reliability of clinical laboratories in the United States by mandating specific standards in the areas of personnel qualifications, administration, and participation in proficiency testing, patient test management, quality control, quality assurance and inspections. We have a

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current certificate of accreditation under CLIA to perform testing. To renew this certificate, we are subject to survey and inspection every two years. Moreover, CLIA inspectors may make random inspections of our clinical reference laboratory. A failure to pass such inspections would result in suspension of our certificate of accreditation, which would have a material adverse effect on our business and results of operations.

We are also required to maintain a laboratory license to conduct testing in California. California laws establish standards for day-to-day operation of our clinical reference laboratory, including the training and skills required of personnel and quality control. Moreover, several states require that we hold licenses to test specimens from patients in those states. Other states may have similar requirements or may adopt similar requirements in the future. A failure to obtain and maintain these licenses would have a material adverse effect on our business and results of operations.

Complying with numerous regulations pertaining to our business is an expensive and time-consuming process, and failure to comply could result in significant penalties and suspension of one or more of our licenses.

Areas of the regulatory environment that may affect our ability to conduct business include, without limitation:

- Federal and state laws applicable to billing and claims payment and/or regulatory agencies enforcing those laws and regulations;
- Federal and state laboratory anti-mark-up laws;
- Federal and state anti-kickback laws;
- Federal and state false claims laws;
- Federal and state self-referral and financial inducement laws, including the federal physician anti-self-referral law, or the Stark Law;
- Coverage and reimbursement levels by Medicare, Medicaid, other governmental payors and private insurers;
- Restrictions on reimbursements for our services;
- Federal and state laws governing laboratory testing, including CLIA;
- Federal and state laws governing the development, use and distribution of diagnostic medical tests known as “home brews”;
- Health Insurance Portability and Accountability Act of 1996, or HIPAA;
- Federal and state regulation of privacy, security and electronic transactions;
- State laws regarding prohibitions on the corporate practice of medicine;
- State laws regarding prohibitions on fee-splitting;
- Federal, state and local laws governing the handling and disposal of medical and hazardous waste; and
- Occupational Safety and Health Administration, or OSHA, rules and regulations.

The above-noted laws and regulations are extremely complex and, in many instances, there are no significant regulatory or judicial interpretations of such laws and regulations. We also may be subject to regulation in foreign jurisdictions as we seek to expand international distribution of our tests. Any determination that we have violated these laws, or the public announcement that we are being investigated for possible violations of these laws, would materially adversely affect our business, prospects, results of operations and financial condition. Violations could also result in extensive civil and/or criminal penalties, loss of licensure or accreditation (which could in turn affect our ability to operate or collect reimbursement), exclusion from

government healthcare programs or private payer networks, and other materially adverse effects. In addition, a significant change in any of these laws may require us to change our business model in order to maintain compliance with these laws, which could reduce our revenue or increase our costs and materially adversely affect our business, prospects, results of operations, and financial condition.

We are subject to significant environmental, health and safety regulation.

We are subject to licensing and regulation under federal, state and local laws and regulations relating to the protection of the environment and human health and safety, including laws and regulations relating to the handling, transportation and disposal of medical specimens, infectious and hazardous waste and radioactive materials, as well as to the safety and health of laboratory employees. In addition, OSHA has established extensive requirements relating to workplace safety for health care employers, including clinical laboratories, whose workers may be exposed to blood-borne pathogens such as HIV and the hepatitis B virus. These regulations, among other things, require work practice controls, protective clothing and equipment, training, medical follow-up, vaccinations, and other measures designed to minimize exposure to, and transmission of, blood-borne pathogens. In addition, the federally enacted Needlestick Safety and Prevention Act requires, among other things, that we include in our safety programs the evaluation and use of engineering controls such as safety needles if found to be effective at reducing the risk of needlestick injuries in the workplace. If we are found in violation of any of these regulations, we could be subject to substantial penalties or discipline and our business, prospects and results of operations could be materially and adversely affected.

Our business is subject to stringent laws and regulations governing the privacy, security and transmission of medical information, and our failure to comply could subject us to criminal penalties and civil sanctions.

Governmental laws and regulations protect the privacy, security and transmission of medical information. Such laws and regulations restrict our ability to use or disclose patient identifiable laboratory data, without patient authorization, for purposes other than payment, treatment or healthcare operations (as defined by HIPAA), except for disclosures for various public policy purposes and other permitted purposes outlined in the privacy regulations. The privacy and security regulations provide for significant fines and other penalties for wrongful use or disclosure of patient identifiable laboratory data, including potential civil and criminal fines and penalties. Such regulations were expanded under the HITECH Act, including rules impacting the release of protected health information, patients' right to access such information, the content and manner of providing notice of a breach, and information system security requirements. We also could incur damages under state laws to private parties for the wrongful use or disclosure of confidential health information or other private personal information. In addition, the Secretary of the Department of Health and Human Services has published HIPAA regulations to protect the privacy of health information when it is exchanged electronically during certain financial and administrative transactions. These HIPAA transaction standards are complex and different payers interpret them differently. Complying with applicable transmission standards is costly and failure to comply could disrupt our receipts or subject us to penalties. Generally, any security breach of our information systems, including the theft of our patients' financial information due to our failure to comply with applicable security standards, would adversely impact our business and our reputation.

Our services development efforts may be hindered if we are unable to gain access to patients' tissue and blood samples.

The development of our diagnostic services requires access to tissue and blood samples from patients who may or may not have the diseases we are addressing. Our clinical development relies on our ability to secure access to these samples, as well as information pertaining to their associated clinical outcomes. Access to samples can be difficult since it may involve multiple levels of approval, complex usage rights and privacy rights, among other issues. Lack of or limited access to samples would harm our future services development efforts, which would have a material adverse effect on our business and results of operations.

If our current laboratory facility becomes inoperable or loses certification, we will be unable to perform our tests and our business will be materially adversely affected.

Our diagnostic tests are operated out of our CLIA-certified laboratory in Irvine, California. Currently, we do not have a second certified laboratory. Should our only CLIA-certified laboratory be unable to perform tests, for any reason, we may be unable to perform needed diagnostic tests in connection with our development of technologies services and our business will be materially adversely affected.

Our future success depends on the continued service from our scientific, technical and key management personnel and our ability to identify, hire and retain additional scientific, technical and key management personnel in the future.

There is intense competition for qualified personnel in our industry, particularly for laboratory technicians, scientific and medical experts and senior level management. Loss of the services of, or failure to recruit, these key personnel could be significantly detrimental to us and could materially adversely affect our business and operating results. We may not be able to continue to attract and retain scientific and medical experts or other qualified personnel necessary for the development of our business or to replace key personnel who may leave us in the future. If our business grows, it will place increased demands on our resources and likely will require the addition of new management personnel. An inability to recruit and retain qualified management and employees on commercially reasonable terms would adversely and materially affect our business.

As our operations expand, our costs to comply with environmental laws and regulations will increase, and failure to comply with these laws and regulations could materially harm our financial results.

Our operations involve the use, transportation, storage and disposal of hazardous substances and, as a result, we are subject to environmental and health and safety laws and regulations. As we expand our operations, our use of hazardous substances will increase and lead to additional and more stringent requirements. The cost to comply with these and any future environmental and health and safety regulations could be substantial. In addition, our failure to comply with laws and regulations, and any releases of hazardous substances into the environment or at our disposal sites, could expose us to substantial liability in the form of fines, penalties, remediation costs and other damages, or could lead to a curtailment or shut down of our operations. These types of events, if they occur, would materially adversely affect our financial results.

We could face substantial liabilities if we are sued for product liability.

Product liability claims could be filed by someone alleging that our tests failed to perform as claimed. We may also be subject to liability for errors in the performance of our tests. Such product liability and related claims could be substantial. Defense of such claims could be time consuming and expensive and could result in damages that are not covered by our insurance.

Failure to effectively manage our growth could place strains on our managerial, operational and financial resources and could materially adversely affect our business and operating results.

Our growth has placed, and is expected to continue to place, a strain on our managerial, operational and financial resources. In addition, any further growth by us or an increase in the number of our strategic relationships may constrain our ability to achieve the rapid execution necessary to successfully implement our business plan.

As a public company, we are subject to complex legal and accounting requirements that will require us to incur substantial expense and will expose us to risk of non-compliance.

As a public company, we are subject to numerous legal and accounting requirements that do not apply to private companies. The cost of compliance with many of these requirements is substantial, not only in absolute

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terms but, more importantly, in relation to the overall scope of the operations of a small company. Failure to comply with these requirements can have numerous material adverse consequences including, but not limited to, our inability to file required periodic reports on a timely basis, which would result in the loss of our eligibility to use Form S-3 for raising capital, loss of market confidence, delisting of our securities, governmental or private actions against us and/or liquidated damages payable to the holders of our Series A Warrants, Series C Warrants, our April 2015 private placement warrants, and our Series F Preferred Stock and Series F Warrants. We cannot assure you that we will be able to comply with all of these requirements or that the cost of such compliance will not prove to be a substantial competitive disadvantage compared to our privately held and larger public competitors.

Ethical, legal and social concerns surrounding the use of genetic information could reduce demand for our test offerings.

Genetic testing has raised ethical issues regarding privacy and the appropriate uses of the resulting information. For these reasons, governmental authorities may call for limits on or regulation of the use of genetic testing or prohibit testing for genetic predisposition to certain conditions, particularly for those that have no known cure. Similarly, such concerns may lead individuals to refuse to use genetics tests even if permissible. Any of these scenarios could reduce the potential markets for our molecular diagnostic services, which reduction could have a material adverse effect on our business.

Risks Related To Investment In Our Securities

Small company stock prices are especially volatile, and this volatility may depress the price of our stock.

The stock market has experienced significant price and volume fluctuations, and the market prices of small companies have been highly volatile. We believe that various factors may cause the market price of our stock to fluctuate, perhaps substantially, including, among others, announcements of:

- our or our competitors' technological innovations;
- supply, manufacturing, or distribution disruptions or other similar problems;
- proposed laws regulating participants in the laboratory services industry;
- developments in relationships with collaborative partners or customers;
- our failure to meet or exceed securities analysts' expectations of our financial results; or
- a change in financial estimates or securities analysts' recommendations.

In the past, companies that have experienced volatility in the market price of their stock have been the objects of securities class action litigation. If we become the object of securities class action litigation, it could result in substantial costs and a diversion of management's attention and resources, all of which could materially adversely affect the business and financial results of our business.

Future sales or the potential for future sales of our securities in the public markets may cause the trading price of our common stock to decline and could impair our ability to raise capital through subsequent equity offerings.

Sales of a substantial number of shares of our common stock or other securities in the public markets, or the perception that these sales may occur, could cause the market price of our common stock or other securities to decline and could materially impair our ability to raise capital through the sale of additional securities. The shares of common stock issuable upon conversion of our Series F preferred stock and upon exercise of our outstanding warrants are freely tradable, without restriction, in the public market. We have obligations to the investors in our 2012 private placement offering of Series A convertible preferred stock and warrants to purchase common stock

and in our 2013 private placement offering of Series C convertible preferred stock and warrants to maintain the public registration of common stock underlying their issued and outstanding warrants. If we raise additional capital in the future through the use of our existing shelf registration statement or if we register existing, or agree to register future, privately placed shares for resale on a registration statement, such additional shares would be freely tradable, and, if significant in amount, such sales could further adversely affect the market price of our common stock. The sale of a large number of shares of our common stock also might make it more difficult for us to sell equity or equity-related securities in the future at a time and at the prices that we deem appropriate.

Our stock price could decline because of the potentially dilutive effect of future financings, the Series F preferred stock anti-dilution provision or exercises of warrants and common stock options.

As of December 31, 2016, we had approximately 2.7 million shares of common stock issued and outstanding. Assuming exercise in full of all options, warrants and convertible securities outstanding as of December 31, 2016 (not taking into account any price-based or anti-dilution adjustments related to the Series F preferred stock), approximately 5.8 million shares of our common stock would be outstanding. Any additional equity or convertible debt financings in the future could result in further dilution to our stockholders. Existing stockholders also will suffer significant dilution in ownership interests and voting rights and our stock price could decline as a result of potential future application of an anti-dilution feature of our Series F preferred stock.

Our capital structure could reduce the amount of consideration paid to common stockholders in the event of a change in control.

Although we entered into the Warrants Repurchase Agreement to repurchase, upon the occurrence of a Fundamental Transaction (as defined in such agreement), the Warrants that were issued in connection with our Series A, Series B, Series C and Series E financings, such Warrants Repurchase Agreement does not cover the warrants that were issued in connection with our Series F Warrants, or the Series F Preferred Stock. Depending on the circumstances, upon a change in control constituting a Fundamental Transaction, the holders of Series F Preferred Stock may be entitled to a 30% premium and the holders of Series F Warrants may have the right to require us to purchase the Series F Warrants for an amount in cash that is determined in accordance with a formula set forth in the Series F Warrants. Such provisions could reduce the amount of consideration paid to common stockholders in the event of a change in control by reducing the amount of proceeds available for common stockholders.

We may fail to meet market expectations because of fluctuations in our quarterly operating results, all of which could cause our stock price to decline.

Our revenues and operating results have fluctuated in the past and may continue to fluctuate significantly from quarter to quarter in the future. It is possible that, in future periods, our revenues could fall below the expectations of securities analysts or investors, all of which could cause the market price of our stock to decline. The following are among the factors that could cause our operating results to fluctuate significantly from period to period:

- our unpredictable revenue sources;
- the nature, pricing and timing of our and our competitors' products and/or services;
- changes in our and our competitors' research and development budgets;
- expenses related to, and our ability to comply with, governmental regulations of our services and processes; and
- expenses related to, and the results of, patent filings and other proceedings relating to intellectual property rights.

We anticipate significant fixed expenses due in part to our need to continue to invest in services development. We may be unable to adjust our expenditures if revenues in a particular period fail to meet our

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expectations, all of which would materially adversely affect our operating results for that period. As a result of these fluctuations, we believe that period-to-period comparisons of our financial results will not necessarily be meaningful, and you should not rely on these comparisons as an indication of our future performance.

Our common stock may be delisted from The NASDAQ Capital Market if we cannot maintain compliance with NASDAQ's continued listing requirements.

While we are currently in compliance with NASDAQ's stockholders' equity requirement and minimum bid price requirement, there are no assurances that we will be able to sustain long-term compliance with NASDAQ's stockholders' equity requirement or minimum bid price requirement. If we fail to maintain compliance with the applicable requirements, our stock may be delisted. Delisting from The NASDAQ Capital Market could make trading our common stock more difficult for investors, potentially leading to declines in our share price and liquidity. Without a NASDAQ Capital Market listing, stockholders may have a difficult time getting a quote for the sale or purchase of our stock, the sale or purchase of our stock would likely be made more difficult and the trading volume and liquidity of our stock could decline. Delisting from The NASDAQ Capital Market could also result in negative publicity and could also make it more difficult for us to raise additional capital. The absence of such a listing may adversely affect the acceptance of our common stock as currency or the value accorded by other parties. Further, if we are delisted, we would also incur additional costs under state blue sky laws in connection with any sales of our securities. These requirements could severely limit the market liquidity of our common stock and the ability of our stockholders to sell our common stock in the secondary market. If our common stock is delisted by NASDAQ, our common stock may be eligible to trade on an over-the-counter quotation system, such as the OTCQB market, where an investor may find it more difficult to sell our stock or obtain accurate quotations as to the market value of our common stock. We cannot assure you that our common stock, if delisted from The NASDAQ Capital Market, will be listed on another national securities exchange or quoted on an over-the counter quotation system.

If we are delisted from The NASDAQ Capital Market, your ability to sell your shares of our common stock would also be limited by the penny stock restrictions, which could further limit the marketability of your shares.

If our common stock is delisted, it would come within the definition of "penny stock" as defined in the Securities Exchange Act of 1934, or the Exchange Act, and would be covered by Rule 15g-9 of the Exchange Act. That Rule imposes additional sales practice requirements on broker-dealers who sell securities to persons other than established customers and accredited investors. For transactions covered by Rule 15g-9, the broker-dealer must make a special suitability determination for the purchaser and receive the purchaser's written agreement to the transaction prior to the sale. Consequently, Rule 15g-9, if it were to become applicable, would affect the ability or willingness of broker-dealers to sell our securities, and accordingly would affect the ability of stockholders to sell their securities in the public market. These additional procedures could also limit our ability to raise additional capital in the future.

Historically we have not paid dividends on our common stock, and we do not anticipate paying any cash dividends in the foreseeable future.

We have never paid cash dividends on our common stock. We intend to retain our future earnings, if any, to fund operational and capital expenditure needs of our business, and we do not anticipate paying any cash dividends in the foreseeable future. As a result, capital appreciation, if any, of our common stock will be the sole source of gain for our common stockholders in the foreseeable future.

Item 1B. UNRESOLVED STAFF COMMENTS

None.

Item 2. PROPERTIES

We currently lease office and laboratory space of approximately 12,200 square feet in Irvine, California under a lease agreement that expires in January 2020.

Item 3. LEGAL PROCEEDINGS

From time to time, we are involved in other litigation arising in the normal course of business. Management believes that resolution of these other matters will not result in any payment that, in the aggregate, would be material to our financial position or results of operations.

Item 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

Item 5. MARKET FOR REGISTRANT’S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Recent Market Prices

The following table sets forth, for the periods indicated, the high and low quarterly sales prices of our common stock as reported by The NASDAQ Capital Market under the symbol of “CBMX”. These prices represent prices among dealers, do not include retail markups, markdowns or commissions, and may not represent actual transactions. The amounts reflected in the following table are also adjusted to reflect the impact of the reverse stock split, which became effective on January 29, 2016.

	2016				2015			
	Fourth Quarter	Third Quarter	Second Quarter	First Quarter	Fourth Quarter	Third Quarter	Second Quarter	First Quarter
High	\$ 4.35	\$ 5.19	\$ 4.40	\$ 11.55	\$ 19.05	\$ 26.40	\$ 30.00	\$ 32.40
Low	\$ 2.15	\$ 2.63	\$ 2.62	\$ 3.53	\$ 9.75	\$ 15.45	\$ 21.00	\$ 19.20

As of February 28, 2017, there were eight holders of record of our common stock, which was Cede & Co., a nominee for the Depository Trust Company, or DTC, as reported to us by our stock transfer agent. All of the shares of common stock held by brokerage firms, banks and other financial institutions as nominees for beneficial owners are deposited into participant accounts at DTC and therefore are considered to be held of record by Cede & Co. as one stockholder.

No dividends have been paid on our common stock. We currently intend to retain all future earnings, if any, for use in our business and do not anticipate paying any cash dividends on our common stock in the foreseeable future.

Securities Authorized for Issuance Under Equity Compensation Plans

The following table provides information with respect to our common shares issuable under our equity compensation plans as of December 31, 2016:

Plan Category	(a) Number of securities to be issued upon exercise of outstanding options (2)	(b) Weighted average exercise price of outstanding options (3)	(c) Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (4)
Equity compensation plans approved by security holders:			
2006 CombiMatrix Stock Incentive Plan (1)	180,934	\$ 92.87	2,152
Equity compensation plans not approved by security holders:			
None	—	—	—
TOTAL	180,934	\$ 92.87	2,152

(1) Consists of our 2006 CombiMatrix Stock Incentive Plan, as amended, which allows for the granting of stock options and other awards to eligible individuals, which generally includes directors, officers, employees and

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consultants. Please refer to Note 12 to our consolidated financial statements included elsewhere in this report for additional information.

- (2) Includes shares of common stock subject to restricted stock units, or RSUs, that entitle each holder to one share of common stock for each such unit that vests over the holder's period of continued service.
- (3) Calculated without taking into account the 116,301 shares of common stock subject to outstanding RSUs that become issuable as those units vest, without any cash consideration or other payment required for such shares.
- (4) Consists of shares available for future issuance under our 2006 CombiMatrix Stock Incentive Plan as of December 31, 2016.

Recent Sales of Unregistered Securities

None.

Purchases of Equity Securities by the Issuer or Affiliated Purchasers

None.

Item 6. SELECTED FINANCIAL DATA

Not required for smaller reporting companies.

Item 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion should be read in conjunction with our consolidated financial statements included elsewhere in this report. This discussion contains forward-looking statements that involve risks and uncertainties. Our actual results could differ materially from those anticipated in these forward-looking statements as a result of various factors including those set forth under the heading "Risk Factors" elsewhere in this report.

General

We are a family health-focused clinical molecular diagnostic laboratory specializing in pre-implantation genetic screening, prenatal diagnosis, miscarriage analysis, and pediatric developmental disorders. We strive to provide best-in-class clinical laboratory support to healthcare professionals, allowing them to maximize the clinical utility of their patients' test results and to optimize patient care. Our testing focuses on advanced technologies, including single nucleotide polymorphism chromosomal microarray analysis, next generation sequencing, fluorescent in situ hybridization and high resolution karyotyping. Our approach to testing is to offer sophisticated technology along with high quality clinical support to our ordering physicians and their patients. Our laboratory facilities and corporate headquarters are located in Irvine, California.

We also own a one-third minority interest in Leuchemix, Inc., a private drug development company focused on developing a series of compounds to address a number of oncology-related diseases.

Liquidity

As of December 31, 2016, the combination of cash, cash equivalents and short term investments totaled \$3.7 million. We believe our year-end cash balances will be sufficient to meet our expected cash requirements for current operations through and beyond the fourth quarter of 2017. In order for us to continue as a going concern beyond this point and ultimately to achieve profitability, we may be required to obtain capital from external sources, increase revenues and reduce operating costs. However, there can be no assurances that our

operations will become profitable or that external sources of financing, including the issuance of debt and/or equity securities, will be available at times and at terms acceptable to us, or at all. The issuance of additional equity or convertible debt securities will also cause dilution to our shareholders. If external financing sources are not available or are inadequate to fund our operations, we will be required to reduce operating costs, including research projects and personnel, which could jeopardize our future strategic initiatives and business plans. See the Liquidity and Capital Resources section below as well as Note 1 to our consolidated financial statements included elsewhere in this report for additional discussion of these matters.

Overview of Recent Business Activities

During 2016, our business activities were driven primarily by continued commercialization efforts for our suite of molecular diagnostic tests, expansion of our test menu and by the infusion of additional capital. For the year ended December 31, 2016, our operating activities included the recognition of \$12.9 million of total revenues, which increased by \$2.8 million from 2015, due primarily to increased volumes and improved pricing and reimbursement of our microarray diagnostic tests performed, particularly in the reproductive health testing market (defined as testing volumes from prenatal, miscarriage analysis and pre-implantation genetic screening, or PGS diagnostic tests). Revenues from our reproductive health testing services increased by 37% in 2016 compared to from 2015, and total diagnostic testing increased by 28% in 2016 compared to 2015. Our net loss from operations in 2016 decreased by \$2.4 million over 2015 primarily due to increased revenues, improved gross margins and flat operating expenses.

In February, 2016, we entered into a repurchase agreement, or the Repurchase Agreement, with the investors of our Series E preferred stock and warrant financing, which closed in February 2015. Pursuant to the terms of the Repurchase Agreement, we agreed to pay each Series E investor \$300 per share of Series E preferred stock, or approximately \$656,000, in consideration for the right to repurchase the Series E investor's Series E preferred stock upon closing of a future equity financing. In March 2016, we closed an underwritten public offering for the issuance of Series F convertible preferred stock and warrants to purchase common stock (the "Series F Financing"), resulting in net proceeds to us of approximately \$6.9 million. Substantially concurrently with the closing of the Series F Financing, we paid \$2.2 million to the Series E investors to repurchase all of the outstanding Series E convertible preferred stock in accordance with the Repurchase Agreement.

Critical Accounting Policies

Our consolidated financial statements are prepared in conformity with accounting principles generally accepted in the United States of America. In preparing these financial statements, we make assumptions, judgments and estimates that can have a significant impact on amounts reported in our consolidated financial statements. We base our assumptions, judgments and estimates on historical experience and various other factors that we believe to be reasonable under the circumstances. Actual results could differ materially from these estimates under different assumptions or conditions. On a regular basis we evaluate our assumptions, judgments and estimates and make changes accordingly.

We believe that, of the significant accounting policies discussed in Note 2 to our consolidated financial statements, the following accounting policies require our most difficult, subjective or complex judgments:

- revenue recognition and estimates for contractual allowances;
- accounting for stock-based compensation;
- accounting for derivative financial instruments;
- fair value measurements; and
- accounting for income taxes.

We discuss below the critical accounting assumptions, judgments and estimates associated with these policies. Historically, our assumptions, judgments and estimates relative to our critical accounting policies have

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not differed materially from actual results. For further information on our critical accounting policies, refer to Note 2 to our consolidated financial statements included elsewhere in this report.

Revenue Recognition

As described below, significant management judgments must be made and used in connection with the revenue recognized in any accounting period. Material differences may result in the amount and timing of revenue recognized or deferred for any period if management made different judgments.

We recognize revenue when (i) persuasive evidence of an arrangement exists, (ii) delivery has occurred or services have been performed, (iii) amounts are fixed or determinable and (iv) collectability of amounts is reasonably assured. Service revenues from providing diagnostic tests are recognized when the testing process is complete and test results are reported to the ordering physician or clinic. These diagnostic services are billed to various payors, including third-party commercial insurance companies, healthcare institutions, government payors including various state Medicaid programs, and individuals. We report revenues from contracted payors based on a contractual rate, or in the case of state Medicaid contracts, published fee schedules for our tests. We report revenues from non-contracted payors based on the amounts expected to be collected. The differences between the amounts billed and the amounts expected to be collected from non-contracted payors are recorded as contractual allowances to arrive at net recognized revenues. The expected revenues from non-contracted payors are based on the historical collection experience of each payor or payor group, as appropriate, and also take into account recent collection trends. In each reporting period, we review our historical collection experience for non-contracted payors and adjust our expected revenues for current and subsequent periods accordingly. We also recognize additional revenue from actual cash payments that exceed amounts initially recognized, in the period the payments are received. Because a substantial portion of our revenues is from non-contracted third-party payors, it is likely that we will be required to make adjustments to accounting estimates with respect to contractual allowances in the future, which may positively or adversely affect our results of operations. In all cases described above, we report revenues net of any applicable statutory taxes collected from customers, as applicable.

Accounting for Stock-Based Compensation

The compensation cost for all employee stock-based awards is measured at the grant date, based on the fair value of the award, and is recognized as an expense, on a straight-line basis, over the employee's requisite service period (generally the vesting period of the equity award) which is generally four years. The fair value of each stock option award is estimated on the date of grant using a Black-Scholes option valuation model. The fair value of each restricted stock unit ("RSU") award is based on the number of shares granted and the closing price of our common stock as reported on the NASDAQ Capital Market on the date of grant. Stock-based compensation expense is recognized only for those awards that are expected to vest using an estimated forfeiture rate. We estimate pre-vesting option forfeitures at the time of grant and reflect the impact of estimated pre-vesting option forfeitures as a component of the expense recognized.

Accounting for Derivative Financial Instruments

We evaluate financial instruments for freestanding or embedded derivatives. Derivative instruments that do not qualify for permanent equity classification are recorded as liabilities at fair value, with changes in value recognized as other income (expense) in the consolidated statements of operations in the period of change. Derivative warrant liabilities are categorized as either short-term or long-term based upon management's estimates as to when the derivative instrument may be realized. Management judgment is required in identifying derivative instruments and whether or not such instruments should be classified as liabilities or as a component of permanent equity based upon interpretations of existing accounting literature. Also, management judgment is required in determining the assumptions and valuation methods to be used for valuing the derivatives. If actual results differ from these estimates, the future impact on our consolidated financial position and results of operations could be significant.

[Table of Contents](#)*Fair Value Measurements*

We measure fair value as an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is a market-based measurement that is determined based on assumptions that market participants would use in pricing an asset or liability. We utilize a three-tier fair value hierarchy, which prioritizes the inputs used in measuring fair value as follows:

- Level 1: Observable market inputs such as quoted prices in active markets;
- Level 2: Observable market inputs, other than the quoted prices in active markets, that are observable either directly or indirectly; and
- Level 3: Unobservable inputs where there is little or no market data, which require the reporting entity to develop its own assumptions

Accounting for Income Taxes

We recognize income taxes on an accrual basis based on tax positions taken or expected to be taken in our tax returns. A tax position is defined as a position in a previously filed tax return or a position expected to be taken in a future tax filing that is reflected in measuring current or deferred income tax assets and liabilities. Tax positions are recognized only when it is more likely than not (i.e., likelihood of greater than 50%), based on technical merits, that the position would be sustained upon examination by taxing authorities. Tax positions that meet the more likely than not threshold are measured using a probability-weighted approach as the largest amount of tax benefit that has a greater than 50% likelihood of being realized upon settlement. Income taxes are accounted for using an asset and liability approach that requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been recognized in our consolidated financial statements or tax returns. A valuation allowance is established to reduce deferred tax assets if all, or some portion, of such assets will more than likely not be realized. Should they occur, our policy is to classify interest and penalties related to tax positions as income tax expense. Since our inception, no such interest or penalties have been incurred, however.

Comparison of the Results of Operations

Revenues and Cost of Revenues (dollars in thousands):

	For the Years Ended December 31,		Change	
	2016	2015	\$	%
Diagnostic services revenues	\$ 12,696	\$ 9,941	\$ 2,755	28%
Royalty revenues	173	147	26	18%
Cost of services	(5,787)	(5,444)	(343)	(6%)

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Diagnostic Services Revenues. Diagnostic services revenues are generated from providing DNA-based genomic testing services primarily in the areas of PGS, miscarriage analysis, prenatal diagnostics (collectively referred to as reproductive health testing) and postnatal development disorders in children. The key drivers and metrics relating to the change in diagnostic services revenues were as follows:

	For the Years Ended December 31,		Change	
	2016	2015	#	%
Total billable tests	11,033	10,002	1,031	10%
Total reproductive health tests(1)	5,824	5,126	698	14%
Reproductive health percentage of total tests	52.8%	51.2%		
Revenue per test - total billable tests	\$ 1,151	\$ 994	\$ 157	16%
Revenue per test - total reproductive health tests(1)	\$ 1,587	\$ 1,316	\$ 271	21%

(1) includes PGS, prenatal and miscarriage analysis microarray tests

For the year ended December 31, 2016, total billable tests and total diagnostic services revenues increased by 10% and 28%, respectively, compared to the year ended December 31, 2015. Driving the increase in billable tests and diagnostic services revenues was the increase in reproductive health test volumes, which increased by 14% for the year ended December 31, 2016 compared to the year ended December 31, 2015. We believe this reflects the commercialization strategies and focus of our sales force, which have emphasized reproductive health microarray diagnostics testing over traditional genomics testing. In addition, improved reimbursement from third-party payors primarily for our miscarriage analysis microarray test drove higher revenues per test in our reproductive health segment, thereby resulting in a higher percentage increase in total diagnostic services revenues compared to the increase in billable testing volumes.

Diagnostic services revenues are recognized based on: i) contractual rates billed to our customers and third party payors; and ii) amounts that we expect to collect from non-contracted third-party payors, which include adjustments for changes in estimates of contractual allowances as well as from receiving cash payments in excess of amounts previously recognized. Because approximately 71% of our diagnostic revenues are billed to third-party payors, most of which are non-contracted, it is likely that we will be required to make adjustments to these accounting estimates in the future, which may positively or adversely affect our revenues and results of operations.

Royalties. In 2010, we entered into an exclusive licensing agreement with CustomArray, Inc., or CA, a private company located in Washington State, for certain of our patents and intellectual property developed as part of our prior microarray manufacturing business. This agreement requires CA to pay us royalties as a percentage of their gross revenues, not less than \$25,000 per quarter. CA's actual sales increased in 2016 compared to 2015, thereby driving the increase in royalty revenues year-over-year. It is uncertain whether in future periods, CA's revenues will increase, continue at current levels or return to the minimum contractual amounts.

Cost of Services. Cost of services relating to our diagnostic tests performed include direct materials such as microarray slides, reagents and related laboratory materials, direct laboratory labor (wages and benefits), allocation of administrative overhead and stock-compensation expenses. Increases in cost of services were due primarily to the increased diagnostic testing volumes previously discussed. Non-cash stock compensation expenses were not significant for the years presented. See Note 2 to our consolidated financial statements included elsewhere in this report for a detailed description of the amounts of non-cash stock compensation expense recognized for the periods presented.

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Operating Expenses (dollars in thousands):

	For the Years Ended December 31,		Change	
	2016	2015	\$	%
Research and development	\$ 493	\$ 466	\$ 27	6%
Sales and marketing	4,569	4,979	(410)	(8%)
General and administrative	6,013	5,540	473	9%
Impairment of cost-basis investment	—	97	(97)	(100%)

Research and Development. These expenses include labor (wages, benefits and non-cash stock compensation expenses) and laboratory supply costs associated with investigating and validating new tests and technology platforms, costs to maintain and improve our existing suite of diagnostic tests offered and process improvement projects. Prior to launching a new test or technology, or modifying an existing test, appropriate clinical trials and extensive laboratory validations, consistent with the various regulations that govern our industry, must be performed. These costs are classified as research and development for all periods presented. For the year ended December 31, 2016, research and development expenses increased from the comparable 2015 period due primarily to increased efforts during 2016 in launching a next generation sequencing platform for our PGS testing services.

Sales and Marketing. These expenses include salaries and wages associated with our sales force and marketing resources, sales commissions and other expenses associated with promotional and advertising efforts as well as non-cash stock compensation expenses. For the year ended December 31, 2016, sales and marketing expenses decreased from 2015 due primarily to reduced headcount in sales representatives and reduced travel and entertainment costs from fewer sales headcount compared to 2015. Non-cash stock compensation expenses were not significant for the years presented. See Note 2 to our consolidated financial statements included elsewhere in this report for a detailed description of the amounts of non-cash stock compensation expense recognized for the periods presented.

General and Administrative. These expenses include compensation and benefit costs of our administrative staff, client billing and collections, information technology, executive management, human resources and accounting personnel, as well as facilities-related costs, insurance, legal, audit and other professional services. General and administrative expenses increased from 2015 due primarily to increased salaries and bad debt expense, investor relations and consulting expenses, partially offset by decreased legal fees as a result of litigation which concluded in early 2015. Also included in general and administrative expenses are non-cash stock-based compensation expenses, which were \$616,000 and \$594,000 for the years ended December 31, 2016 and 2015, respectively. Changes to stock-based compensation expenses are driven by timing of when stock-based awards are granted compared to when older awards become fully vested or expire due to forfeitures, as well as by the valuations attributed to individual awards at the time they are granted. See Note 2 to our consolidated interim financial statements included elsewhere in this report for a detailed description of the amounts of non-cash stock compensation expense recognized for the periods presented.

Impairment of cost-basis investment. During the third quarter of 2015, management determined that the carrying value of a cost-basis investment in the stock of a privately held company was impaired, resulting in a one-time, non-cash impairment charge of \$97,000 for the year ended December 31, 2015. There were no such charges in 2016.

Inflation

Inflation has not had a significant impact in the current or prior periods.

Liquidity and Capital Resources

At December 31, 2016, cash, cash equivalents and short-term investments totaled \$3.7 million, compared to \$3.9 million at December 31, 2015. Cash is held primarily in general checking accounts as well as in money market mutual funds backed by U.S. government securities. Short-term investments are comprised primarily of certificates of deposits issued by U.S. financial institutions and commercial paper. Working capital was \$6.1 million and \$5.4 million at December 31, 2016 and 2015, respectively. The primary reason for the increase in working capital was due to higher current asset balances including accounts receivable and laboratory supplies at December 31, 2016 compared to 2015.

The net change in cash and cash equivalents for the periods presented was comprised of the following (in thousands):

	For the Years Ended December 31,		Change
	2016	2015	
Net cash (used in) provided by:			
Operating activities	\$(3,900)	\$(5,730)	\$1,830
Investing activities	2,093	908	1,185
Financing activities	3,881	4,465	(584)
Increase (decrease) in cash and cash equivalents	<u>\$ 2,074</u>	<u>\$ (357)</u>	<u>\$2,431</u>

Operating Activities. Higher cash inflows from improved cash collections partially offset by slightly higher operating expenses during the year ended December 31, 2016 resulted in lower cash used in operating activities compared to 2015.

Investing Activities. The increase in net cash flows from investing activities was due to significant sales of available-for-sale short-term investments made during 2016 compared to 2015.

Financing Activities. The decrease in net cash flows from financing activities was due primarily to the \$6.9 million of net proceeds received from the March 2016 Series F Financing partially offset by the \$(2.8 million) repayment of and dividends paid to the Series E investors commensurate with the 2016 Series F Financing, compared to the \$4.7 million of net proceeds from the February 2015 Series E Financing.

Future Liquidity. We have a history of incurring net losses and net operating cash flow deficits. We are also deploying new technologies and continue to develop commercial technologies and services. We believe that our cash, cash equivalents and short-term investments as of December 31, 2016, which totaled \$3.7 million, will be sufficient to meet our expected cash requirements for current operations through and beyond the fourth quarter of 2017. In order for us to continue as a going concern beyond this point and to ultimately achieve profitability, we may be required to obtain capital from external sources, increase revenues and reduce operating costs. However, there can be no assurance that our operations will become profitable or that external sources of financing, including the issuance of debt and/or equity securities, will be available at times and at terms acceptable to us, or at all. The issuance of additional equity or convertible debt securities will also cause dilution to our stockholders. Also, in order to issue securities at a price below the exercise prices of our outstanding warrants issued in connection with our past preferred stock private placement financings, we must obtain the affirmative consent of holders of at least 67% of each series of such outstanding warrants. If we are unable to obtain the consent of these holders in connection with future financings, we may be unable to raise additional capital on acceptable terms, or at all. If external financing sources are not available or are inadequate to fund our operations, we will be required to reduce operating costs, including research projects and personnel, which could jeopardize our future strategic initiatives and business plans.

Capital Requirements. We may also encounter unforeseen difficulties that may deplete our capital resources more rapidly than anticipated. As a result, we may be required to seek additional funding through equity, debt or

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other external financing, and there can be no assurance that additional funding will be available on favorable terms, in a timely fashion or at all. At this time, we have no significant commitments for capital expenditures in 2017 or beyond. However, our long-term capital requirements could be substantial and the adequacy of available funds will depend upon many factors, including:

- the costs of commercialization activities, including sales and marketing costs and capital equipment;
- competing technological developments;
- the creation and formation of strategic partnerships;
- variability in third-party reimbursement for our diagnostic tests;
- the costs associated with leasing and improving our Irvine, California facility; and
- other factors that may not be within our control.

Off-Balance Sheet Arrangements

As of December 31, 2016, we did not have any significant off-balance sheet arrangements, as defined in Item 303(a)(4)(ii) of Regulation S-K promulgated by the SEC. We have entered into an operating lease for our laboratory space and corporate offices, totaling approximately 12,200 square feet, expiring in early 2020. We have no significant commitments for capital expenditures for 2017 or beyond. We have executed nine capital leases totaling \$219,000 for certain laboratory and IT-related equipment, with lease payments continuing through November 2019.

Recent Accounting Pronouncements

Refer to Note 2 to our consolidated financial statements included elsewhere in this report.

Item 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Not required for smaller reporting companies.

Item 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The consolidated financial statements and related financial information required to be filed hereunder are indexed under Item 15 of this report and are incorporated herein by reference.

Item 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

Item 9A. CONTROLS AND PROCEDURES

Conclusion Regarding the Effectiveness of Disclosure Controls and Procedures

Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of our disclosure controls and procedures, as such term is defined under Rules 13a-15(e) and 15d-15(e) promulgated under the Securities Exchange Act of 1934, as amended. Based on this evaluation, our principal executive officer and our principal financial officer concluded that, as of the end of the period covered by this annual report, our disclosure controls and procedures were effective to ensure that the information required to be disclosed by us in the reports that we file or submit under the Securities Exchange Act of 1934 is accumulated and communicated to management, including our

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chief executive officer and chief financial officer, to allow timely decisions regarding required disclosure, and that such information is recorded, processed, summarized and reported within the time periods prescribed by the SEC.

Management’s Report on Internal Controls Over Financial Reporting

Our management is responsible for establishing and maintaining adequate internal controls over financial reporting, as such term is defined in Exchange Act Rules 13a-15(f) and 15d-15(f). Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of the effectiveness of our internal controls over financial reporting based on the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission, or COSO, in Internal Control-Integrated Framework (specifically, the 2013 Framework). Based on our evaluation under the framework in Internal Control – Integrated Framework, our management concluded that our internal controls over financial reporting were effective as of December 31, 2016.

There has been no change in our internal controls over financial reporting that occurred during the fiscal quarter ended December 31, 2016 that has materially affected, or is reasonably expected to materially affect, our internal controls over financial reporting.

Item 9B. OTHER INFORMATION

None.

PART III

Item 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

Except as provided below, the information required by this Item is incorporated by reference from the information under the captions entitled “Board of Directors,” “Executive Officers and Directors” and “Section 16(a) Beneficial Ownership Reporting Compliance” in our definitive proxy statement to be filed with the SEC no later than 120 days after our most recent fiscal year end, which is December 31, 2016.

Code of Business Conduct and Ethics

We have adopted a corporate Code of Business Conduct and Ethics, which may be viewed on our website at www.combimatrix.com. The Code of Business Conduct and Ethics applies to all our officers, directors and employees, including our principal executive officer, principal financial and accounting officer and controller, or persons performing similar functions. If we effect an amendment to, or waiver from, a provision of our Code of Business Conduct and Ethics, we intend to satisfy our disclosure requirements by posting a description of such amendment or waiver on the website above or via a current report on Form 8-K. The inclusion of our web site address in this report does not include or incorporate by reference the information on, or accessible through, our web site into this report.

Item 11. EXECUTIVE COMPENSATION

The information required by this Item is incorporated by reference from the information under the caption entitled “Executive Compensation and Other Information” in our definitive proxy statement to be filed with the SEC no later than 120 days after our most recent fiscal year end, which is December 31, 2016.

Item 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by this Item is incorporated by reference from the information under the caption entitled “Security Ownership of Certain Beneficial Owners and Management” in our definitive proxy statement to be filed with the SEC no later than 120 days after our most recent fiscal year end, which is December 31, 2016.

Item 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this Item is incorporated by reference from the information under the caption entitled “Certain Transactions” and “Board of Directors” in our definitive proxy statement to be filed with the SEC no later than 120 days after our most recent fiscal year end, which is December 31, 2016.

Item 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

The information required by this Item is incorporated by reference from the information under the caption entitled “Principal Accountants” in our definitive proxy statement to be filed with the SEC no later than 120 days after our most recent fiscal year end, which is December 31, 2016.

PART IV

Item 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(a) (1) Financial Statements — See “Index to Consolidated Financial Statements” appearing on page F-1.

(2) Financial Statement Schedules

Schedules have been omitted, as they are not required for smaller reporting companies, not applicable or the information is otherwise included.

(3) Exhibits — Refer to Item 15(b) below.

(b) Exhibits. The following exhibits are either filed herewith or incorporated herein by reference:

Exhibit Number	Description
3.1	Amended and Restated Certificate of Incorporation. Incorporated by reference to Exhibit 3.1 to the Company’s Registration Statement on Form S-1 (SEC File No. 333-139679) filed with the SEC on December 26, 2006.
3.2	Certificate of Amendment to Amended and Restated Certificate of Incorporation. Incorporated by reference to Exhibit 3.1A to the Company’s Quarterly Report on Form 10-Q (File No. 001-33523) filed with the SEC on August 14, 2008.
3.3	Certificate of Amendment to Amended and Restated Certificate of Incorporation. Incorporated by reference to Exhibit 3.1 to the Company’s Current Report on Form 8-K (File No. 001-33523) filed with the SEC on December 4, 2012.
3.4	Certificate of Designation of Preferences, Rights and Limitations of Series A 6% Convertible Preferred Stock. Incorporated by reference to Exhibit 3.1 to the Company’s Current Report on Form 8-K (File No. 001-33523) filed with the SEC on October 1, 2012.
3.5	Certificate of Designation of Preferences, Rights and Limitations of Series B 6% Convertible Preferred Stock. Incorporated by reference to Exhibit 4.1 to the Company’s Current Report on Form 8-K (File No. 001-33523) filed with the SEC on March 20, 2013.
3.6	Certificate of Designation of Preferences, Rights and Limitations of Series C 6% Convertible Preferred Stock. Incorporated by reference to Exhibit 3.1 to the Company’s Current Report on Form 8-K (File No. 001-33523) filed with the SEC on May 6, 2013.
3.7	Certificate of Designation of Preferences, Rights and Limitations of Series D Convertible Preferred Stock. Incorporated by reference to Exhibit 3.1 to the Registrant’s Current Report on Form 8-K (File No. 001-33523) filed with the SEC on December 23, 2013.
3.8	Certificate of Designation of Preferences, Rights and Limitations of Series E 6% Convertible Preferred Stock. Incorporated by reference to Exhibit 4.1 to the Company’s Current Report on Form 8-K (File No. 001-33523) filed with the SEC on February 13, 2015.
3.9	Certificate of Amendment to Amended and Restated Certificate of Incorporation. Incorporated by reference to Exhibit 3.1 to the Company’s Current Report on Form 8-K (File No. 001-33523) filed with the SEC on April 29, 2015
3.10	Certificate of Amendment to Amended and Restated Certificate of Incorporation. Incorporated by reference to Exhibit 3.1 to the Company’s Current Report on Form 8-K (File No. 001-33523) filed with the SEC on January 29, 2016.
3.11	Certificate of Designation of Preferences, Rights and Limitations of Series F Convertible Preferred Stock. Incorporated by reference to Exhibit 3.1 to the Company’s Current Report on Form 8-K (File No. 001-33523) filed with the SEC on March 24, 2016.

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Exhibit Number	Description
3.12	Second Amended and Restated Bylaws. Incorporated by reference to Exhibit 3.2 to the Company's Annual Report on Form 10-K (File No. 001-33523) filed with the SEC on March 18, 2010.
4.1	Form of Common Stock Certificate. Incorporated by reference to Exhibit 4.1 to the Company's Registration Statement on Form S-1/A (File No. 333-208704) filed with the SEC on February 19, 2016.
4.2	Form of Series F Preferred Stock Certificate. Incorporated by reference to Exhibit 4.2 to the Company's Registration Statement on Form S-1/A (File No. 333-208704) filed with the SEC on March 18, 2016.
4.3	Form of Warrant to Purchase Common Stock. Incorporated by reference to Exhibit 10.3 to the Company's Quarterly Report on Form 10-Q (File No. 001-33523) filed with the SEC on May 10, 2016.
10.1†	Restated Executive Change in Control Severance Plan, as restated on December 7, 2015. Incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on December 7, 2015.
10.2	Amendment No. 3 to Lease dated as of January 11, 2010. Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on January 15, 2010.
10.3	Amendment No. 4 to the Lease effective as of October 21, 2012. Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on October 25, 2012.
10.4†	2006 Stock Incentive Plan, as amended. Incorporated by reference to Exhibit 10.4 to the Company's Annual Report on Form 10-K (File No. 001-33523) filed with the SEC on February 18, 2016.
10.5†	Form of Stock Incentive Plan Agreement. Incorporated by reference to the Company's Registration Statement on Form S-1 (SEC File No. 333-139679), which became effective June 8, 2007.
10.6†	Employment Agreement for Mark McDonough. Incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q (File No. 001-33523) filed with the SEC on November 13, 2012.
10.7	Form of Amended and Restated Indemnification Agreement. Incorporated by reference to Exhibit 10.1 to the Company's Quarterly Report on Form 10-Q (File No. 001-33523) filed with the SEC on August 12, 2011.
10.8	Form of Securities Purchase Agreement dated as of April 1, 2011. Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on April 7, 2011.
10.9	Form of Investors Rights Agreement dated as of April 1, 2011. Incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on April 7, 2011.
10.10	HLM Rights Agreement dated as of April 1, 2011. Incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on April 7, 2011.
10.11	Form of Warrant to Purchase Common Stock issued on April 7, 2011. Incorporated by reference to Exhibit 10.4 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on April 7, 2011.
10.12	Form of Indemnity Agreement. Incorporated by reference to Exhibit 10.5 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on April 7, 2011.

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Exhibit Number	Description
10.13	Form of Securities Purchase Agreement dated as of September 28, 2012. Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on October 1, 2012.
10.14	Form of Warrant to Purchase Common Stock. Incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on October 1, 2012.
10.15	Form of Registration Rights Agreement dated as of September 28, 2012. Incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on October 1, 2012.
10.16	Form of Lock-Up Agreement dated as of September 28, 2012. Incorporated by reference to Exhibit 10.4 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on October 1, 2012.
10.17	Form of Voting Agreement dated as of September 28, 2012. Incorporated by reference to Exhibit 10.5 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on October 1, 2012.
10.18	Consent and Waiver executed on December 4, 2012. Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on December 7, 2012.
10.19	Form of Amendment No. 1 to Common Stock Purchase Warrant dated February 26, 2013. Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on February 26, 2013.
10.20	Form of Warrant to Purchase Common Stock. Incorporated by reference to Exhibit 4.3 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on March 20, 2013.
10.21	Form of Securities Purchase Agreement dated as of March 19, 2013. Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on March 20, 2013.
10.22†	Mark McDonough Compensation Arrangement. Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on April 3, 2013.
10.23	Form of Waiver Regarding HLM Rights Agreement dated April 5, 2013. Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on April 8, 2013.
10.24	Form of Securities Purchase Agreement dated as of May 3, 2013. Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on May 6, 2013.
10.25	Form of Warrant to Purchase Common Stock. Incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on May 6, 2013.
10.26	Form of Registration Rights Agreement dated as of May 3, 2013. Incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on May 6, 2013.
10.27	Form of Voting Agreement dated as of May 3, 2013. Incorporated by reference to Exhibit 10.4 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on May 6, 2013.
10.28†	Form of Stock Incentive Plan Agreement for Performance-Based Options. Incorporated by reference to Exhibit 10.11 to the Company's Quarterly Report on Form 10-Q (File No. 001-33523) filed with the SEC on May 13, 2013.

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Exhibit Number	Description
10.29†	Letter Agreement dated June 27, 2013 regarding Mark McDonough’s bonus arrangement. Incorporated by reference to Exhibit 10.1 to the Company’s Current Report on Form 8-K (File No. 001-33523) filed with the SEC on July 1, 2013.
10.30	Amendment No. 5 to Lease effective as of July 16, 2013. Incorporated by reference to Exhibit 10.1 to the Company’s Current Report on Form 8-K (File No. 001-33523) filed with the SEC on July 19, 2013.
10.31	Form of Warrant to Purchase Common Stock. Incorporated by reference to Exhibit 4.3 to the Company’s Registration Statement on Form S-1/A (File No. 333-191211) filed with the SEC on December 9, 2013.
10.32†	2014 Executive Performance Bonus Plan, as amended. Incorporated by reference to Exhibit 10.2 to the Company’s Current Report on Form 8-K (File No. 001-33523) filed with the SEC on March 10, 2014.
10.33†	Form of Restricted Stock Unit Award Agreement under the Company’s 2006 Stock Incentive Plan. Incorporated by reference to Exhibit 10.2 to the Company’s Current Report on Form 8-K (File No. 001-33523) filed with the SEC on February 24, 2014.
10.34	Form of Amendment No. 2 to Common Stock Purchase Warrant dated June 4, 2014. Incorporated by reference to Exhibit 10.1 to the Company’s Current Report on Form 8-K (File No. 001-33523) filed with the SEC on June 10, 2014.
10.35	Form of Additional Common Stock Purchase Warrant issued June 4, 2014. Incorporated by reference to Exhibit 10.2 to the Company’s Current Report on Form 8-K (File No. 001-33523) filed with the SEC on June 10, 2014.
10.36	Amendment No. 6 to the Lease effective as of October 24, 2014. Incorporated by reference to Exhibit 10.1 to the Company’s Current Report on Form 8-K (File No. 001-33523) filed with the SEC on October 28, 2014.
10.37	Form of Warrant to Purchase Common Stock (Series E Financing). Incorporated by reference to Exhibit 4.3 to the Company’s Current Report on Form 8-K (File No. 001-33523) filed with the SEC on February 13, 2015.
10.38	Form of Amendment of Outstanding Warrants. Incorporated by reference to Exhibit 4.5 to the Company’s Current Report on Form 8-K (File No. 001-33523) filed with the SEC on February 13, 2015.
10.39	Form of Securities Purchase Agreement dated as of February 13, 2015 (Series E Financing). Incorporated by reference to Exhibit 10.1 to the Company’s Current Report on Form 8-K (File No. 001-33523) filed with the SEC on February 13, 2015.
10.40	Form of Private Placement Securities Purchase Agreement dated as of February 13, 2015 (Warrant Financing). Incorporated by reference to Exhibit 10.2 to the Company’s Current Report on Form 8-K (File No. 001-33523) filed with the SEC on February 13, 2015.
10.41†	2015 Executive Performance Bonus Plan. Incorporated by reference to Exhibit 10.1 to the Company’s Current Report on Form 8-K (File No. 001-33523) filed with the SEC on March 5, 2015.
10.42	Collaboration Agreement, effective May 23, 2013, between CombiMatrix and Sequenom Center for Molecular Medicine, LLC. Incorporated by reference to Exhibit 10.42 to the Company’s Annual Report on Form 10-K (File No. 001-33523) filed with the SEC on March 17, 2015.
10.43	Agreement of Settlement and Release, dated April 23, 2015. Incorporated by reference to Exhibit 10.1 to the Company’s Current Report on Form 8-K (File No. 001-33523) filed with the SEC on April 28, 2015.

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Exhibit Number	Description
10.44	Form of Amendment No. 1 to February 2015 Common Stock Purchase Warrant dated October 12, 2015. Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on October 13, 2015.
10.45	Form of Amendment No. 1 to April 2015 Common Stock Purchase Warrant dated October 12, 2015. Incorporated by reference to Exhibit 10.2 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on October 13, 2015.
10.46	Form of Waiver of Cash Dividends dated October 12, 2015. Incorporated by reference to Exhibit 10.3 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on October 13, 2015.
10.47†	Transaction Bonus Plan. Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on December 7, 2015.
10.48	Form of Series E 6% Convertible Preferred Stock Repurchase Agreement. Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on February 5, 2016.
10.49	Form of Leak-Out Agreement. Incorporated by reference to Exhibit 10.49 to the Company's Registration Statement on Form S-1/A (File No. 333-208704) filed with the SEC on March 18, 2016.
10.50	Form of Common Stock Purchase Warrants Repurchase Agreement. Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on July 11, 2016.
10.51†	2016 Executive Performance Bonus Plan. Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on April 27, 2016.
10.52†	2017 Executive Performance Bonus Plan. Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on February 3, 2017.
21.1	Subsidiaries of the Registrant(*)
23.1	Consent of Haskell & White LLP(*)
31.1	Certification of Chief Executive Officer pursuant to section 302 of the Sarbanes-Oxley Act of 2002 (*).
31.2	Certification of Chief Financial Officer pursuant to section 302 of the Sarbanes-Oxley Act of 2002 (*).
32.1	Certification of Chief Executive Officer pursuant to section 906 of the Sarbanes-Oxley Act of 2002 (furnished herewith).
32.2	Certification of Chief Financial Officer pursuant to section 906 of the Sarbanes-Oxley Act of 2002 (furnished herewith).
101.0	The following materials from CombiMatrix Corporation's Annual Report on Form 10-K for the year ended December 31, 2016, formatted in XBRL (eXtensible Business Reporting Language): (i) Consolidated Balance Sheets as of December 31, 2016 and December 31, 2015; (ii) Consolidated Statements of Operations for the Years ended December 31, 2016 and 2015; (iii) Consolidated Statements of Comprehensive Loss for the Years ended December 31, 2016 and 2015; (iv) Consolidated Statements of Stockholders' Equity for the Years ended December 31, 2016 and 2015 (v) Consolidated Statements of Cash Flows for the Years ended December 31, 2016 and 2015; and (vi) Notes to Consolidated Financial Statements.

(*) Included herewith.

† Denotes management contract or compensatory plan or arrangement.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

Dated: March 3, 2017

COMBIMATRIX CORPORATION

/s/ MARK MCDONOUGH

Mark McDonough
President and
Chief Executive Officer
(Authorized Signatory)

Pursuant to the requirements of the Securities and Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Mark McDonough</u> Mark McDonough	President and Chief Executive Officer, Director (Principal Executive Officer)	March 3, 2017
<u>/s/ Scott R. Burell</u> Scott R. Burell	Chief Financial Officer, Treasurer and Secretary (Principal Financial and Accounting Officer)	March 3, 2017
<u>/s/ R. Judd Jessup</u> R. Judd Jessup	Chairman of the Board	March 3, 2017
<u>/s/ Jeremy M. Jones</u> Jeremy M. Jones	Director	March 3, 2017
<u>/s/ Robert E. Hoffman</u> Robert E. Hoffman	Director	March 3, 2017
<u>/s/ Lâle white</u> Lâle White	Director	March 3, 2017
<u>/s/ Dirk Van Den Boom</u> Dirk van den Boom, Ph.D.	Director	March 3, 2017

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Directors and Stockholders
CombiMatrix Corporation
Irvine, California

We have audited the accompanying consolidated balance sheets of CombiMatrix Corporation (the “Company”) as of December 31, 2016 and December 31, 2015, and the related consolidated statements of operations, comprehensive loss, stockholders’ equity, and cash flows for each of the years then ended. These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on these consolidated financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. The Company has determined that it is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company’s internal control over financial reporting. Accordingly, we express no such opinion. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall consolidated financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of CombiMatrix Corporation as of December 31, 2016 and December 31, 2015, and the consolidated results of its operations and its cash flows for each of the years then ended, in conformity with accounting principles generally accepted in the United States.

/S/ HASKELL & WHITE LLP

Irvine, California
March 3, 2017

COMBIMATRIX CORPORATION
CONSOLIDATED BALANCE SHEETS
As of December 31, 2016 and 2015
(In thousands, except share and per share information)

	<u>December 31,</u>	
	<u>2016</u>	<u>2015</u>
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 2,727	\$ 653
Short-term investments	1,000	3,248
Accounts receivable, net of allowance for doubtful accounts of \$232 and \$235	3,351	2,682
Supplies	599	418
Prepaid expenses and other assets	174	200
Total current assets	<u>7,851</u>	<u>7,201</u>
Property and equipment, net	597	691
Other assets	30	30
Total assets	<u>\$ 8,478</u>	<u>\$ 7,922</u>
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable, accrued expenses and other	\$ 1,689	\$ 1,591
Current portion, long-term debt	100	193
Total current liabilities	<u>1,789</u>	<u>1,784</u>
Capital lease obligations, net of current portion	50	71
Secured promissory note payable, net of current portion	—	34
Deferred rent	145	177
Total liabilities	<u>1,984</u>	<u>2,066</u>
Commitments and contingencies (Note 9)		
Stockholders' equity:		
Convertible preferred stock; \$0.001 par value; 5,000,000 shares authorized;		
Series E - 2,202 shares authorized; none and 2,201.493 issued and outstanding	—	—
Series F - 8,000 shares authorized; 969 and none issued and outstanding	—	—
Common stock; \$0.001 par value; 50,000,000 shares authorized; 2,673,756 and		
845,374 shares issued and outstanding	15	13
Additional paid-in capital	109,068	102,651
Accumulated other comprehensive loss	—	(2)
Accumulated deficit	(102,589)	(96,806)
Total stockholders' equity	<u>6,494</u>	<u>5,856</u>
Total liabilities and stockholders' equity	<u>\$ 8,478</u>	<u>\$ 7,922</u>

The accompanying notes are an integral part of these consolidated financial statements.

COMBIMATRIX CORPORATION
CONSOLIDATED STATEMENTS OF OPERATIONS
For the Years Ended December 31, 2016 and 2015
(In thousands, except share and per share information)

	For the Years Ended December 31,	
	2016	2015
Revenues:		
Diagnostic services	\$ 12,696	\$ 9,941
Royalties	173	147
Total revenues	<u>12,869</u>	<u>10,088</u>
Operating expenses:		
Cost of services	5,787	5,444
Research and development	493	466
Sales and marketing	4,569	4,979
General and administrative	6,013	5,540
Patent amortization and royalties	100	100
Impairment of cost-basis investment	—	97
Total operating expenses	<u>16,962</u>	<u>16,626</u>
Operating loss	<u>(4,093)</u>	<u>(6,538)</u>
Other income (expenses):		
Interest income	22	16
Interest expense	(69)	(79)
Total other income (expense)	<u>(47)</u>	<u>(63)</u>
Net loss	<u>\$ (4,140)</u>	<u>\$ (6,601)</u>
Deemed dividend from issuing Series F convertible preferred stock and warrants	\$ (1,877)	\$ —
Deemed dividend paid for right to repurchase Series E convertible preferred stock	(656)	—
Deemed dividend from issuing and modifying Series E convertible preferred stock and warrants	890	(1,058)
Net loss attributable to common stockholders	<u>\$ (5,783)</u>	<u>\$ (7,659)</u>
Basic and diluted net loss per share	<u>\$ (2.34)</u>	<u>\$ (7.95)</u>
Deemed dividend from issuing Series F convertible preferred stock and warrants	(1.06)	—
Deemed dividend paid for right to repurchase Series E convertible preferred stock	(0.37)	—
Deemed dividend from issuing and modifying Series E convertible preferred stock and warrants	0.50	(1.27)
Basic and diluted net loss per share attributable to common stockholders	<u>\$ (3.27)</u>	<u>\$ (9.22)</u>
Basic and diluted weighted average common shares outstanding	<u>1,768,090</u>	<u>830,835</u>

The accompanying notes are an integral part of these consolidated financial statements.

COMBIMATRIX CORPORATION
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
For the Years Ended December 31, 2016 and 2015
(In thousands, except share and per share information)

	For the Years Ended December 31,	
	2016	2015
Net loss	\$(4,140)	\$(6,601)
Unrealized gain on available-for-sale investments	2	1
Total comprehensive loss	<u>\$(4,138)</u>	<u>\$(6,600)</u>

The accompanying notes are an integral part of these consolidated financial statements.

COMBIMATRIX CORPORATION
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
For the Years Ended December 31, 2016 and 2015
(In thousands, except share information)

	Series E Convertible Preferred Stock		Series F Convertible Preferred Stock		Common Stock		Additional Paid-In Capital	Accumulated Other Comprehensive Loss	Accumulated Deficit	Total Stockholders' Equity
	Shares	Amount	Shares	Amount	Shares	Amount				
Balances, December 31, 2014	—	\$ —	—	\$ —	737,528	\$ 11	\$ 96,259	\$ (3)	\$ (89,147)	\$ 7,120
Issuance of Series E convertible preferred stock and common stock, net	2,201,493	—	—	—	102,800	2	4,681	—	—	4,683
Beneficial conversion feature of Series E convertible preferred stock	—	(890)	—	—	—	—	890	—	—	—
Deemed dividends from issuance of Series E convertible preferred stock	—	890	—	—	—	—	—	—	(890)	—
Deemed dividends from modification of Series E convertible preferred stock and warrants	—	—	—	—	—	—	168	—	(168)	—
Vesting of restricted stock units	—	—	—	—	5,046	—	—	—	—	—
Issuance costs from various securities filings	—	—	—	—	—	—	(34)	—	—	(34)
Non-cash stock compensation	—	—	—	—	—	—	687	—	—	687
Unrealized gain on available-for-sale investments	—	—	—	—	—	—	—	1	—	1
Net loss	—	—	—	—	—	—	—	—	(6,601)	(6,601)
Balances, December 31, 2015	2,201,493	—	—	—	845,374	13	102,651	(2)	(96,806)	5,856
Conversion of Series E convertible preferred stock	(16)	—	—	—	599	—	—	—	—	—
Premium paid to redeem Series E convertible preferred stock	—	—	—	—	—	—	—	—	(656)	(656)
Issuance of Series F convertible preferred stock and warrants, net	—	—	8,000.0	—	—	—	6,885	—	—	6,885
Beneficial conversion feature of Series F convertible preferred stock	—	—	—	(1,877)	—	—	1,877	—	—	—
Deemed dividends from issuance of Series F convertible preferred stock	—	—	—	1,877	—	—	—	—	(1,877)	—
Redemption of Series E convertible preferred stock	(2,185,769)	—	—	—	—	—	(2,186)	—	—	(2,186)
Reversal of Series E deemed dividend	—	—	—	—	—	—	(890)	—	890	—
Conversions of Series F convertible preferred stock	—	—	(7,031.0)	—	1,816,827	2	(2)	—	—	—
Vesting of restricted stock units	—	—	—	—	10,956	—	—	—	—	—
Non-cash stock compensation	—	—	—	—	—	—	733	—	—	733
Unrealized gain on available-for-sale investments	—	—	—	—	—	—	—	2	—	2
Net loss	—	—	—	—	—	—	—	—	(4,140)	(4,140)
Balances, December 31, 2016	—	\$ —	969.0	\$ —	2,673,756	\$ 15	\$109,068	\$ —	\$ (102,589)	\$ 6,494

The accompanying notes are an integral part of these consolidated financial statements.

COMBIMATRIX CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS
For the Years Ended December 31, 2016 and 2015
(In thousands)

	For the Years Ended December 31,	
	2016	2015
Operating activities:		
Net loss	\$ (4,140)	\$ (6,601)
Adjustments to reconcile net loss to net cash flows from operating activities:		
Depreciation and amortization	258	297
Non-cash stock compensation	733	687
Provision for bad debts	465	277
Impairment of cost-basis investment	—	97
Changes in assets and liabilities:		
Accounts receivable	(1,134)	(823)
Supplies, prepaid expenses and other assets	(180)	(83)
Accounts payable, accrued expenses and other	98	419
Net cash flows from operating activities	<u>(3,900)</u>	<u>(5,730)</u>
Investing activities:		
Purchase of property and equipment	(157)	(72)
Purchase of available-for-sale investments	(8,497)	(4,000)
Sale of available-for-sale investments	10,747	4,980
Net cash flows from investing activities	<u>2,093</u>	<u>908</u>
Financing activities:		
Proceeds from issuance of Series F convertible preferred stock and common stock warrants	8,000	—
Costs from issuance of Series F convertible preferred stock and common stock warrants	(1,089)	(26)
Repurchase of Series E convertible preferred stock and dividends	(2,842)	—
Proceeds from issuance of Series E convertible preferred stock, common stock and warrants	—	4,900
Costs from issuance of Series E convertible preferred stock, common stock and warrants	—	(217)
Issuance costs from various securities filings	—	(8)
Repayments of long-term debt	(188)	(184)
Net cash flows from financing activities	<u>3,881</u>	<u>4,465</u>
Increase (decrease) in cash and cash equivalents	2,074	(357)
Cash and cash equivalents, beginning	653	1,010
Cash and cash equivalents, ending	<u>\$ 2,727</u>	<u>\$ 653</u>
Cash paid in interest expense	<u>\$ 26</u>	<u>\$ 40</u>
Non-cash investing and financing activities:		
Property and equipment purchased on capital leases	<u>\$ 40</u>	<u>\$ 72</u>
Deemed dividends from issuing Series F convertible preferred stock and warrants	<u>\$ 1,877</u>	<u>\$ —</u>
Deemed dividends from issuing and modifying Series E convertible preferred stock and warrants	<u>\$ (890)</u>	<u>\$ 1,058</u>
Warrant modifications recognized as non-cash Series E offering-related costs	<u>\$ —</u>	<u>\$ 336</u>
Tenant improvements recognized as deferred rent	<u>\$ —</u>	<u>\$ 164</u>

The accompanying notes are an integral part of these consolidated financial statements.

COMBIMATRIX CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. DESCRIPTION OF BUSINESS

CombiMatrix Corporation (the “Company,” “we,” “us” and “our”) was originally incorporated in October 1995 as a California corporation and later reincorporated as a Delaware corporation in September 2000. In December 2002, we merged with, and became a wholly owned subsidiary of Acacia Research Corporation (“Acacia”), and in August 2007, we split-off from Acacia and became publicly traded on The NASDAQ Stock Market. As a result of the split-off, we ceased to be a subsidiary of, or affiliated with, Acacia.

Description of the Company

We are a family health-focused clinical molecular diagnostic laboratory specializing in pre-implantation genetic screening, prenatal diagnosis, miscarriage analysis, and pediatric developmental disorders. We strive to provide best-in-class clinical laboratory support to healthcare professionals, allowing them to maximize the clinical utility of their patients’ test results and to optimize patient care. Our testing focuses on advanced technologies, including single nucleotide polymorphism, or SNP, chromosomal microarray analysis, next generation sequencing, fluorescent in situ hybridization and high resolution karyotyping. Our approach to testing is to offer sophisticated technology along with high-quality clinical support to our ordering physicians and their patients. Our laboratory facilities and corporate headquarters are located in Irvine, California.

We also own a one-third minority interest in Leuchemix, Inc. (“Leuchemix”), a private drug development company focused on developing a series of compounds to address a number of oncology-related diseases.

Reverse Stock Split

On January 29, 2016, we filed a Certificate of Amendment to our Certificate of Incorporation with the Secretary of State of the State of Delaware to effect a reverse split of our common stock at a ratio of one-for-fifteen (the “Reverse Stock Split”), which became effective at the close of business on that day. As a result, each share of CombiMatrix common stock outstanding as of January 29, 2016 was automatically changed into one-fifteenth of a share of common stock. No fractional shares were issued in connection with the Reverse Stock Split, and cash paid to stockholders for potential fractional shares was insignificant. The number of shares of common stock subject to outstanding options, warrants and convertible securities were also reduced by a factor of fifteen as of January 29, 2016. All historical share and per share amounts reflected throughout this document have been adjusted to reflect the Reverse Stock Split. The authorized number of shares and the par value per share of our common stock were not affected by the Reverse Stock Split.

Going Concern Analysis

We have a history of incurring net losses and net operating cash flow deficits. We are also deploying new technologies and continue to develop new and improve existing commercial diagnostic testing services and related technologies. As a result, these conditions raised substantial doubt regarding our ability to continue as a going concern beyond 2017. However, as of December 31, 2016, we had cash, cash equivalents and short-term investments of \$3.7 million. Also, the combination of continued revenue and cash reimbursement growth as we have seen over the past several quarters, coupled with improved gross margins and cost containment of expenses leads management to believe that it is probable that the Company’s cash resources will be sufficient to meet our cash requirements through and beyond the fourth quarter of 2017, where we anticipate to achieve cash flow break-even status. If necessary, management also believes that it is probable that external sources of debt and/or equity financing could be obtained based on management’s history of being able to raise capital coupled with current favorable market conditions. As a result of both management’s plans and current favorable trends in improving cash flow, we believe the initial conditions which raised substantial doubt regarding our ability to continue as a going concern have been alleviated. Therefore, the accompanying consolidated financial statements have been prepared assuming that we will continue as a going concern.

COMBIMATRIX CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The consolidated financial statements do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or the amounts and classification of liabilities that may result from the matters discussed herein. While we believe in the viability of our strategy to generate sufficient revenue and cash reimbursement, control costs and our ability to raise additional funds if necessary, there can be no assurances to that effect. Our ability to continue as a going concern is dependent upon our ability to further implement our business plan, generate sufficient revenues and cash reimbursement and to control operating expenses.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Accounting Principles and Fiscal Year End . The consolidated financial statements and accompanying notes are prepared on the accrual basis of accounting in accordance with U.S. generally accepted accounting principles (“GAAP”). We have a December 31 year-end.

Use of Estimates . The preparation of consolidated financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amount of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from these estimates.

Basis of Presentation and Principles of Consolidation . The accompanying consolidated financial statements include the accounts of the Company and our wholly owned subsidiaries. Investments for which we possess the power to direct or cause the direction of the management and policies, either through majority ownership or other means, are accounted for under the consolidation method. Material intercompany transactions and balances have been eliminated in consolidation. Investments in companies in which we maintain an ownership interest of 20% to 50% or exercise significant influence over operating and financial policies are accounted for under the equity method. The cost method is used where we maintain ownership interests of less than 20% and do not exercise significant influence over the investee.

Revenue Recognition . We recognize revenue when (i) persuasive evidence of an arrangement exists, (ii) delivery has occurred or services have been performed, (iii) amounts are fixed or determinable and (iv) collectability of amounts is reasonably assured.

Service revenues from providing diagnostic tests are recognized when the testing process is complete and test results are reported to the ordering physician or clinic. These diagnostic services are billed to various payors, including third-party commercial insurance companies, healthcare institutions, government payors including various state Medicaid programs, and individuals. We report revenues from contracted payors based on a contractual rate, or in the case of state Medicaid contracts, published fee schedules for our tests. We report revenues from non-contracted payors based on the amounts expected to be collected. The differences between the amounts billed and the amounts expected to be collected from non-contracted payors are recorded as contractual allowances to arrive at net recognized revenues. The expected revenues from non-contracted payors are based on the historical collection experience of each payor or payor group, as appropriate, and also take into account recent collection trends. In each reporting period, we review our historical collection experience for non-contracted payors and adjust our expected revenues for current and subsequent periods accordingly. We also recognize additional revenue from actual cash payments that exceed amounts initially recognized, in the period the payments are received. Because a substantial portion of our revenues is from non-contracted third-party payors, it is likely that we will be required to make adjustments to accounting estimates with respect to contractual allowances in the future, which may positively or adversely affect our results of operations. In all cases described above, we report revenues net of any applicable statutory taxes collected from customers, as

COMBIMATRIX CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

applicable. For the years ended December 31, 2016 and 2015, no single customer represented 10% or more of our revenues.

Cash Equivalents and Short-Term Investments . We consider all highly liquid investments purchased with maturities of three months or less when purchased to be cash equivalents. Short-term investments consist of fixed income investments with maturities between three and 12 months and other highly liquid investments that can be readily purchased or sold using established markets. These investments are classified as available-for-sale and are reported at fair value on the Company's consolidated balance sheets. Unrealized holding gains and losses are reported within comprehensive loss in the consolidated statements of comprehensive loss. Fair value is based on available market information including quoted market prices, broker or dealer quotations or other observable inputs. If a decline in the fair value of a short-term investment below our cost basis is determined to be other than temporary, such investment is written down to its estimated fair value as a new cost basis and the amount of the write-down is included in earnings as an impairment charge. To date, no permanent impairment charges have been realized or recorded.

Fair Value Measurements. We measure fair value as an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is a market-based measurement that is determined based on assumptions that market participants would use in pricing an asset or liability. We utilize a three-tier fair value hierarchy, which prioritizes the inputs used in measuring fair value as follows:

- Level 1: Observable market inputs such as quoted prices in active markets;
- Level 2: Observable market inputs, other than the quoted prices in active markets, that are observable either directly or indirectly, such as quoted prices for similar assets or liabilities; and
- Level 3: Unobservable inputs where there is little or no market data, which require the reporting entity to develop its own assumptions.

We classify our cash equivalents within the fair value hierarchy as Level 1 as these assets are valued using quoted prices in active markets for identical assets at the measurement date. We classify short-term investments within the fair value hierarchy as Level 2, primarily utilizing broker quotes in a non-active market for valuation of these investments. Financial instruments that contain valuation inputs that are not readily determinable from active markets or from similar securities trading in active markets, such as derivative financial instruments, are classified within the fair value hierarchy as Level 3.

Impairment of Long-Lived Assets . Long-lived assets and intangible assets are reviewed for potential impairment when events or changes in circumstances indicate the carrying amount of an asset may not be recoverable. In the event the sum of the expected undiscounted future cash flows resulting from the use of the asset is less than the carrying amount of the asset, an impairment loss equal to the excess of the asset's carrying value over its fair value is recorded. If an asset is determined to be impaired, the loss is measured based on quoted market prices in active markets, if available. If quoted market prices are not available, the estimate of fair value is based on various valuation techniques, including a discounted value of estimated future cash flows.

During 2015, management determined that the carrying value of a cost-basis investment in the stock of a privately held company was impaired, resulting in a one-time, non-cash impairment charge of \$97,000 for the year ended December 31, 2015.

Derivative Financial Instruments. We evaluate financial instruments for freestanding or embedded derivatives. Derivative instruments that do not qualify for permanent equity classification are recorded as

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liabilities at fair value, with changes in value recognized as other income (expense) in the consolidated statements of operations in the period of change. Derivative liabilities are categorized as either short-term or long-term based upon management's estimates as to when the derivative instrument may be realized or based upon the holder's ability to realize the instrument.

Concentration of Credit Risks . Cash and cash equivalents are invested in deposits with certain financial institutions and may, at times, exceed federally insured limits. We have not experienced any significant losses on our deposits of cash and cash equivalents. We do not believe that we are exposed to significant credit risk on cash and cash equivalents or on our short-term investments. Accounts receivable from two commercial insurance carriers of \$441,000 for Carrier A and \$402,000 for Carrier B exceeded 10% of our total accounts receivable balance as of December 31, 2016, and accounts receivable from Carrier B of \$316,000 exceeded 10% of our total accounts receivable balance as of December 31, 2015.

Substantially all of the components and raw materials used in providing our testing services, including array slides and reagents, are currently provided to us from a limited number of sources or in some cases from a single source. Although we believe that alternative sources for those components and raw materials are available, any supply interruption in a sole-sourced component or raw material might result in up to a several-month production delay and materially harm our ability to provide testing services until a new source of supply, if any, could be located and qualified.

Accounts Receivable and Allowance for Doubtful Accounts. For our contracted third-party payors, governmental payors or direct-bill customers, accounts receivable are stated at principal amounts and are primarily comprised of amounts contractually due from customers for services performed. For our non-contracted customers, accounts receivable are stated at amounts expected to be collected based on historical collection experience with the third-party payor. The payment realization cycle for certain governmental and commercial insurance payors can be lengthy, involving denial, appeal and adjudication processes, and is subject to periodic adjustments that may be significant. Accounts receivable are periodically written off when identified as uncollectible after appropriate collection efforts have been exhausted. Such write-offs increase the contractual allowances (which reduce revenues) for those accounts in the period of adjustment. Collection of governmental, private health insurer, and client receivables are generally a function of providing complete and correct billing information to the insurers and clients within the filing deadlines required by each payor.

Collection of receivables due from patients and private-pay clients is generally subject to increased credit risk due to credit-worthiness or inability to pay. For these customers, an allowance for doubtful accounts is recorded for estimated uncollectible amounts, and involves significant assumptions and judgments. Specifically, the allowance for doubtful accounts is adjusted periodically and is principally based upon specific identification of past due or disputed accounts. We also review the age of receivables to assess our allowance at each period end. Additions to the allowance for doubtful accounts are charged to bad debt expense as a component of general and administrative expenses in the consolidated statements of operations.

Supplies . Supplies inventory, which consists primarily of raw materials to be used in the production of the arrays we use for our tests, is stated at the lower of cost or net realizable value using the first-in, first-out method.

Property and Equipment . Property and equipment is recorded at cost. Additions and improvements that increase the value or extend the life of an asset are capitalized. Maintenance and repairs are expensed as incurred. Disposals are removed at cost less accumulated depreciation or amortization and any gain or loss from disposition is reflected in the consolidated statements of operations in the period of disposition. Depreciation is computed on a straight-line basis over the following estimated useful lives of the assets:

Laboratory equipment	3 to 5 years
Furniture and fixtures	5 to 7 years
Computer hardware and software	3 years

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Leasehold improvements

Lesser of lease term or useful life of improvement

Certain leasehold improvements, furniture and equipment held under capital leases are classified as property and equipment and are amortized over their useful lives using the straight-line method. Lease amortization is included in depreciation expense.

Stock-Based Compensation. The compensation cost for all employee stock-based awards is measured at the grant date, based on the fair value of the award, and is recognized as an expense, on a straight-line basis, over the employee's requisite service period (generally the vesting period of the equity award) which is generally four years. The fair value of each stock option award is estimated on the date of grant using a Black-Scholes option valuation model. The fair value of each restricted stock unit ("RSU") award is based on the number of shares granted and the closing price of our common stock as reported on the NASDAQ Capital Market on the date of grant. Stock-based compensation expense is recognized only for those awards that are expected to vest using an estimated forfeiture rate. We estimate pre-vesting option forfeitures at the time of grant and reflect the impact of estimated pre-vesting option forfeitures in compensation expense recognized.

The weighted average assumptions used to estimate the fair value of stock option awards granted during the year-ended December 31, 2015 are noted in the table below. There were no stock option awards granted to our employees during 2016, however as noted in Note 12, there were 6,832 stock options granted to non-employee consultants. Expected volatility is based on the separate historical volatility of the market prices of our common stock. The risk-free rate for the expected term, using the simplified method, of the option is based on the U.S. Treasury yield curve in effect at the time of grant.

	For the Years Ended December 31,	
	2016	2015
Risk free interest rate	—	1.8%
Volatility	—	107.3%
Expected term	—	6.3
Expected dividends	—	0%

Stock-based compensation expense for 2016 and 2015 attributable to our functional expense categories from stock option and RSU awards vesting during the periods presented was as follows (in thousands):

	For the Years Ended December 31,	
	2016	2015
Cost of services	\$ 41	\$ 32
Research and development	—	—
Sales and marketing	76	61
General and administrative	616	594
Total non-cash stock compensation	<u>\$ 733</u>	<u>\$ 687</u>

Research and Development Expenses. Prior to launching a new test or modifying and upgrading an existing test, extensive laboratory validations consistent with the various regulations that govern our industry must be performed. As a result, research and development expenses include labor, laboratory supplies and other development costs required to maintain and improve our existing suite of diagnostic test offerings as well as to investigate and develop new tests. Costs to acquire technologies which are utilized in research and development and which have no alternative future use are expensed when incurred. Software developed for use in our services

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is expensed as incurred until both (i) technological feasibility for the software has been established and (ii) all research and development activities for the other components of the system have been completed. We believe these criteria are met after we have received evaluations from third-party test sites and completed any resulting modifications to the services. Expenditures to date have been classified as research and development expense.

Advertising. Costs associated with marketing and advertising of our services are expensed as incurred. For the years ended December 31, 2016 and 2015, we incurred marketing and advertising expenses of \$220,000 and \$366,000, respectively.

Income Taxes. We recognize income taxes on an accrual basis based on tax positions taken or expected to be taken in our tax returns. A tax position is defined as a position in a previously filed tax return or a position expected to be taken in a future tax filing that is reflected in measuring current or deferred income tax assets and liabilities. Tax positions are recognized only when it is more likely than not (i.e., likelihood of greater than 50%), based on technical merits, that the position would be sustained upon examination by taxing authorities. Tax positions that meet the more likely than not threshold are measured using a probability-weighted approach as the largest amount of tax benefit that is greater than 50% likely of being realized upon settlement. Income taxes are accounted for using an asset and liability approach that requires the recognition of deferred tax assets and liabilities for the expected future tax consequences of events that have been recognized in our consolidated financial statements or tax returns. A valuation allowance is established to reduce deferred tax assets if all, or some portion, of such assets will more than likely not be realized. Should they occur, our policy is to classify interest and penalties related to tax positions as income tax expense. Since our inception, no such interest or penalties have been incurred, however.

Other Comprehensive Loss. Components of comprehensive loss include unrealized gains and losses on short-term investments and are included in the consolidated statements of comprehensive loss.

Segments. We have determined that we operate in one segment for financial reporting purposes.

Net Loss Per Share. Basic and diluted net loss per share has been computed by dividing the net loss by the weighted average number of common shares issued and outstanding during the periods presented. Options and warrants to purchase CombiMatrix stock as well as preferred stock convertible into shares of common stock are anti-dilutive and therefore are not included in the determination of the diluted net loss per share. The following table reflects the excluded dilutive securities:

	For the Years Ended	
	December 31,	
	2016	2015
Common stock options	64,633	69,995
Restricted stock units	116,301	38,795
Common stock warrants	2,701,754	643,317
Series E preferred stock convertible into common stock	—	83,871
Series F preferred stock convertible into common stock	250,236	—
Excluded potentially dilutive securities	<u>3,132,924</u>	<u>835,978</u>

Recent Accounting Pronouncements. In November 2016, the Financial Accounting Standards Board (“FASB”) issued new accounting guidance governing restricted cash, which requires entities to show the changes

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in the total of cash, cash equivalents, restricted cash and restricted cash equivalents in the statement of cash flows. As a result, entities will no longer present transfers between cash and cash equivalents and restricted cash and restricted cash equivalents in the statement of cash flows. The amendments in this guidance should be applied using a retrospective transition method to each period presented. This guidance is effective for annual periods beginning after December 15, 2017, and interim periods within those fiscal years with early adoption permitted, including adoption in an interim period. We do not expect the adoption of this guidance to have a material impact on our consolidated statements of cash flows.

In August 2016, the Financial Accounting Standards Board (“FASB”) issued new accounting guidance aimed at reducing the existing diversity in GAAP regarding how certain cash receipts and cash payments are classified in the statement of cash flows. The new guidance is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years. Early adoption is also permitted. We do not expect the adoption of this guidance to have a material impact on our consolidated statements of cash flows.

In March 2016, the FASB issued guidance regarding employee share-based payment accounting. The guidance is intended to simplify several areas of accounting for share-based compensation arrangements, including the income tax impact, classification on the statement of cash flows and provides the choice for companies to estimate forfeitures during the vesting period of an award (which is required under current GAAP) or recognize forfeitures at the time an award is canceled and forfeited. The standard is effective for us on January 1, 2017. We have elected to change our policy regarding forfeitures to recognize if and when an award is canceled and forfeited rather than estimating forfeitures up front. We have implemented this policy change using the modified retrospective approach, on January 1, 2017. The impact from implementing this policy change was to reduce retained earnings and increase additional paid-in capital by \$57,000.

In February 2016, the FASB issued guidance regarding leases, which requires lessees to recognize on the balance sheet a right-of-use asset, representing their right to use the underlying asset for the lease term, and a lease liability for all leases with terms greater than 12 months. The guidance also requires qualitative and quantitative disclosures designed to assess the amount, timing and uncertainty of cash flows arising from leases. The guidance requires the use of a modified retrospective transition approach, which includes a number of optional practical expedients that entities may elect to apply. The guidance is effective for us beginning January 1, 2019, and we are currently evaluating the impact that this guidance will have on our consolidated financial statements.

In January 2016, the FASB issued accounting guidance regarding recognition and measurement of financial assets and financial liabilities. This guidance enhances the reporting model for financial instruments, which includes amendments to address aspects of recognition, measurement, presentation and disclosure. The guidance is effective for annual reporting periods beginning after December 15, 2017, and interim periods within those annual periods. We do not expect the adoption of this guidance to have a significant impact on our consolidated financial statements.

In July 2015, the FASB issued accounting guidance regarding simplifying the measurement of inventory. The new guidance applies only to inventory for which cost is determined by methods other than last-in, first-out and the retail inventory method, which includes inventory that is measured using first-in, first-out or average cost. Inventory within the scope of this standard is required to be measured at the lower of cost and net realizable value. Net realizable value is the estimated selling price in the ordinary course of business, less reasonably predictable costs of completion, disposal, and transportation. The new standard will be effective for us on January 1, 2017. We do not expect the adoption of this guidance to have a material impact on our consolidated financial statements.

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In May 2014, the FASB issued new accounting guidance regarding revenue recognition from contracts with customers, which when effective will supersede existing revenue recognition requirements and will eliminate most industry-specific guidance from GAAP. The core principle of the new guidance is to require an entity to recognize as revenue the amount that reflects the consideration to which it expects to be entitled in exchange for goods or services as it transfers control to its customers. The new guidance requires additional qualitative and quantitative disclosures about the nature, amount, timing and uncertainty of revenue and cash flows arising from contracts with customers. An entity can apply the new guidance retrospectively to each prior reporting period presented (i.e., the full retrospective method) or retrospectively with the cumulative effect of initially applying the standard recognized at the date of initial application in retained earnings. As originally issued, the new revenue recognition standard would be effective for us beginning January 1, 2017. However, in 2015, the FASB voted to defer the effective date of the new guidance for one year. We have begun a detailed assessment of the impact that this guidance will have on our consolidated financial statements, and our analysis is currently ongoing. We will adopt the new guidance beginning January 2018.

Reclassifications . Certain comparative figures in 2015 have been reclassified to conform to the current year's presentation. These reclassifications were immaterial, both individually and in the aggregate.

3. CASH AND SHORT-TERM INVESTMENTS

As of December 31, 2016 and 2015, we held \$2.7 million and \$653,000 in cash and cash equivalents and \$1.0 million and \$3.2 million of short-term investments, respectively, which are reported at fair value. Cash, cash equivalents and short-term investments consisted of the following as of December 31, 2016 and 2015 (in thousands):

	December 31, 2016			December 31, 2015			Fair Value
	Cost	Unrealized		Cost	Unrealized		
		Gain	Loss		Gain	Loss	
Cash and money market securities	\$ 2,727	\$ —	\$ —	\$ 2,727	\$ 653	\$ —	\$ 653
Commercial paper	500	—	—	500	—	—	—
Certificates of deposit	500	—	—	500	3,250	(2)	3,248
	<u>\$ 3,727</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 3,727</u>	<u>\$ 3,903</u>	<u>\$ (2)</u>	<u>\$ 3,901</u>

There were no realized gains or losses for the years ended December 31, 2016 and 2015.

4. FAIR VALUE MEASUREMENTS

The following table summarizes, for each major category of financial assets or liabilities measured on a recurring basis, the respective fair value at December 31, 2016 and 2015, and the classification by level of input within the fair value hierarchy defined above (in thousands):

December 31, 2016	Total	Fair Value Measurements		
		Level 1	Level 2	Level 3
Cash equivalents	\$1,735	\$1,735	\$ —	\$ —
Short-term investments	1,000	—	1,000	—
Total	<u>\$2,735</u>	<u>\$1,735</u>	<u>\$1,000</u>	<u>\$ —</u>

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<u>December 31, 2015</u>	<u>Total</u>	<u>Fair Value Measurements</u>		
		<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>
Cash equivalents	\$ 99	\$ 99	\$ —	\$ —
Short-term investments	3,248	—	3,248	—
Total	<u>\$3,347</u>	<u>\$ 99</u>	<u>\$3,248</u>	<u>\$ —</u>

5. PROPERTY AND EQUIPMENT

Property and equipment consists of the following (in thousands):

	<u>December 31,</u>	
	<u>2016</u>	<u>2015</u>
Laboratory equipment	\$ 1,677	\$ 1,547
Computer hardware and software	265	261
Furniture and fixtures	47	45
Leasehold improvements	396	396
	<u>2,385</u>	<u>2,249</u>
Less - accumulated depreciation and amortization	(1,788)	(1,558)
	<u>\$ 597</u>	<u>\$ 691</u>

Depreciation and amortization expense was \$290,000 and \$276,000 for the years ended December 31, 2016 and 2015, respectively. The net book value of assets under capital lease obligations was \$129,000 and \$156,000 as of December 31, 2016 and 2015, respectively.

6. BALANCE SHEET COMPONENTS

Accounts payable, accrued expenses and other accrued expenses consist of the following (in thousands):

	<u>December 31,</u>	
	<u>2016</u>	<u>2015</u>
Accounts payable	\$ 542	\$ 713
Payroll and other employee benefits	540	324
Accrued paid time off	272	237
Royalties	322	285
Other accrued expenses	13	32
	<u>\$ 1,689</u>	<u>\$ 1,591</u>

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7. INCOME TAXES

The tax effects of temporary differences and carryforwards that give rise to significant portions of deferred assets and liabilities consist of the following (in thousands):

	December 31,	
	2016	2015
Deferred tax assets:		
Deferred settlement costs	\$ 180	\$ 492
Stock-based compensation	674	543
Accrued liabilities and other	509	516
Net operating loss carryforwards and credits	68,186	67,350
Total deferred tax assets	69,549	68,901
Less: valuation allowance	(69,528)	(68,891)
Deferred tax assets, net of valuation allowance	21	10
Deferred tax liabilities:		
Depreciation and amortization	(21)	(10)
Net deferred tax liability	\$ —	\$ —

A reconciliation of the federal statutory income tax rate and the effective income tax rate is as follows:

	December 31,	
	2016	2015
Statutory federal tax rate	(34%)	(34%)
Impact on state tax rates	(2%)	(2%)
Stock compensation	3%	0%
Valuation allowance	32%	34%
Other non deductible permanent items	1%	2%
	<u>0%</u>	<u>0%</u>

At December 31, 2016 and 2015, we had net deferred tax assets totaling approximately \$69.5 million and \$68.9 million, respectively. These assets are offset by valuation allowances due to our determination that the criteria for asset recognition have not been met, as well as by deferred tax liabilities. At December 31, 2016, we had federal net operating loss carryforwards of approximately \$180 million, which begin to expire in 2017 through 2035. In addition, we have tax credit carryforwards of approximately \$5.2 million. Utilization of net operating loss carryforwards and tax credit carryforwards are subject to the “change of ownership” provisions under Section 382 of the Internal Revenue Code. The amount of such limitations has not been determined. Also, given that our net operating losses have yet to be utilized, all previous tax years remain open to examination by Federal authorities and other jurisdictions in which we operate. We have no unrecognized tax benefits as of December 31, 2016 and 2015.

8. SECURED PROMISSORY NOTE

On May 20, 2014 (“Execution Date”), we executed a secured promissory note (the “Note”) with ACC Investment Ltd. in the amount of \$350,000, payable in equal amortized payments over a thirty-six month period (the “Term”) from the Execution Date. The Note bears an annual interest rate of 10% and is secured by certain laboratory equipment used in our microarray services business. Legal and other closing costs totaling \$22,000

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were capitalized with the Note and are being amortized over the Term as interest expense. As of December 31, 2016 and 2015, the fair value of the Note approximated its carrying value. As of December 31, 2016 and 2015, components of the Note were as follows (in thousands):

	<u>December 31,</u>	
	<u>2016</u>	<u>2015</u>
Carrying value	\$ 44	\$ 168
Unamortized legal and closing costs	(2)	(10)
	42	158
Less- current portion	(42)	(124)
Long-term portion	<u>\$—</u>	<u>\$ 34</u>

9. COMMITMENTS AND CONTINGENCIES

Leases

On October 24, 2014, we entered into an Amendment No. 6 to the Lease (the “Amendment”) with PPC Goddard Investment, LLC (the “Landlord”), concerning our existing building lease for laboratory space and corporate offices in Irvine, California. The Amendment, in part (i) extends the term of the Lease by five years until January 31, 2020; (ii) provides for monthly base rent (excluding allocated common area expenses) of \$1.00 per square foot per month for the first year, increasing by \$0.05 per year thereafter throughout the term of the lease to a maximum of \$1.20 per square foot per month in the fifth year of the lease; (iii) provides for certain tenant improvements to be provided by the Landlord at no cost to us; (iv) at our choosing, provides for an early termination after thirty-six months upon payment by us of the Landlord’s unamortized tenant improvement cost and unamortized brokerage commissions payable in connection with the Amendment at an interest rate of eight percent; and (v) provides for a period of abated rent for the first three months of the renewal period (or February 1, 2015 through April 30, 2015). Pursuant to the Amendment, the monthly base rent together with the current estimated monthly common area expense of \$0.85 per square foot will result in an aggregate monthly expense of approximately \$22,500 for the first year, assuming no increase in the monthly common area expense, and increasing to approximately \$25,000 per month for the fifth year, assuming we do not exercise our option to terminate the lease after thirty-six months, and assuming no increase in the monthly common area expense.

At December 31, 2016, we had nine capital leases for laboratory equipment with original purchase amounts totaling \$219,000 and with useful lives of five years. As of December 31, 2016, the remaining lease obligations (including interest charges) were \$118,000 with minimum future lease payments shown below. The weighted average interest rate on the capital lease obligations was 7.8%, based on remaining lease obligations as of December 31, 2016. The fair value of the capital lease obligations was not significantly different from their carrying amounts for all periods presented.

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Future minimum lease payments for all of our facilities and leased equipment are as follows (in thousands):

Years ending December 31:

	Operating Leases	Capital Leases	Total
2017	\$ 160	\$ 65	\$225
2018	167	37	204
2019	175	16	191
2020	15	—	15
Total minimum lease payments	<u>\$ 517</u>	118	<u>\$635</u>
Less- imputed interest		(10)	
Present value of capital lease obligations		108	
Less- current portion		(58)	
Capital lease obligations, net of current portion		<u>\$ 50</u>	

Rent expense for the years ended December 31, 2016 and 2015 was \$256,000 and \$258,000, respectively.

Executive Severance

We provide certain severance benefits such that if an executive officer of CombiMatrix Corporation is terminated for other than cause, death or disability, the executive will receive payments equal to three months' base salary plus medical and dental benefits. In addition, we have implemented a Restated Executive Change of Control Severance Plan (as amended, the "Severance Plan") that affects certain of our senior management-level employees who are classified as "Section 16 Officers" of the Company. Pursuant to the Severance Plan, if a participating employee is involuntarily terminated (other than for death, disability or for cause) or resigns for "good reason" (as defined in the Severance Plan) during the two-year period following a "change of control" (as defined in the Severance Plan) of the Company, then, subject to execution of a release of claims against the Company, the employee will be entitled to receive: (i) one-half times annual base salary (one times annual base salary for the CEO); (ii) immediate vesting of outstanding compensatory equity awards; and (iii) payment of COBRA premiums for the participating employee and eligible dependents for a pre-determined period of time. Payment of benefits under the Severance Plan will be limited by provisions contained in Section 409A of the U.S. Internal Revenue Code. The Severance Plan is administered by a plan administrator, which initially is the Compensation Committee of the Board of Directors. In order to participate in the Severance Plan, an eligible employee must waive any prior retention or severance agreements. The Severance Plan automatically renews annually unless terminated upon 12 months prior written notice.

On December 2, 2015, our Board of Directors adopted a Transaction Bonus Plan (the "Transaction Bonus Plan"). The Transaction Bonus Plan provides for certain bonus payments to be made, upon the consummation of a qualifying change of control transaction, to certain employees of the Company as shall be determined from time to time by the Compensation Committee of our Board of Directors. The aggregate value of the bonuses payable under the Transaction Bonus Plan shall be the greater of (i) \$1,000,000 or (ii) ten percent of the net proceeds received in connection with a qualifying change of control transaction, and the percentage of such bonus pool awarded to each eligible participant shall be determined from time to time by our Compensation Committee.

Litigation

In 2002, we entered into a settlement agreement with Nanogen, Inc. ("Nanogen") to settle all pending litigation between the parties. Pursuant to the terms of the settlement agreement, we agreed to make quarterly

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payments to Nanogen equal to 12.5% of total sales of products developed by us and our affiliates based on the patents that had been in dispute in the litigation, up to an annual maximum amount of \$1.5 million. The minimum quarterly payments under the settlement agreement are \$25,000 per quarter until the patents expire in 2018. Royalty expenses recognized under the agreement were \$100,000 in each of the years ended December 31, 2016 and 2015, and are included in patent amortization and royalties in the accompanying consolidated statements of operations.

From time to time, we are subject to other claims and legal actions that arise in the ordinary course of business. We believe that the ultimate liability with respect to these claims and legal actions, if any, will not have a material effect on our financial position, results of operations or cash flows. Any legal costs resulting from claims or legal actions are expensed as incurred.

10. RETIREMENT SAVINGS PLAN

We have an employee savings and retirement plan under section 401(k) of the Internal Revenue Code (the "Retirement Plan"). The Retirement Plan is a defined contribution plan in which eligible employees may elect to have a percentage of their compensation contributed to the Retirement Plan, subject to certain guidelines issued by the Internal Revenue Service. We may contribute to the Retirement Plan at the discretion of our board of directors. There were no contributions made by us during any of the years presented.

11. STOCKHOLDERS' EQUITY

On April 28, 2015, our stockholders approved all ballot measures of a special meeting proxy, which included the approval to increase our authorized capital stock from 25 million shares to 50 million shares. Our authorized capital was not affected by the Reverse Stock Split.

On June 17, 2015, our stockholders approved all ballot measures of our annual meeting proxy, which included an increase to the common stock share reserves under our 2006 Stock Incentive plan from 133,333 shares to 200,000 shares.

As previously discussed above, on January 29, 2016, we filed a Certificate of Amendment to our Certificate of Incorporation with the Secretary of State of the State of Delaware to effect the one-for-fifteen Reverse Stock Split. The following discussion regarding shares of common stock and per share amounts are reflective of the Reverse Stock Split.

Series A through E Convertible Preferred Stock and Warrant Financings

Between 2012 and 2015, we executed several financing transactions whereby we issued convertible preferred stock and warrants to purchase common stock to investors. As of December 31, 2016, none of the Series A through E convertible preferred stock remained outstanding. For as long as the Series A warrants remain unexercised through their expiration date, except under certain permitted circumstances, we may not issue, or enter into any agreement to issue, common stock or common stock equivalents at a price per share below the \$73.65 exercise price of the Series A warrants, unless waivers from the Series A investors are obtained. Until the time that less than 7.5% of the Series B, C and E warrants remain unexercised through their expiration date, except under certain permitted circumstances, we may not issue, or enter into any agreement to issue, common stock or common stock equivalents at prices per share below the \$29.55, \$29.55 and \$32.51 exercise prices of the Series B, C and E warrants, respectively, unless waivers from the Series B, C and E investors are obtained. In addition, until there are no longer Series A, C and E warrants outstanding we may not sell any variable rate securities except for certain exempt issuances.

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Series E Convertible Preferred Stock Financing

On February 13, 2015, we and certain accredited institutional pre-existing investors (the “Series E Investors”) entered into a securities purchase agreement (the “Series E Purchase Agreement”), pursuant to which we sold 102,800 shares of common stock at a price of \$26.25 per share, 2,201.493 shares of Series E 6% Convertible Preferred Stock (the “Series E Preferred Stock”) and warrants to purchase 46,676 shares of common stock initially at an exercise price of \$29.55 per share, which was the consolidated closing bid price of our common stock on NASDAQ immediately prior to entering into the Series E Purchase Agreement (the “Series E Warrants”, and the transactions contemplated by the Series E Purchase Agreement, the “Series E Financing”). The Series E Preferred Stock and Series E Warrants were sold in a fixed combination consisting of one share of Series E Preferred Stock and a Series E Warrant to purchase approximately 21.1977 shares of common stock. Each fixed combination of Series E Preferred Stock and Series E Warrants were sold at a price of \$1,000. The Series E Preferred Stock sold was convertible into 83,871 shares of common stock at an initial conversion price of \$26.25 per share. The closing under the Series E Purchase Agreement occurred on February 18, 2015 (the “Series E Closing Date”), where we received gross proceeds of \$4.9 million from the Series E Investors. After closing-related costs and expenses, net proceeds from the Series E Financing were approximately \$4.7 million. Given that the effective conversion price of the Series E Preferred Stock, inclusive of amounts allocated to common stock and Series E Warrants, was below the closing market price of our common stock at the time of the Series E Closing Date, we recognized a beneficial conversion feature in the amount of \$890,000. Since the Series E Preferred Stock was immediately convertible into common stock, the beneficial conversion feature was treated as a deemed dividend charged to retained earnings.

The Series E Warrants issued have a 5 1/2 year term and have a cashless exercise provision in the event there is no effective registration statement covering the common stock issuable upon exercise of the Series E Warrants. The Series E Warrants are not subject to price based anti-dilution protection. See below for modifications made to the Series E Preferred Stock and the Series E Warrants.

Private Placement Warrant Financing

Substantially concurrently with the closing of the Series E Financing, on February 13, 2015, we entered into a separate securities purchase agreement (the “Warrant Purchase Agreement”) with selected accredited institutional pre-existing investors (the “Private Placement Investors”), pursuant to which we agreed to sell to the Private Placement Investors warrants to purchase 102,678 shares of Common Stock (the “Private Placement Warrants”, and the transactions contemplated by the Warrant Purchase Agreement, the “Warrant Financing”). In consideration of an aggregate of \$1,000, we had agreed to sell the Private Placement Warrants, which would not be issued unless and until our stockholders approved amending our Certificate of Incorporation to increase our authorized common stock to permit the issuance of the common stock issuable upon exercise of the Private Placement Warrants (the “Charter Amendment”). We estimated the fair value of the Private Placement Warrants using the Black-Scholes valuation model to be \$1.82 million, which was classified as a warrant subscription payable within additional paid-in capital in our consolidated balance sheet using the following assumptions: (i) closing stock price and Private Placement Warrants contractual exercise price; (ii) 5.5 year term; (iii) historical volatilities commensurate with the term of the Private Placement Warrants of 113.2%; and (iv) risk-free interest rates commensurate with the term of the Private Placement Warrants of 1.5%. We allocated the proceeds received from the Series E Financing to the Private Placement Warrants based on the relative fair value of the instruments issued to the Series E Investors. As a result of the special stockholders meeting held on April 28 2015, we issued the Private Placement Warrants to the Private Placement Investors and the warrant subscription payable was reclassified to additional paid-in capital.

Each Private Placement Warrant initially had an exercise price of \$32.505 per share of common stock (subject to adjustment for stock splits and the like), which was 110% of the consolidated closing bid price of our

COMBIMATRIX CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

common stock on NASDAQ immediately prior to entering into the Warrant Purchase Agreement, and is exercisable at any time after the six month anniversary of entering into the Warrant Purchase Agreement and on or prior to the close of business on the five year anniversary of the initial exercise date, subject to a beneficial ownership limitation. The Private Placement Warrants are not subject to price based anti-dilution protection. If, at the time of exercise of a Private Placement Warrant, there is no effective registration statement registering for resale the shares of common stock issuable upon exercise of the Private Placement Warrant, the holder may exercise the Private Placement Warrant on a cashless basis. When exercised on a cashless basis, a portion of the Private Placement Warrant is canceled in payment of the purchase price payable in respect of the number of shares of common stock purchasable upon such exercise.

Modification of Certain Other Outstanding Warrants

In connection with the purchase of the Private Placement Warrants, we modified previously issued and outstanding warrants held by the Private Placement Investors that were issued in connection with the Series A, B and C financings described above, to (i) reduce the exercise prices thereunder to \$29.55, which represents the consolidated closing bid price of our common stock on NASDAQ immediately prior to the date we entered into the Warrant Purchase Agreement; (ii) prohibit the exercise of such modified warrants for a period of six months after the date of the modification; and (iii) extend the exercise period of such modified warrants for an additional six months (such modifications, collectively, the “Warrant Price Modifications”). Separately, we also agreed to a Warrant Price Modification with a holder of Series C Warrants solely in consideration for such holder’s waiver of certain preemptive rights. We estimated the change in fair value of these warrants immediately prior to and immediately subsequent to the Warrant Price Modification to be \$336,000, and such amount was recorded as a non-cash equity offering cost.

Series E Modifications

On October 12, 2015, we entered into an Amendment No. 1 to Common Stock Purchase Warrants (the “Warrants Amendment”) with each of the holders of the Series E Warrants and each of the holders of the Private Placement Warrants. Under the terms of the Warrants Amendment, all of the Series E Warrants and 100,847 of the Private Placement Warrants had their exercise prices reduced to \$16.50 per share. Accordingly, with respect to the Private Placement Warrants, 100,847 of the Private Placement Warrants have an exercise price of \$16.50 per share and 1,831 of the Private Placement Warrants retain their original exercise price of \$32.505 per share. In consideration for entering into the Warrants Amendment, each Series E Investor agreed to irrevocably waive *ab initio* and for all time its right to receive cash dividends on its shares of our Series E Preferred Stock. We estimated the change in fair value of the Series E Warrants and the affected Private Placement Warrants prior to and immediately subsequent to the Warrants Amendment to be \$168,000, which was recognized as a deemed dividend and as an increase to additional paid-in capital during the fourth quarter of 2015.

On February 4, 2016, we entered into a Series E 6% Convertible Preferred Stock Repurchase Agreement (the “Repurchase Agreement”) with the Series E Investors. Pursuant to the terms of the Repurchase Agreement, we agreed to pay each Series E Investor \$300 per share of Series E Preferred Stock, or approximately \$656,000, in consideration for the right to repurchase the Series E Investor’s Series E Preferred Stock at a price per share of \$1,000 (the “Repurchase Price”), which was the original price per share paid by the Series E Investors for their Series E Preferred Stock in February 2015. We recognized the \$656,000 payment as a deemed dividend paid to the Series E investors.

Immediately following the closing of our Series F public offering discussed below, we paid \$2.2 million to the Series E Investors to repurchase all of the outstanding Series E Preferred Stock, in accordance with the terms of the Repurchase Agreement. Since almost none of the Series E Preferred Stock had converted by the time we

COMBIMATRIX CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

repurchased the Series E Preferred Stock, the original \$890,000 beneficial conversion feature that we recognized as a deemed dividend in 2015 was reversed as a return of capital from the Series E Preferred stockholders to the common stockholders.

Series F Convertible Preferred Stock and Warrants Financing

On March 24, 2016 (the “Series F Closing”), we closed an underwritten public offering (the “Series F Offering”) and issued 8,000 immediately separable units of securities to investors, with each unit consisting of: (i) one share of Series F convertible preferred stock (“Series F Preferred Stock”) convertible into shares of our common stock equal to 1,000 divided by the conversion price of \$3.87, which was 75% of the consolidated closing bid price of our common stock on the NASDAQ Capital Market on March 18, 2016, the date we executed the underwriting agreement (“UA date”); and (ii) 258.397875 warrants, each to purchase one share of our common stock at an exercise price per share equal to \$5.17 (“Series F Warrants”), which was 100% of the consolidated closing bid price of our common stock on the NASDAQ Capital Market on the UA date. The Series F Preferred Stock, the Series F Warrants, and the shares of common stock underlying the Series F Preferred Stock and Series F Warrants were registered on Form S-1, which was declared effective by the SEC on March 18, 2016. The Series F Preferred Stock was immediately convertible and the Series F Warrants were immediately exercisable for shares of common stock and have a term of five years. The Series F Warrants are exercisable for cash or, solely in the absence of an effective registration statement or prospectus, by cashless exercise. In total, there were 2,067,183 shares of common stock issuable upon conversion of the Series F Preferred Stock and up to 2,067,183 shares of common stock issuable upon exercise of the Series F Warrants. The units were sold for a purchase price equal to \$1,000 per unit, resulting in gross proceeds received by us of \$8.0 million. Total offering-related costs paid through December 31, 2016 were \$1.1 million, resulting in net proceeds recognized of \$6.9 million. Given that the effective conversion price of the Series F Preferred Stock was below the closing market price of our common stock at the time of the Series F Closing, we recognized a beneficial conversion feature in the amount of \$1.9 million. Since the Series F Preferred Stock was immediately convertible into common stock, the beneficial conversion feature was treated as a deemed dividend charged to retained earnings at closing. Also, from the time of the Series F Closing through December 31, 2016, 7,031 shares of the Series F Preferred Stock have converted into 1,816,827 shares of common stock. Subsequent to December 31, 2016 through February 28, 2017, an additional 699 shares of Series F Preferred Stock converted into 180,622 shares of common stock, leaving 270 shares of Series F Preferred Stock (representing 69,734 shares of common stock) unconverted.

The Series F Preferred Stock is non-voting (except to the extent required by law and except for certain consent rights relating to amending the certificate of incorporation or bylaws, and the like), but ranks senior to our common stock with respect to distributions upon our dissolution, liquidation or winding-up. Until the volume weighted average price of our common stock on NASDAQ exceeds 200% of the conversion price of the Series F Preferred Stock for any 20 of 30 consecutive trading days, and the daily dollar trading volume during such period exceeds \$200,000 per trading day, the Series F Preferred Stock is subject to full ratchet price based anti-dilution protection, subject to certain limitations. Also, the Company can force holders of Series F Preferred Stock to convert into our common stock if the volume-weighted average price of our common stock exceeds 200% of the Series F Preferred Stock conversion price for any 20 of 30 consecutive trading days, and the daily dollar trading volume during such period exceeds \$200,000 per trading day, subject to certain other conditions. The Series F investors have agreed to be subject to a blocker that would prevent each of their respective common stock ownership at any given time from exceeding 4.99% of our outstanding common stock (which may be increased on 61 days’ notice, but not above 9.99%).

The Series F Warrants have a 5-year term and have a cashless exercise provision in the event there is no effective registration statement covering the common stock issuable upon exercise of the Series F Warrants. The

COMBIMATRIX CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Series F Warrants are not subject to price based anti-dilution protection. The Series F Warrants are listed on the NASDAQ Capital Market under the trading symbol “CBMXW.”

Depending on the circumstances, upon a change in control constituting a “Fundamental Transaction” (as defined in the Series F Warrants), the holders of Series F Preferred Stock may be entitled to a 30% premium and the holders of Series F Warrants may have the right to require the Company to purchase the Series F Warrants for an amount in cash that is determined in accordance with a formula set forth in the Series F Warrants.

Common Stock Purchase Warrants Repurchase Agreement

On July 11, 2016, we entered into a Common Stock Purchase Warrants Repurchase Agreement (the “Warrants Repurchase Agreement”) with the holders (the “Holders”) of our outstanding common stock purchase warrants issued in October 2012, March 2013, May 2013, June 2013, June 2014, February 2015 and April 2015 (collectively, the “Warrants”) in connection with our Series A, Series B, Series C and Series E financings. Pursuant to the terms of the Warrants Repurchase Agreement, we have agreed to repurchase the Warrants from each Holder upon execution of a “Fundamental Transaction” (as defined in such Warrants) at various negotiated prices per Warrant share as set forth in the Warrants Repurchase Agreement. Under the terms of the Warrants Repurchase Agreement, we will repurchase half of such Warrants upon the announcement of a Fundamental Transaction and the remaining half of such Warrants upon the closing of a Fundamental Transaction. In addition, upon the closing of a Fundamental Transaction, all Securities Purchase Agreements and Registration Rights Agreements associated with the original issuances of such Warrants will be terminated and the various restrictions set forth therein will no longer be of any force or effect. In connection with entering into the Warrants Repurchase Agreement, we were granted certain consents and waivers relating to a Fundamental Transaction. In the event that a Fundamental Transaction is announced and consummated, we will be obligated to repurchase such Warrants for approximately \$459,000 of cash consideration paid to the Holders. One half of this amount will be due within three business days of announcing the Fundamental Transaction, and the remaining half will be due within three business days of closing the Fundamental Transaction. In the event that we announce a Fundamental Transaction but never close, for whatever reason, then one-half of such Warrants will be repurchased and canceled and one-half will remain issued and outstanding. In the event that a Fundamental Transaction is never announced nor consummated, we will not be obligated to repurchase such Warrants, and the underlying terms and conditions of such Warrants will remain in effect.

COMBIMATRIX CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Warrants

Outstanding warrants to purchase our common stock are as follows:

	Shares of Common Stock Issuable from Warrants Outstanding as of December 31,		Exercise Price	Expiration
	2016	2015		
Equity-classified warrants:				
March 2016	2,067,183	—	\$ 5.17	March 2021
April 2015	100,847	100,847	\$ 16.50	August 2020
April 2015	1,831	1,831	\$ 32.51	August 2020
February 2015	46,676	46,676	\$ 16.50	August 2020
June 2014	1,690	1,690	\$ 30.90	April 2018
December 2013	388,365	388,365	\$ 46.80	December 2018
June 2013	32,788	32,788	\$ 29.55	June 2019
May 2013	32,788	32,788	\$ 29.55	May 2019
March 2013	18,334	18,334	\$ 29.55	March 2019
October 2012	11,252	11,252	\$ 29.55	September 2018
April 2011	—	8,746	\$ 321.00	April 2016
Total	<u>2,701,754</u>	<u>643,317</u>		

12. EQUITY-BASED COMPENSATION

Our employees participate in the CombiMatrix Corporation 2006 Stock Incentive Plan (the “CombiMatrix Plan”), which was approved by our board of directors in 2006. In addition, during 2005, the board of directors of our wholly owned subsidiary, CombiMatrix Molecular Diagnostics, Inc. (“CMDX”), approved the CombiMatrix Molecular Diagnostics 2005 Stock Award Plan (the “CMDX Plan”). Our board of directors believes that granting employees stock-based awards from the CombiMatrix Plan is in the best interest of our Company and our stockholders. No awards have been granted to the CMDX Plan since 2010, and it is no longer being utilized.

CombiMatrix Corporation 2006 Stock Incentive Plan

The CombiMatrix Plan is administered by the Compensation Committee (the “Committee”) of our Board of Directors. The Committee determines which eligible individuals are to receive option grants or stock issuances under the CombiMatrix Plan, the time or times when the grants or issuances are to be made, the number of shares subject to each grant or issuance, the status of any granted option as either an incentive stock option or a non-statutory stock option under the federal tax laws, the vesting schedule to be in effect for the option grant or stock issuance and the maximum term for which any granted option is to remain outstanding.

The CombiMatrix Plan is divided into two separate equity incentive programs: a discretionary option grant / stock appreciation right program and a stock issuance program. To date, the discretionary option grant program has been the primary program used in awarding stock-based compensation. Under the discretionary option grant program, the Committee may grant non-statutory options to purchase shares of CombiMatrix stock to eligible individuals in our employ (including employees, non-employee board members and consultants) at an exercise price not less than 100% of the fair market value of those shares on the grant date, and incentive stock options to purchase shares of CombiMatrix stock to eligible employees at an exercise price not less than 100% of the fair market value of those shares on the grant date. Options are generally exercisable over a three- or four-year

COMBIMATRIX CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

vesting term following the date of grant and expire ten years after the grant date. The Committee may grant other forms of equity based compensation, such as restricted stock units (“RSU’s”), which the Committee awarded to certain executives and directors of the Company for the first time during 2014. RSUs vest in equal annual installments over a four-year period following the date of grant. At December 31, 2016, there were 183,086 authorized shares under the CombiMatrix Plan, with 2,152 shares available for grant.

The following is a summary of the stock option activities under the CombiMatrix Plan for 2016 and 2015:

	<u>Shares</u>	<u>Weighted Average Exercise Price</u>	<u>Weighted Average Contractual Term</u>	<u>Aggregate Intrinsic Value ('000s)</u>
Balance at December 31, 2014	45,790	\$ 147.30	8.0 years	\$ —
Granted	42,149	\$ 24.00		
Exercised	—	\$ —		
Forfeited	(16,811)	\$ 44.40		
Canceled	(1,133)	\$ 45.30		
Balance at December 31, 2015	69,995	\$ 99.19	8.2 years	\$ —
Granted (non employees only)	6,832	\$ 3.88		
Exercised	—	\$ —		
Forfeited	(9,312)	\$ 24.70		
Canceled	(2,882)	\$ 255.66		
Balance at December 31, 2016	<u>64,633</u>	\$ 92.87	7.3 years	\$ —
Exercisable at December 31, 2015	<u>17,372</u>	\$ 309.00	6.0 years	\$ —
Exercisable at December 31, 2016	<u>29,358</u>	\$ 175.30	6.2 years	\$ —

Information related to options granted under the CombiMatrix Plan for 2016 and 2015 is as follows:

	<u>December 31,</u>	
	<u>2016</u>	<u>2015</u>
Weighted average fair values of options granted	\$ —	\$ 18.47
Options granted with exercise prices:		
Greater than market price on the grant date	—	—
Equal to market price on the grant date	6,832	42,149
Less than market price on the grant date	—	—

The aggregate fair value of options vested during the years ended December 31, 2016 and 2015 was \$424,000 and \$321,000, respectively. As of December 31, 2016, the total unrecognized compensation expense related to non-vested stock option awards was \$500,000, which is expected to be recognized over a weighted average term of approximately 1.9 years.

COMBIMATRIX CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

The following is a summary of the RSU activities under the CombiMatrix Plan for 2016 and 2015:

	Restricted Stock Units	Weighted Average Grant Date Fair Value
Nonvested RSU's at December 31, 2014	20,179	\$ 42.45
Granted	26,447	\$ 23.85
Vested	(5,041)	\$ 42.45
Canceled	(2,784)	\$ 19.67
Nonvested RSU's at December 31, 2015	38,801	\$ 31.20
Granted	89,664	\$ 2.88
Vested	(10,953)	\$ 32.45
Canceled	(1,211)	\$ 32.74
Nonvested RSU's at December 31, 2016	<u>116,301</u>	\$ 9.21

As of December 31, 2016, the total unrecognized compensation expense related to RSUs was \$751,000, which is expected to be recognized over a weighted-average period of approximately 2.3 years.

CombiMatrix Molecular Diagnostics 2005 Stock Award Plan

Our wholly owned subsidiary, CMDX, executed the CMDX Plan, with plan provisions and terms similar to that of the CombiMatrix Plan as described above. At December 31, 2016, there were 4.0 million authorized shares available under the CMDX Plan, with 4.0 million shares available for grant. However, our Board of Directors has no intention of utilizing this plan in the future.

The following is a summary of stock option activities for the CMDX Plan for 2016 and 2015:

	Shares	Weighted Average Exercise Price	Weighted Average Contractual Term	Aggregate Intrinsic Value ('000s)
Balance at December 31, 2014	291,000	\$ 0.34	2.1 years	\$ 51
Granted	—	\$ —		
Exercised	—	\$ —		
Canceled	(140,000)	\$ 0.16		
Balance at December 31, 2015	151,000	\$ 0.50	0.4 years	\$ 36
Granted	—	\$ —		
Exercised	—	\$ —		
Canceled	(151,000)	\$ 0.50		
Balance at December 31, 2016	<u>—</u>	\$ —	—	\$ —
Exercisable at December 31, 2015	<u>101,000</u>	\$ 0.50	0.4 years	\$ 24
Exercisable at December 31, 2016	<u>—</u>	\$ —	—	\$ —

There were no option grants during 2016 or 2015 under the CMDX Plan. The fair value of options vested during the years ended December 31, 2016 and 2015 was not significant.

COMBIMATRIX CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

Stock Option Awards Granted to Non-Employees

Stock option expense reflected in the consolidated statements of operations related to stock options issued to our non-employee scientific advisory board members and consultants are recognized at fair value using the Black-Scholes option-pricing model with weighted average assumptions as disclosed in Note 2 under "Stock-Based Compensation." For the years ended December 31, 2016 and 2015, non-cash charges recognized from stock option awards granted to non-employees was not significant.

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549**

FORM 10-Q

QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For The Quarterly Period Ended June 30, 2017

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

FOR THE TRANSITION PERIOD FROM _____ TO _____.

Commission File Number 001-33523

COMBIMATRIX CORPORATION

(Exact Name of Registrant as Specified in Its Charter)

Delaware
(State or Other Jurisdiction of
Incorporation or Organization)

310 Goddard, Suite 150,
Irvine, CA
(Address of Principal Executive Offices)

47-0899439
(I.R.S. Employer
Identification No.)

92618

(Zip Code)

Registrant's telephone number, including area code: **(949) 753-0624**

N/A

(Former name, former address and former fiscal year, if changed since last report.)

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Website, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input type="checkbox"/> (Do not check if a smaller reporting company)	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input type="checkbox"/>

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes No

As of August 7, 2017, 2,918,726 shares of CombiMatrix Corporation common stock, \$0.001 par value were issued and outstanding.

COMBIMATRIX CORPORATION
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Part I. Financial Information

Item 1. Financial Statements (Unaudited)

**COMBIMATRIX CORPORATION
CONSOLIDATED BALANCE SHEETS
(In thousands, except share amounts)**

	<u>June 30, 2017</u> (unaudited)	<u>December 31, 2016</u>
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 3,022	\$ 2,727
Short-term investments	—	1,000
Accounts receivable, net of allowance for doubtful accounts of \$227 and \$232	4,006	3,351
Supplies	368	599
Prepaid expenses and other assets	170	174
Total current assets	7,566	7,851
Property and equipment, net	523	597
Other assets	30	30
Total assets	<u>\$ 8,119</u>	<u>\$ 8,478</u>
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable, accrued expenses and other	\$ 1,920	\$ 1,689
Current portion, long-term debt	49	100
Total current liabilities	1,969	1,789
Capital lease obligations, net of current portion	72	50
Deferred rent	126	145
Total liabilities	<u>2,167</u>	<u>1,984</u>
Commitments and contingencies (Note 6)		
Stockholders' equity:		
Convertible preferred stock; \$0.001 par value; 5,000,000 shares authorized; Series F — 8,000 shares authorized; 92 and 969 issued and outstanding	—	—
Common stock; \$0.001 par value; 50,000,000 shares authorized; 2,918,726 and 2,673,756 shares issued and outstanding	15	15
Additional paid-in capital	109,471	109,068
Accumulated other comprehensive loss	—	—
Accumulated deficit	(103,534)	(102,589)
Total stockholders' equity	5,952	6,494
Total liabilities and stockholders' equity	<u>\$ 8,119</u>	<u>\$ 8,478</u>

The accompanying notes are an integral part of these consolidated financial statements.

COMBIMATRIX CORPORATION
CONSOLIDATED STATEMENTS OF OPERATIONS
(In thousands, except share and per share information)
(Unaudited)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2017	2016	2017	2016
Revenues:				
Diagnostic services	\$ 4,214	\$ 3,049	\$ 7,972	\$ 5,979
Royalties	27	58	56	100
Total revenues	<u>4,241</u>	<u>3,107</u>	<u>8,028</u>	<u>6,079</u>
Operating expenses:				
Cost of services	1,632	1,432	3,140	2,851
Research and development	85	149	170	292
Sales and marketing	1,016	1,141	2,038	2,477
General and administrative	1,855	1,586	3,519	3,112
Patent amortization and royalties	25	25	50	50
Total operating expenses	<u>4,613</u>	<u>4,333</u>	<u>8,917</u>	<u>8,782</u>
Operating loss	<u>(372)</u>	<u>(1,226)</u>	<u>(889)</u>	<u>(2,703)</u>
Other income (expense):				
Interest income	5	8	11	12
Interest expense	(3)	(17)	(10)	(35)
Total other income (expense)	<u>2</u>	<u>(9)</u>	<u>1</u>	<u>(23)</u>
Net loss	<u>\$ (370)</u>	<u>\$ (1,235)</u>	<u>\$ (888)</u>	<u>\$ (2,726)</u>
Deemed dividend from issuing Series F convertible preferred stock and warrants	\$ —	\$ —	\$ —	\$ (1,877)
Deemed dividend paid for right to repurchase Series E convertible preferred stock	—	—	—	(656)
Deemed dividend from issuing and modifying Series E convertible preferred stock and warrants	—	—	—	890
Net loss attributable to common stockholders	<u>\$ (370)</u>	<u>\$ (1,235)</u>	<u>\$ (888)</u>	<u>\$ (4,369)</u>
Basic and diluted net loss per share	\$ (0.13)	\$ (0.89)	\$ (0.31)	\$ (2.43)
Deemed dividend from issuing Series F convertible preferred stock	—	—	—	(1.67)
Deemed dividend paid for right to repurchase Series E convertible preferred stock	—	—	—	(0.58)
Deemed dividend from issuing and modifying Series E convertible preferred stock	—	—	—	0.79
Basic and diluted net loss per share attributable to common stockholders	<u>\$ (0.13)</u>	<u>\$ (0.89)</u>	<u>\$ (0.31)</u>	<u>\$ (3.89)</u>
Basic and diluted weighted average common shares outstanding	<u>2,915,303</u>	<u>1,382,019</u>	<u>2,838,521</u>	<u>1,122,975</u>

The accompanying notes are an integral part of these consolidated financial statements.

COMBIMATRIX CORPORATION
CONSOLIDATED STATEMENTS OF COMPREHENSIVE LOSS
(In thousands, except share and per share information)
(Unaudited)

	Three Months Ended		Six Months Ended	
	June 30,		June 30,	
	<u>2017</u>	<u>2016</u>	<u>2017</u>	<u>2016</u>
Net loss	\$ (370)	\$ (1,235)	\$(888)	\$(2,726)
Unrealized gain on available-for-sale investments	—	—	—	2
Total comprehensive loss	<u>\$ (370)</u>	<u>\$ (1,235)</u>	<u>\$(888)</u>	<u>\$(2,724)</u>

The accompanying notes are an integral part of these consolidated financial statements.

COMBIMATRIX CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)
(Unaudited)

	Six Months Ended	
	June 30,	
	2017	2016
Operating activities:		
Net loss	\$ (888)	\$(2,726)
Adjustments to reconcile net loss to net cash flows from operating activities:		
Depreciation and amortization	122	130
Non-cash stock compensation	346	405
Provision for bad debts	301	205
Changes in assets and liabilities:		
Accounts receivable	(956)	(687)
Supplies, prepaid expenses and other assets	235	(22)
Accounts payable, accrued expenses and other	233	151
Net cash flows from operating activities	<u>(607)</u>	<u>(2,544)</u>
Investing activities:		
Purchases of property and equipment	(23)	(147)
Proceeds from sale of property and equipment	19	—
Purchase of available-for-sale investments	(1,499)	(4,998)
Sale of available-for-sale investments	2,499	7,748
Net cash flows from investing activities	<u>996</u>	<u>2,603</u>
Financing activities:		
Proceeds from issuance of Series F convertible preferred stock and common stock warrants	—	8,000
Costs from issuance of Series F convertible preferred stock and common stock warrants	—	(1,048)
Repurchase of Series E convertible preferred stock and dividends	—	(2,842)
Repayments of long-term debt	(94)	(95)
Net cash flows from financing activities	<u>(94)</u>	<u>4,015</u>
Change in cash and cash equivalents	295	4,074
Cash and cash equivalents, beginning	2,727	653
Cash and cash equivalents, ending	<u>\$ 3,022</u>	<u>\$ 4,727</u>
Non-cash financing activities:		
Property and equipment purchased under capital lease	\$ 63	\$ 6
Adjustments to paid-in capital and retained earnings from change in accounting principle	\$ 57	\$ —
Deemed dividends from issuing Series E convertible preferred stock	\$ —	\$ (890)
Deemed dividends from issuing Series F convertible preferred stock	\$ —	\$ 1,877
Accrued public offering costs	\$ —	\$ 10
Accrued property, plant and equipment	\$ —	\$ 20

The accompanying notes are an integral part of these consolidated financial statements.

COMBIMATRIX CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

1. OVERVIEW AND BACKGROUND

CombiMatrix Corporation (the “Company,” “we,” “us” and “our”) was originally incorporated in October 1995 as a California corporation and later reincorporated as a Delaware corporation in September 2000. In December 2002, we merged with, and became a wholly owned subsidiary of Acacia Research Corporation (“Acacia”). In August 2007, we split-off from Acacia and became publicly traded on The NASDAQ Stock Market. As a result of the split-off, we ceased to be a subsidiary of, or affiliated with, Acacia.

Description of the Company

We are a family health-focused clinical molecular diagnostic laboratory specializing in pre-implantation genetic screening, prenatal diagnosis, miscarriage analysis, and pediatric developmental disorders. We strive to provide best-in-class clinical laboratory support to healthcare professionals, allowing them to maximize the clinical utility of their patients’ test results and to optimize patient care. Our testing focuses on advanced technologies, including single nucleotide polymorphism, or SNP, chromosomal microarray analysis, next generation sequencing, fluorescent in situ hybridization and high resolution karyotyping. Our approach to testing is to offer sophisticated technology along with high-quality clinical support to our ordering physicians and their patients. Our laboratory facilities and corporate headquarters are located in Irvine, California.

We also own a one-third minority interest in Leuchemix, Inc. (“Leuchemix”), a private drug development company focused on developing a series of compounds to address a number of oncology-related diseases.

Basis of Presentation

The accompanying consolidated financial statements have been prepared in accordance with generally accepted accounting principles for interim financial information and with the instructions to Form 10-Q and Rule 8-03 of Regulation S-X. Accordingly, certain information and notes required by generally accepted accounting principles in annual financial statements have been omitted or condensed. These interim consolidated financial statements should be read in conjunction with the consolidated financial statements and notes thereto for the year ended December 31, 2016, as reported by us in our Annual Report on Form 10-K filed with the Securities and Exchange Commission (the “SEC”) on March 3, 2017. The year-end consolidated balance sheet data was derived from audited financial statements but does not include all disclosures required by accounting principles generally accepted in the United States of America. The consolidated financial statements include all adjustments of a normal recurring nature which, in the opinion of management, are necessary for a fair statement of our financial position as of June 30, 2017, and results of operations and cash flows for the interim periods presented. The results of operations for the three and six months ended June 30, 2017 are not necessarily indicative of the results to be expected for the entire year.

Going Concern Analysis

We have a history of incurring net losses and net operating cash flow deficits. We are also deploying new technologies and continue to develop new and improve existing commercial diagnostic testing services and related technologies. As a result, these conditions raise substantial doubt regarding our ability to continue as a going concern beyond twelve months from the date of this filing. However, as of June 30, 2017, we had cash, cash equivalents and short-term investments of \$3.0 million. Also, the combination of continued revenue and cash reimbursement growth we have experienced over the past several quarters, coupled with improved gross margins and cost containment of expenses leads management to believe that it is probable that our cash resources will be sufficient to meet our cash requirements for current operations through and beyond the fourth quarter of

COMBIMATRIX CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)
(Unaudited)

2017, when we anticipate achieving cash flow break-even status. If necessary, management also believes that it is probable that external sources of debt and/or equity financing could be obtained based on management's history of being able to raise capital coupled with current favorable market conditions. As a result of both management's plans and current favorable trends in improving cash flow, we believe the initial conditions which raised substantial doubt regarding our ability to continue as a going concern have been alleviated. Therefore, the accompanying consolidated financial statements have been prepared assuming that we will continue as a going concern. However, there can be no assurance that our operations will become profitable or that external sources of financing, including the issuance of debt and/or equity securities, will be available at times and on terms acceptable to us, or at all.

The consolidated financial statements do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or the amounts and classification of liabilities that may result from the matters discussed herein. While we believe in the viability of our strategy to generate sufficient revenue and cash reimbursement, control costs and our ability to raise additional funds if necessary, there can be no assurances to that effect. Our ability to continue as a going concern is dependent upon our ability to further implement our business plan, generate sufficient revenues and cash reimbursement and to control operating expenses.

Risks

Our business operations are also subject to certain risks and uncertainties, including:

- market acceptance of our services;
- technological advances that may make our services obsolete or less competitive;
- increases in operating costs, including costs for supplies, personnel and equipment;
- variability in third-party reimbursement of our tests;
- the availability and cost of capital; and
- governmental regulation that may restrict our business.

Our services are concentrated in a highly competitive market that is characterized by rapid technological advances, frequent changes in customer requirements and evolving regulatory requirements and industry standards. Failure to anticipate or respond adequately to technological advances, changes in customer requirements, changes in regulatory requirements or industry standards, or any significant delays in the development or introduction of planned services, could have a material adverse effect on our business and operating results.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Use of Estimates. The preparation of financial statements in conformity with generally accepted accounting principles ("GAAP") in the United States of America requires management to make estimates and assumptions that affect the reported amount of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from these estimates.

Principles of Consolidation. The accompanying consolidated financial statements include the accounts of the Company and our wholly owned and majority-owned subsidiaries. Investments for which we possess the

COMBIMATRIX CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)
(Unaudited)

power to direct or cause the direction of the management and policies, either through majority ownership or other means, are accounted for under the consolidation method. Material intercompany transactions and balances have been eliminated in consolidation. Investments in companies in which we maintain an ownership interest of 20% to 50% or exercise significant influence over operating and financial policies are accounted for under the equity method. The cost method is used where we maintain ownership interests of less than 20% and do not exercise significant influence over the investee.

Revenue Recognition . We recognize revenue when (i) persuasive evidence of an arrangement exists, (ii) delivery has occurred or services have been performed, (iii) amounts are fixed or determinable and (iv) collectability of amounts is reasonably assured.

Service revenues from providing diagnostic tests are recognized when the testing process is complete and test results are reported to the ordering physician or clinic. These diagnostic services are billed to various payors, including third-party commercial insurance companies, healthcare institutions, government payors including various state Medicaid programs, and individuals. We report revenues from contracted payors based on a contractual rate, or in the case of state Medicaid contracts, published fee schedules for our tests. We report revenues from non-contracted payors based on the amounts expected to be collected. The differences between the amounts billed and the amounts expected to be collected from non-contracted payors are recorded as contractual allowances to arrive at net recognized revenues. The expected revenues from non-contracted payors are based on the historical collection experience of each payor or payor group, as appropriate, and also take into account recent collection trends. In each reporting period, we review our historical collection experience for non-contracted payors and adjust our expected revenues for current and subsequent periods accordingly. We also recognize additional revenue from actual cash payments that exceed amounts initially recognized, in the period the payments are received. Because a substantial portion of our revenues is from non-contracted third-party payors, it is likely that we will be required to make adjustments to accounting estimates with respect to contractual allowances in the future, which may positively or adversely affect our results of operations. In all cases described above, we report revenues net of any applicable statutory taxes collected from customers, as applicable. No single customer exceeded 10% of revenues for any of the periods presented.

Cash Equivalents and Short-Term Investments. We consider all highly liquid investments purchased with original maturities of three months or less when purchased to be cash equivalents. Short-term investments consist of fixed income investments with maturities between three and 12 months and other highly liquid investments that can be readily purchased or sold using established markets. These investments are classified as available-for-sale and are reported at fair value on the Company's consolidated balance sheet. Unrealized holding gains and losses are reported within comprehensive loss in the consolidated statements of comprehensive loss. Fair value is based on available market information including quoted market prices, broker or dealer quotations or other observable inputs. If a decline in the fair value of a short-term investment below our cost basis is determined to be other than temporary, such investment is written down to its estimated fair value as a new cost basis and the amount of the write-down is included in earnings as an impairment charge. To-date, no permanent impairment charges have been realized or recorded.

Fair Value Measurements. We measure fair value as an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants. As such, fair value is a market-based measurement that is determined based on assumptions that market participants would use in pricing an asset or liability. We utilize a three-tier fair value hierarchy, which prioritizes the inputs used in measuring fair value as follows:

- Level 1: Observable market inputs such as quoted prices in active markets;

COMBIMATRIX CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)
(Unaudited)

- Level 2: Observable market inputs, other than the quoted prices in active markets, that are observable either directly or indirectly; and
- Level 3: Unobservable inputs where there is little or no market data, which require the reporting entity to develop its own assumptions.

We classify our cash equivalents within the fair value hierarchy as Level 1 as these assets are valued using quoted prices in active markets for identical assets at the measurement date. We classify short-term investments within the fair value hierarchy as Level 2, primarily utilizing broker quotes in a non-active market for valuation of these investments. Financial instruments that contain valuation inputs that are not readily determinable from active markets or from similar securities trading in active markets, such as derivative financial instruments, are classified within the fair value hierarchy as Level 3.

Impairment of Long-Lived Assets . Long-lived assets and intangible assets are reviewed for potential impairment when events or changes in circumstances indicate the carrying amount of an asset may not be recoverable. In the event the sum of the expected undiscounted future cash flows resulting from the use of the asset is less than the carrying amount of the asset, an impairment loss equal to the excess of the asset's carrying value over its fair value is recorded. If an asset is determined to be impaired, the loss is measured based on quoted market prices in active markets, if available. If quoted market prices are not available, the estimate of fair value is based on various valuation techniques, including a discounted value of estimated future cash flows.

Derivative Financial Instruments. We evaluate financial instruments for freestanding or embedded derivatives. Derivative instruments that do not qualify for permanent equity classification are recorded as liabilities at fair value, with changes in value recognized as other income (expense) in the consolidated statements of operations in the period of change. Derivative liabilities are categorized as either short-term or long-term based upon management's estimates as to when the derivative instrument may be realized or based upon the holder's ability to realize the instrument.

Concentration of Credit Risks . Cash and cash equivalents are invested in deposits with certain financial institutions and may, at times, exceed federally insured limits. We have not experienced any significant losses on our deposits of cash and cash equivalents. We do not believe that we are exposed to significant credit risk on cash and cash equivalents or on our short-term investments. Accounts receivable from Insurance Carrier A of \$602,000 exceeded 10% of our total accounts receivable balance as of June 30, 2017. Accounts receivable from Insurance Carrier B of \$441,000 exceeded 10% of our total accounts receivable balance as of December 31, 2016.

Substantially all of the components and raw materials used in providing our testing services, including array slides and reagents, are currently provided to us from a limited number of sources or in some cases from a single source. Although we believe that alternative sources for those components and raw materials are available, any supply interruption in a sole-sourced component or raw material might result in up to a several-month production delay and materially harm our ability to provide testing services until a new source of supply, if any, could be located and qualified.

Accounts Receivable and Allowance for Doubtful Accounts. For our contracted third-party payors, governmental payors or direct-bill customers, accounts receivable are stated at principal amounts and are primarily comprised of amounts contractually due from customers for services performed. For our non-contracted customers, accounts receivable are stated at amounts expected to be collected based on historical collection experience with the third-party payor. The payment realization cycle for certain governmental and commercial insurance payors can be lengthy, involving denial, appeal and adjudication processes, and is subject

COMBIMATRIX CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)
(Unaudited)

to periodic adjustments that may be significant. Accounts receivable are periodically written off when identified as uncollectible after appropriate collection efforts have been exhausted. Such write-offs increase the contractual allowances (which reduce revenues) for those accounts in the period of adjustment. Collection of governmental, private health insurer, and client receivables are generally a function of providing complete and correct billing information to the insurers and clients within the filing deadlines required by each payor.

Collection of receivables due from patients and private-pay clients is generally subject to increased credit risk due to credit-worthiness or inability to pay. For these customers, an allowance for doubtful accounts is recorded for estimated uncollectible amounts, and involves significant assumptions and judgments. Specifically, the allowance for doubtful accounts is adjusted periodically and is principally based upon specific identification of past due or disputed accounts. We also review the age of receivables to assess our allowance at each period end. Additions to the allowance for doubtful accounts are charged to bad debt expense as a component of general and administrative expenses in the consolidated statements of operations.

Stock-Based Compensation . The compensation cost for all employee stock-based awards is measured at the grant date, based on the fair value of the award, and is recognized as an expense, on a straight-line basis, over the employee's requisite service period (generally the vesting period of the equity award) which is generally four years. The fair value of each stock option award is estimated on the date of grant using a Black-Scholes option valuation model. The fair value of each restricted stock unit ("RSU") award is based on the number of shares granted and the closing price of our common stock as reported on The NASDAQ Capital Market on the date of grant.

In March 2016, the Financial Accounting Standards Board ("FASB") issued guidance regarding employee share-based payment accounting. The guidance is intended to simplify several areas of accounting for share-based compensation arrangements, including the income tax impact, classification on the statement of cash flows and provides the choice for companies to estimate forfeitures during the vesting period of an award or recognize forfeitures at the time an award is canceled and forfeited. The standard became effective for us on January 1, 2017. We elected to change our policy regarding forfeitures to recognize if and when an award is canceled and forfeited rather than estimating forfeitures up front. The impact from implementing this policy change was to reduce retained earnings and increase additional paid-in capital by \$57,000.

Stock-based compensation expense for all periods presented attributable to our functional expense categories from stock option and RSU awards vesting during the periods presented were as follows (in thousands):

	Three Months Ended June 30,		Six Months Ended June 30,	
	2017	2016	2017	2016
Cost of services	\$ 9	\$ 4	\$ 18	\$ 20
Research and development	—	—	—	—
Sales and marketing	16	17	34	44
General and administrative	128	169	294	341
Total non-cash stock compensation	<u>\$ 153</u>	<u>\$ 190</u>	<u>\$ 346</u>	<u>\$ 405</u>

Net Loss Per Share . Basic and diluted net loss per share has been computed by dividing the net loss by the weighted average number of common shares issued and outstanding during the periods presented. Options and warrants to purchase common stock as well as preferred stock convertible into shares of common stock are anti-

COMBIMATRIX CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)
(Unaudited)

dilutive and therefore are not included in the determination of the diluted net loss per share. The following table reflects the excluded dilutive securities:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2017	2016	2017	2016
Common stock options	64,326	71,749	64,326	71,749
Restricted stock units	98,049	59,000	98,049	59,000
Common stock warrants	2,701,647	2,701,747	2,701,647	2,701,747
Series F preferred stock convertible into common stock	23,738	1,247,530	23,738	1,247,530
Excluded potentially dilutive securities	<u>2,887,760</u>	<u>4,080,026</u>	<u>2,887,760</u>	<u>4,080,026</u>

Segments. We have determined that we operate in one segment for financial reporting purposes.

Recent Accounting Pronouncements. In July 2017, the FASB issued an accounting standards update regarding earnings per share, distinguishing liabilities from equity and derivatives and hedging. Part I of the update addresses the complexity of accounting for certain financial instruments with down-round features, such as anti-dilution provisions of common stock warrant contracts that can require liability classification and subsequent mark-to-market accounting for these securities. As a result of this update, a down-round feature no longer precludes equity classification when assessing whether the instrument is indexed to an entity's own stock, which means that derivative accounting treatment and liability classification are no longer required. The amendment requires the effect of a down round feature to be treated as a dividend and as a reduction of income available to common shareholders when computing basic earnings per share when the feature is triggered. In addition, convertible instruments with embedded conversion options that have down-round features are now subject to the specialized guidance for contingent beneficial conversion features, including related EPS guidance. Part II of the update addresses certain content that is pending or deferred and has no accounting effect. The amendments in Part I of the update are effective for all public entities for the first interim and annual reporting periods beginning after December 15, 2018, with early adoption permitted. We are currently analyzing the details of the update and have not yet determined what impact, if any, the adoption of this update may have on our consolidated financial statements.

In May 2017, the FASB issued an accounting standards update regarding stock-based compensation. The purpose of the update is to provide clarity regarding when an entity should apply modification accounting from changes that an entity makes to the terms or conditions of share-based payment awards. The update is effective for all entities for the first interim and annual reporting periods beginning after December 15, 2017, with early adoption permitted. We do not expect the adoption of this update to have a material impact on our consolidated financial statements.

In January 2017, the FASB issued a new accounting standard that eliminates Step 2 of the goodwill impairment test currently required under GAAP. Instead, an entity should perform its annual or interim goodwill impairment test by comparing the fair value of a reporting unit with its carrying amount. An entity should recognize an impairment charge for the amount by which the carrying amount exceeds the reporting unit's fair value; however, the loss recognized should not exceed the total amount of goodwill that had been allocated to that reporting unit. An entity still has the option to perform the qualitative assessment for a reporting unit to determine if the quantitative impairment test is necessary. This standard is effective for public business entities for the first interim and annual reporting periods beginning after January 1, 2020, with early adoption permitted for interim or annual goodwill impairment tests performed on testing dates after January 1, 2017. We do not expect the adoption of this standard to have a material impact on our consolidated financial statements.

COMBIMATRIX CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)
(Unaudited)

Also in January 2017, the FASB issued a new accounting standard that changes the definition of a business to assist entities with evaluating when a set of transferred assets and activities is deemed to be a business. This update is effective on January 1, 2018, with early adoption permitted. We do not expect the adoption of this standard to have a material impact on our consolidated financial statements.

In November 2016, the FASB issued new accounting guidance governing restricted cash, which requires entities to show the changes in the total of cash, cash equivalents, restricted cash and restricted cash equivalents in the statement of cash flows. As a result, entities will no longer present transfers between cash and cash equivalents and restricted cash and restricted cash equivalents in the statement of cash flows. The amendments in this guidance should be applied using a retrospective transition method to each period presented. This guidance is effective for annual periods beginning after December 15, 2017, and interim periods within those fiscal years with early adoption permitted, including adoption in an interim period. We do not expect the adoption of this guidance to have a material impact on our consolidated statements of cash flows.

In August 2016, the FASB issued new accounting guidance aimed at reducing the existing diversity in GAAP regarding how certain cash receipts and cash payments are classified in the statement of cash flows. The new guidance is effective for fiscal years beginning after December 15, 2017, and interim periods within those fiscal years. Early adoption is also permitted. We do not expect the adoption of this guidance to have a material impact on our consolidated statements of cash flows.

In February 2016, the FASB issued a new accounting standard regarding leases, which requires lessees to recognize on their balance sheets a right-of-use asset, representing their right to use the underlying asset for the lease term, and a lease liability for all leases with terms greater than 12 months. The standard also requires qualitative and quantitative disclosures designed to assess the amount, timing and uncertainty of cash flows arising from leases. The standard requires the use of a modified retrospective transition approach, which includes a number of optional practical expedients that entities may elect to apply. The standard is effective for us beginning January 1, 2019, and we are currently evaluating the impact that this standard will have on our consolidated financial statements.

In January 2016, the FASB issued accounting guidance regarding recognition and measurement of financial assets and financial liabilities. This guidance enhances the reporting model for financial instruments, which includes amendments to address aspects of recognition, measurement, presentation and disclosure. The guidance is effective for annual reporting periods beginning after December 15, 2017, and interim periods within those annual periods. We do not expect the adoption of this guidance to have a significant impact on our consolidated financial statements.

In May 2014, the FASB issued new accounting guidance regarding revenue recognition from contracts with customers, which when effective will supersede existing revenue recognition requirements and will eliminate most industry-specific guidance from GAAP. The core principle of the new guidance is to require an entity to recognize as revenue the amount that reflects the consideration to which it expects to be entitled in exchange for goods or services as it transfers control to its customers. The new guidance requires additional qualitative and quantitative disclosures about the nature, amount, timing and uncertainty of revenue and cash flows arising from contracts with customers. An entity can apply the new guidance retrospectively to each prior reporting period presented (i.e., the full retrospective method) or retrospectively with the cumulative effect of initially applying the standard recognized at the date of initial application in retained earnings. As originally issued, the new revenue recognition standard would be effective for us beginning January 1, 2017. However, in 2015, the FASB voted to defer the effective date of the new guidance for one year. We have nearly completed our detailed assessment of the impact that this guidance will have on our consolidated financial statements, with additional

COMBIMATRIX CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)
(Unaudited)

analysis currently ongoing. Based on our current assessment, we expect the majority of the amounts that have historically been recognized as bad debt expense, primarily related to patient responsibility, will be reflected as a reduction of the transaction price originally recognized and therefore as a reduction in revenue. We will adopt the new guidance beginning January 2018.

Reclassifications . Certain prior period amounts have been reclassified to conform to the current period presentation.

3. CASH AND SHORT-TERM INVESTMENTS

As of June 30, 2017, we held \$3.0 million in cash, cash equivalents and short-term investments, which are reported at fair value. Cash, cash equivalents and short-term investments consisted of the following as of June 30, 2017 and December 31, 2016 (in thousands):

	As of June 30, 2017				As of December 31, 2016			
	Cost	Unrealized		Fair Value	Cost	Unrealized		Fair Value
		Gains	Losses			Gains	Losses	
Cash and money market securities	\$ 1,772	\$ —	\$ —	\$ 1,772	\$ 2,727	\$ —	\$ —	\$ 2,727
Commercial paper	500	—	—	500	500	—	—	500
Certificates of deposit	750	—	—	750	500	—	—	500
	<u>\$ 3,022</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 3,022</u>	<u>\$ 3,727</u>	<u>\$ —</u>	<u>\$ —</u>	<u>\$ 3,727</u>

There were no realized gains or losses for the periods ended June 30, 2017 or 2016.

4. FAIR VALUE MEASUREMENTS

The following table summarizes, for each major category of financial assets measured on a recurring basis, the respective fair value at June 30, 2017 and December 31, 2016 and the classification by level of input within the fair value hierarchy defined above (in thousands):

	Fair Value Measurements			
	Total	Level 1	Level 2	Level 3
June 30, 2017				
Assets:				
Cash equivalents	\$2,092	\$ 842	\$ 1,250	\$ —
Short-term investments	—	—	—	—
Cash equivalents	<u>\$2,092</u>	<u>\$ 842</u>	<u>\$ 1,250</u>	<u>\$ —</u>
December 31, 2016				
Assets:				
Cash equivalents	\$1,735	\$1,735	\$ —	\$ —
Short-term investments	1,000	—	1,000	—
Cash equivalents	<u>\$2,735</u>	<u>\$1,735</u>	<u>\$1,000</u>	<u>\$ —</u>

COMBIMATRIX CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)
(Unaudited)

The carrying amounts of accounts receivable, accounts payable, accrued expenses, capital leases and the secured promissory note approximate fair value due primarily to the short-term nature of these financial instruments.

5. STOCKHOLDERS' EQUITY

Series A through E Convertible Preferred Stock and Warrant Financings

Between 2012 and 2015, we executed several financing transactions whereby we issued convertible preferred stock and warrants to purchase common stock to investors. As of December 31, 2016, none of the Series A through E convertible preferred stock remained outstanding. For as long as the Series A warrants remain unexercised through their expiration date, except under certain permitted circumstances, we may not issue, or enter into any agreement to issue, common stock or common stock equivalents at a price per share below the \$73.65 exercise price of the Series A warrants, unless waivers from the Series A investors are obtained. Until the time that less than 7.5% of the Series B, C and E warrants remain unexercised through their expiration date, except under certain permitted circumstances, we may not issue, or enter into any agreement to issue, common stock or common stock equivalents at prices per share below the \$29.55, \$29.55 and \$32.51 exercise prices of the Series B, C and E warrants, respectively, unless waivers from the Series B, C and E investors are obtained. In addition, until there are no longer Series A, C and E warrants outstanding, we may not sell any variable rate securities except for certain exempt issuances.

Series E Modifications

On February 4, 2016, we entered into a Series E 6% Convertible Preferred Stock Repurchase Agreement (the "Repurchase Agreement") with the Series E Investors. Pursuant to the terms of the Repurchase Agreement, we agreed to pay each Series E Investor \$300 per share of Series E Preferred Stock, or approximately \$656,000, in consideration for the right to repurchase the Series E Investor's Series E Preferred Stock at a price per share of \$1,000 (the "Repurchase Price"), which was the original price per share paid by the Series E Investors for their Series E Preferred Stock in February 2015. We recognized the \$656,000 payment as a deemed dividend paid to the Series E investors.

Immediately following the closing of our Series F public offering discussed below, we paid \$2.2 million to the Series E Investors to repurchase all of the outstanding Series E Preferred Stock, in accordance with the terms of the Repurchase Agreement. Since almost none of the Series E Preferred Stock had converted by the time we repurchased the Series E Preferred Stock, the original \$890,000 beneficial conversion feature that we recognized as a deemed dividend in 2015 was reversed as a return of capital from the Series E Preferred stockholders to the common stockholders.

Series F Convertible Preferred Stock and Warrants Financing

On March 24, 2016 (the "Series F Closing"), we closed an underwritten public offering (the "Series F Offering") and issued 8,000 immediately separable units of securities to investors, with each unit consisting of: (i) one share of Series F convertible preferred stock ("Series F Preferred Stock") convertible into shares of our common stock equal to 1,000 divided by the conversion price of \$3.87, which was 75% of the consolidated closing bid price of our common stock on The NASDAQ Capital Market on March 18, 2016, the date we executed the underwriting agreement ("UA date"); and (ii) 258.397875 warrants, each to purchase one share of our common stock at an exercise price per share equal to \$5.17 ("Series F Warrants"), which was 100% of the consolidated closing bid price of our common stock on The NASDAQ Capital Market on the UA date. The

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Series F Preferred Stock, the Series F Warrants, and the shares of common stock underlying the Series F Preferred Stock and Series F Warrants were registered on Form S-1, which was declared effective by the SEC on March 18, 2016. The Series F Preferred Stock was immediately convertible and the Series F Warrants were immediately exercisable for shares of common stock and have a term of five years. The Series F Warrants are exercisable for cash or, solely in the absence of an effective registration statement or prospectus, by cashless exercise. In total, there were 2,067,183 shares of common stock issuable upon conversion of the Series F Preferred Stock and up to 2,067,183 shares of common stock issuable upon exercise of the Series F Warrants. The units were sold for a purchase price equal to \$1,000 per unit, resulting in gross proceeds received by us of \$8.0 million. Total offering-related costs paid through December 31, 2016 were \$1.1 million, resulting in net proceeds recognized of \$6.9 million. Given that the effective conversion price of the Series F Preferred Stock was below the closing market price of our common stock at the time of the Series F Closing, we recognized a beneficial conversion feature in the amount of \$1.9 million. Since the Series F Preferred Stock was immediately convertible into common stock, the beneficial conversion feature was treated as a deemed dividend charged to retained earnings at closing. Also, from the time of the Series F Closing through June 30, 2017, 7,908 shares of the Series F Preferred Stock have converted into 2,043,445 shares of common stock, leaving 92 shares of Series F Preferred Stock (representing 23,738 shares of common stock) unconverted.

The Series F Preferred Stock is non-voting (except to the extent required by law and except for certain consent rights relating to amending the certificate of incorporation or bylaws, and the like), but ranks senior to our common stock with respect to distributions upon our dissolution, liquidation or winding-up. Until the volume weighted average price of our common stock on NASDAQ exceeds 200% of the conversion price of the Series F Preferred Stock for any 20 of 30 consecutive trading days, and the daily dollar trading volume during such period exceeds \$200,000 per trading day, the Series F Preferred Stock is subject to full ratchet price based anti-dilution protection, subject to certain limitations. Also, the Company can force holders of Series F Preferred Stock to convert into our common stock if the volume-weighted average price of our common stock exceeds 200% of the Series F Preferred Stock conversion price for any 20 of 30 consecutive trading days, and the daily dollar trading volume during such period exceeds \$200,000 per trading day, subject to certain other conditions. The Series F investors have agreed to be subject to a blocker that would prevent each of their respective common stock ownership at any given time from exceeding 4.99% of our outstanding common stock (which may be increased on 61 days' notice, but not above 9.99%).

The Series F Warrants have a 5-year term and have a cashless exercise provision in the event there is no effective registration statement covering the common stock issuable upon exercise of the Series F Warrants. The Series F Warrants are not subject to price based anti-dilution protection. The Series F Warrants are listed on The NASDAQ Capital Market under the trading symbol "CBMXW."

Depending on the circumstances, upon a change in control constituting a "Fundamental Transaction" (as defined in the Series F Warrants), the holders of Series F Preferred Stock may be entitled to a 30% premium and the holders of Series F Warrants may have the right to require either that the Company purchase the Series F Warrants for an amount in cash that is determined in accordance with a formula set forth in the Series F Warrants or that the successor assumes and replaces the Series F Warrants with substantially equivalent warrants of the successor.

Common Stock Purchase Warrants Repurchase Agreement

On July 11, 2016, we entered into a Common Stock Purchase Warrants Repurchase Agreement (the "Warrants Repurchase Agreement") with the holders (the "Holders") of our outstanding common stock purchase warrants issued in October 2012, March 2013, May 2013, June 2013, June 2014, February 2015 and April 2015

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(collectively, the “Warrants”) in connection with our Series A, Series B, Series C and Series E financings. Pursuant to the terms of the Warrants Repurchase Agreement, we have agreed to repurchase such Warrants from each Holder upon execution of a “Fundamental Transaction” (as defined in such Warrants) at various negotiated prices per Warrant share as set forth in the Warrants Repurchase Agreement. The Warrants Repurchase Agreement obligates us to repurchase half of such Warrants upon the announcement of a Fundamental Transaction. On July 31, 2017, we announced that we entered into an Agreement and Plan of Merger and Reorganization (the “Merger Agreement”) with Invitae Corporation (“Invitae”) and Coronado Merger Sub, Inc., a wholly owned subsidiary of Invitae (“Merger Sub”), pursuant to which Invitae plans to acquire us in an all-stock transaction in which Merger Sub will merge with and into us (the “Merger”). The Merger is considered a Fundamental Transaction under the Warrants Repurchase Agreement and, as a result of entering into and announcing the Merger Agreement, and pursuant to the terms of the Warrants Repurchase Agreement, we repurchased one half of such outstanding Warrants on August 3, 2017, for approximately \$230,000 of cash consideration. Under the terms of the Warrants Repurchase Agreement, we will be obligated to repurchase the remaining half of such Warrants within three business days of any closing of the Merger. In addition, upon any closing of the Merger, all Securities Purchase Agreements and Registration Rights Agreements associated with the original issuances of such Warrants will be terminated and the various restrictions set forth therein will no longer be of any force or effect. In connection with entering into the Warrants Repurchase Agreement, we were granted certain consents and waivers relating to the Merger. If the Merger is consummated, we will be obligated to repurchase the remaining outstanding Warrants for approximately \$230,000 which will be due within three business days of closing the Merger. In the event that we do not close the Merger or any other Fundamental Transaction, for whatever reason, then the remaining half of such Warrants will remain issued and outstanding. See Note 7 below.

Warrants

Outstanding warrants to purchase common stock are as follows:

	Shares of Common Stock Issuable from Warrants Outstanding as of		Exercise Price	Expiration
	June 30, 2017	December 31, 2016		
<u>Equity-classified warrants:</u>				
March 2016	2,067,076	2,067,176	\$ 5.17	March 2021
April 2015	100,847	100,847	\$ 16.50	August 2020
April 2015	1,831	1,831	\$ 32.51	August 2020
February 2015	46,676	46,676	\$ 16.50	August 2020
June 2014	1,690	1,690	\$ 30.90	April 2018
December 2013	388,365	388,365	\$ 46.80	December 2018
June 2013	32,788	32,788	\$ 29.55	June 2019
May 2013	32,788	32,788	\$ 29.55	May 2019
March 2013	18,334	18,334	\$ 29.55	March 2019
October 2012	11,252	11,252	\$ 29.55	September 2018
Total	<u>2,701,647</u>	<u>2,701,747</u>		

The number of warrants set forth in the table above are as of June 30, 2017 and December 31, 2016 and do not reflect the repurchase of half of the Warrants we completed on August 3, 2017.

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NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)
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6. COMMITMENTS AND CONTINGENCIES

Executive Severance

We provide certain severance benefits such that if any of our executive officers is terminated for other than cause, death or disability, the executive will receive payments equal to three months' base salary plus medical and dental benefits. In addition, we have implemented a Restated Executive Change of Control Severance Plan (as amended, the "Severance Plan") that affects certain of our senior management-level employees who are classified as "Section 16 Officers" of the Company. Pursuant to the Severance Plan, if a participating employee is involuntarily terminated (other than for death, disability or for cause) or resigns for "good reason" (as defined in the Severance Plan) during the two-year period following a "change of control" (as defined in the Severance Plan) of the Company, then, subject to execution of a release of claims against the Company, the employee will be entitled to receive: (i) one-half times annual base salary (one times annual base salary for the Chief Executive Officer); (ii) immediate vesting of outstanding compensatory equity awards; and (iii) payment of COBRA premiums for the participating employee and eligible dependents for a pre-determined period of time. Payment of benefits under the Severance Plan will be limited by provisions contained in Section 409A of the U.S. Internal Revenue Code. The Severance Plan is administered by a plan administrator, which initially is the Compensation Committee of the Board of Directors. In order to participate in the Severance Plan, an eligible employee must waive any prior retention or severance agreements. The Severance Plan automatically renews annually unless terminated upon 12 months prior written notice. We expect that our Chief Executive Officer and Chief Financial Officer will receive benefits under the Severance Plan as a result of any consummation of the Merger.

Also, our Board of Directors and Compensation Committee have adopted a Transaction Bonus Plan (the "Transaction Bonus Plan"), which provides for certain bonus payments to be made, upon any consummation of a qualifying change of control transaction such as the Merger, to certain participants as shall be determined from time to time by the Compensation Committee of our Board of Directors. The aggregate value of the bonuses payable under the Transaction Bonus Plan shall be the greater of (i) \$1,000,000 or (ii) ten percent of the net proceeds received in connection with a qualifying change of control transaction such as the Merger, and the percentage of such bonus pool awarded to each eligible participant shall be determined from time to time by our Compensation Committee.

Litigation

In 2002, we entered into a settlement agreement with Nanogen, Inc. ("Nanogen") to settle all pending litigation between the parties. Pursuant to the terms of the settlement agreement, we agreed to make quarterly payments to Nanogen equal to 12.5% of total sales of products developed by us and our affiliates based on the patents that had been in dispute in the litigation, up to an annual maximum amount of \$1.5 million. The minimum quarterly payments under the settlement agreement are \$25,000 per quarter until the patents expire in 2018. Royalty expenses recognized under the agreement were \$25,000 and \$50,000 for both of the three and six months ended June 30, 2017 and 2016, respectively, and are included in patent amortization and royalties in the accompanying consolidated statements of operations.

From time to time, we are subject to other claims and legal actions that arise in the ordinary course of business. We believe that the ultimate liability with respect to these claims and legal actions, if any, will not have a material effect on our financial position, results of operations or cash flows. Any legal costs resulting from claims or legal actions are expensed as incurred.

COMBIMATRIX CORPORATION
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)
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7. SUBSEQUENT EVENTS

On July 31, 2017, we entered into the Merger Agreement with Invitae, pursuant to which Invitae plans to acquire us through an all-stock Merger. The Merger is subject to certain closing conditions, as set forth in the Merger Agreement, including, among others, obtaining certain regulatory approvals, approval from our stockholders, Invitae's registration of common stock to be used to acquire us, and at least 90% participation in a Series F Warrants exchange offer that will be conducted by Invitae in connection with the Merger.

The Merger Agreement contains certain termination rights for both us and Invitae, including, among others, if the Merger is not consummated on or before January 31, 2018 (unless due to the terminating party's action or failure to act or SEC delay) or if the approval of our stockholders is not obtained. If the Merger Agreement is terminated by either us or Invitae as a result of a breach by the other party of any of such other party's representations, warranties or covenants, or because the occurrence of a material adverse effect applicable to such party was the sole failed condition to closing, or if the Merger Agreement is terminated by Invitae as a result of the failure of our stockholders to approve the Merger Agreement or as a result of an adverse change in the recommendation of our board of directors, then the defaulting party will be obligated to reimburse the other party's third party expenses up to a maximum of \$400,000. The Merger Agreement further provides that, upon termination of the Merger Agreement under specified circumstances, including, among others, termination of the Merger Agreement as a result of an adverse change in the recommendation of our board of directors after receiving a bona fide alternative acquisition proposal or termination of the Merger Agreement as a result of our stockholders not approving the Merger Agreement following disclosure of a bona fide acquisition proposal after which we are sold within 12 months, we may be required to pay to Invitae a termination fee of up to \$1.4 million.

The foregoing description of the Merger Agreement is not a complete description of all of the parties' rights and obligations under the Merger Agreement and is qualified in its entirety by reference to the Merger Agreement, which was filed as Exhibit 2.1 to our Current Report on Form 8-K filed with the SEC on July 31, 2017.

As a result of entering into and announcing the Merger Agreement, and pursuant to the terms of the Warrants Repurchase Agreement, On August 3, 2017, we repurchased one-half of the outstanding Warrants for approximately \$230,000 of cash consideration. The remaining half will be due within three business days of any closing of the Merger.

Item 2. MANAGEMENT’S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Cautionary Statement

You should read the following discussion and analysis in conjunction with the consolidated financial statements and related notes thereto contained in Part I, Item 1 of this report. The information contained in this Quarterly Report on Form 10-Q is not a complete description of our businesses or the risks associated with an investment in our common stock. We urge you to carefully review and consider the various disclosures made by us in this report and in our other reports filed with the U.S. Securities and Exchange Commission, or “SEC,” including our Annual Report on Form 10-K for the year ended December 31, 2016, filed with the SEC on March 3, 2017.

This report contains forward-looking statements within the meaning of the “safe harbor” provisions of the Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical fact included in this report, are forward-looking statements. Reference is made in particular to the description of our plans and objectives for future operations, assumptions underlying such plans and objectives, and other forward-looking statements included in this report. Such statements may be identified by the use of forward-looking terminology such as “may,” “will,” “should,” “would,” “could,” “expect,” “believe,” “estimate,” “anticipate,” “intend,” “plan,” “predict,” “seek,” “potential,” “more likely to,” “with a view to,” “our future success depends,” “continue,” “focus,” “ongoing,” or similar terms, variations of such terms or the negative of such terms, and include, but are not limited to, statements regarding projected results of operations, capital expenditures, earnings, management’s future strategic plans, development of new technologies and services, litigation, regulatory matters, market acceptance and performance of our services, the success and effectiveness of our technologies and services, our ability to retain and hire key personnel, the competitive nature of and anticipated growth in our markets, market size, market position of our services, marketing efforts and partnerships, liquidity and capital resources, our accounting estimates, and our assumptions and judgments. Such statements are based on management’s current expectations, estimates and projections about our industry, management’s beliefs, and certain assumptions made by us, all of which are subject to change. These forward looking statements are not guarantees of future results and are subject to a number of risks, uncertainties and assumptions that are difficult to predict and that could cause actual results to differ materially and adversely from those described in the forward-looking statements. The risks and uncertainties referred to above include, but are not limited to, the risk that holders of less than 90% of our Series F Warrants tender their securities or our stockholders fail to approve the Merger and the Merger Agreement is terminated due to these reasons; the occurrence of any event, change or other circumstances that could give rise to the termination of the Merger Agreement; the possibility that the proposed Merger is delayed; the inability to complete the Merger due to the failure to satisfy any of the conditions to completion of the Merger; the impact of the announcement or the completion of the Merger on the market price of our or Invitae’s common stock, or on our or Invitae’s relationships with employees, existing customers and suppliers or potential future customers and suppliers and on our or Invitae’s operating results and businesses generally; the ability of Invitae to successfully integrate our operations and employees; the ability to realize anticipated synergies and costs savings of the proposed Merger; the risk that if the Merger is terminated and we have to pay termination fees and transaction expenses, we may not have sufficient funds to make such payments; our ability to grow revenue and improve gross margin; delays in achieving cash flow-positive operating results; the risk that operating expenses are not reduced or increase; the risk that test volumes and reimbursements level off or decline; the risk that payors decide to not cover our tests or to reduce the amounts they are willing to pay for our tests; the risk that we will not be able to grow our business as quickly as we need to; our ability to successfully increase the volume of our existing tests, expand the number of tests offered by our laboratory, increase the number of customers and partners and improve reimbursement for our testing; market acceptance of chromosomal microarray analysis, or CMA, as a preferred method over karyotyping; the rate of transition to CMA from karyotyping; changes in consumer demand; third-party reimbursement of CMA; our ability to attract and retain a qualified sales force and key technical personnel; our ability to successfully develop and introduce new technologies and services; rapid technological change in our markets; supply availability; our ability to bill and obtain reimbursement for highly specialized tests; the rate of growth of the in vitro fertilization,

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or IVF, diagnostic testing market; our ability to comply with regulations to which our business is subject, including changes in coding and reimbursement methods; legislative, regulatory and competitive developments in markets in which we and our subsidiaries operate; our limited market capitalization; our ability to obtain additional financing for working capital on acceptable terms and in a timely manner; future economic conditions; other circumstances affecting anticipated revenues and costs; and other factors as more fully disclosed in our discussion of risk factors in Item 1A of Part II of this report and in the “Risk Factors” described in our Annual Report on Form 10-K for the year ended December 31, 2016, filed with the SEC on March 3, 2017. These forward-looking statements speak only as of the date of this report and we expressly disclaim any obligation or undertaking to release publicly any updates or revisions to any forward-looking statements contained herein to reflect any change in our expectations with regard thereto or any change in events, conditions, or circumstances on which any such statement is based, except as otherwise required by law.

General

We are a family health-focused clinical molecular diagnostic laboratory specializing in pre-implantation genetic screening, prenatal diagnosis, miscarriage analysis, and pediatric developmental disorders. We strive to provide best-in-class clinical laboratory support to healthcare professionals, allowing them to maximize the clinical utility of their patients’ test results and to optimize patient care. Our testing focuses on advanced technologies, including single nucleotide polymorphism chromosomal microarray analysis, next generation sequencing, fluorescent in situ hybridization and high resolution karyotyping. Our approach to testing is to offer sophisticated technology along with high quality clinical support to our ordering physicians and their patients. Our laboratory facilities and corporate headquarters are located in Irvine, California.

We also own a one-third minority interest in Leuchemix, Inc., a private drug development company focused on developing a series of compounds to address a number of oncology-related diseases.

Overview of Recent Developments and Business Activities

For the three and six months ended June 30, 2017, our business activities were driven primarily by continued commercialization efforts for our suite of molecular diagnostic tests and expansion of our executive oversight and leadership. For the three and six months ended June 30, 2017, our operating activities included the recognition of \$4.2 million and \$8.0 million of total revenues, respectively, which increased by \$1.1 million and \$1.9 million, respectively, from the comparable 2016 periods. These increases were due primarily to increased testing volumes and improved pricing and reimbursement of our microarray diagnostic tests, particularly in the reproductive health testing market (defined as testing volumes from prenatal, miscarriage analysis and pre-implantation genetic screening, or PGS diagnostic tests). Revenues from our reproductive health testing services increased by 44% and 38% during the three and six months ended June 30, 2017, respectively, compared to the comparable periods in 2016. Total diagnostic testing revenues during the three and six months ended June 30, 2017 increased by 38% and 33%, respectively, over the comparable periods in 2016. For the three and six months ended June 30, 2017, our net loss decreased by \$865,000 and \$1.8 million, respectively, compared to the comparable 2016 periods, due to increased revenues, improved gross margins and relatively flat operating expenses for all periods presented.

In January 2017, we appointed Dr. James W. Wheless to our Scientific Advisory Board. Dr. Wheless is a Diplomat of the American Board of Pediatrics and the American Board of Psychiatry and Neurology with special qualifications in child neurology, clinical neurophysiology and epilepsy. He is a fellow of the American Academy of Pediatrics and the American Academy of Neurology.

In February 2017, we appointed Dirk van den Boom, Ph.D., to our Board of Directors. Dr. van den Boom most recently served as President, Chief Executive Officer and Director of publicly traded molecular diagnostics company Sequenom, Inc., prior to that company’s acquisition by Laboratory Corporation of America in September 2016. Dr. van den Boom has co-authored more than 95 articles published in peer-reviewed journals and is inventor on more than 80 patents and patent applications.

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In July 2017, we entered into the Merger Agreement with Invitae, pursuant to which Invitae plans to acquire us through an all-stock Merger. The Merger is subject to certain closing conditions, as set forth in the Merger Agreement, including, among others, obtaining certain regulatory approvals, approval from our stockholders, Invitae's registration of common stock to be used to acquire us, and at least 90% participation in a Series F Warrants exchange offer that will be conducted by Invitae in connection with the Merger. We expect to incur significant expenses in connection with the Merger. While we have assumed that a certain level of expenses will be incurred, there are many factors that could affect the total amount or the timing of the Merger expenses, and many of the expenses that will be incurred are, by their nature, difficult to estimate. The ultimate amount and timing of such charges are uncertain at the present time.

The Merger Agreement contains certain termination rights for both us and Invitae, including, among others, if the Merger is not consummated on or before January 31, 2018 (unless due to the terminating party's action or failure to act or SEC delay) or if the approval of our stockholders is not obtained. If the Merger Agreement is terminated by either us or Invitae as a result of a breach by the other party of any of such other party's representations, warranties or covenants, or because the occurrence of a material adverse effect applicable to such party was the sole failed condition to closing, or if the Merger Agreement is terminated by Invitae as a result of the failure of our stockholders to approve the Merger Agreement or as a result of an adverse change in the recommendation of our board of directors, then the defaulting party will be obligated to reimburse the other party's third party expenses up to a maximum of \$400,000. The Merger Agreement further provides that, upon termination of the Merger Agreement under specified circumstances, including, among others, termination of the Merger Agreement as a result of an adverse change in the recommendation of our board of directors after receiving a bona fide alternative acquisition proposal or termination of the Merger Agreement as a result of our stockholders not approving the Merger Agreement following disclosure of a bona fide acquisition proposal after which we are sold within 12 months, we may be required to pay to Invitae a termination fee of up to \$1.4 million.

The foregoing description of the Merger Agreement is not a complete description of all of the parties' rights and obligations under the Merger Agreement and is qualified in its entirety by reference to the Merger Agreement, which was filed as Exhibit 2.1 to our Current Report on Form 8-K filed with the SEC on July 31, 2017.

As a result of entering into and announcing the Merger Agreement, and pursuant to the terms of the Warrants Repurchase Agreement, on August 3, 2017, we repurchased one half of the outstanding Warrants for approximately \$230,000 of cash consideration. The remaining half will be due within three business days of any closing of the Merger.

Critical Accounting Estimates

Our unaudited interim financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America. Preparation of these statements requires management to make judgments and estimates. Some accounting policies have a significant impact on amounts reported in these financial statements. A summary of significant accounting policies and a description of accounting policies that are considered critical may be found in our Annual Report on Form 10-K for the year ended December 31, 2016, filed with the SEC on March 3, 2017, in the Notes to the Consolidated Financial Statements and the Critical Accounting Estimates sections. In addition, refer to Note 2 to the consolidated interim financial statements included in Part I, Item 1 of this report.

Comparison of the Results of Operations for the Three and Six Months Ended June 30, 2017 and 2016

Revenues and Cost of Services (dollars in thousands):

	Three Months Ended June 30,		Change		Six Months Ended June 30,		Change	
	2017	2016	\$	%	2017	2016	\$	%
Diagnostic services revenues	\$ 4,214	\$ 3,049	\$ 1,165	38%	\$ 7,972	\$ 5,979	\$ 1,993	33%
Royalty revenues	27	58	(31)	(53%)	56	100	(44)	(44%)
Cost of services	(1,632)	(1,432)	(200)	(14%)	(3,140)	(2,851)	(289)	(10%)

Diagnostic Services Revenues. Diagnostic services revenues are generated from providing DNA-based genomic testing services primarily in the areas of PGS, miscarriage analysis, prenatal diagnostics (collectively referred to as “reproductive health” testing) and postnatal development disorders in children. The key drivers and metrics relating to the change in diagnostic services revenues were as follows:

	Three Months Ended June 30,		Change		Six Months Ended June 30,		Change	
	2017	2016	#	%	2017	2016	#	%
Total billable tests	3,087	2,780	307	11%	6,025	5,428	597	11%
Total reproductive health microarray tests (1)	1,748	1,403	345	25%	3,390	2,829	561	20%
Reproductive health percentage of total billable tests	56.6%	50.5%			56.3%	52.1%		
Revenue per test — total billable tests	\$ 1,365	\$ 1,097	\$ 268	24%	\$ 1,323	\$ 1,102	\$ 221	20%
Revenue per test — total reproductive health microarray tests (1)	\$ 1,795	\$ 1,555	\$ 240	15%	\$ 1,768	\$ 1,536	\$ 232	15%

(1) includes PGS, PGD, prenatal and miscarriage analysis microarray tests

For the three months ended June 30, 2017, total billable tests and total diagnostic services revenues increased by 11% and 38%, respectively, compared to the three months ended June 30, 2016. For the six months ended June 30, 2017, total billable tests and total diagnostic services revenues increased by 11% and 33%, respectively, compared to the six months ended June 30, 2016. Driving the increase in total billable tests and diagnostic services revenues for all periods presented were the increases in reproductive health testing volumes, which increased by 25% and 20% for the three and six months ended June 30, 2017 compared to the comparable 2016 periods, respectively. We believe this reflects the commercialization strategies and focus of our sales force, which have emphasized reproductive health microarray diagnostics testing over traditional genomics testing. In addition, improved reimbursement from third-party payors for our microarray tests drove higher revenues per test in our reproductive health segment, thereby resulting in a higher percentage increase in total diagnostic services revenues compared to the percentage increase in diagnostic testing volumes.

Diagnostic services revenues are recognized based on: i) contractual rates billed to our customers and certain third party payors; and ii) amounts that we expect to collect from non-contracted third-party payors, which include adjustments for changes in estimates of contractual allowances as well as from receiving cash payments in excess of amounts previously recognized. Because approximately 72% of our diagnostic revenues in 2017 resulted from billings to third-party payors, most of which are non-contracted, it is likely that we will be required to make adjustments to these accounting estimates in the future, which may positively or adversely affect our revenues and results of operations.

Royalties. In 2010, we entered into an exclusive licensing agreement with CustomArray, Inc. (“CA”), a private company located in Washington State, to license from us certain of our patents and intellectual property developed as part of our prior microarray manufacturing business. This agreement requires CA to pay us royalties as a percentage of their gross revenues, with a minimum floor of not less than \$25,000 per quarter. The

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changes in royalty revenues reported reflect changes in CA's revenues. It is uncertain whether in future periods, CA's revenues will increase or continue at the minimum contractual amounts.

Cost of Services. Cost of services relating to our diagnostic tests performed include direct materials such as microarray slides, reagents and related laboratory materials, direct laboratory labor (wages and benefits), allocation of administrative overhead and stock-compensation expenses. Increases in cost of services for all periods presented were due primarily to increased diagnostic testing volumes previously discussed. Non-cash stock compensation expenses were not significant for the periods presented.

Operating Expenses (dollars in thousands):

	Three Months Ended		Change		Six Months Ended		Change	
	June 30,	2016	\$	%	June 30,	2016	\$	%
Research and development	\$ 85	\$ 149	\$ (64)	(43%)	\$ 170	\$ 292	\$(122)	(42%)
Sales and marketing	1,016	1,141	(125)	(11%)	2,038	2,477	(439)	(18%)
General and administrative	1,855	1,586	269	17%	3,519	3,112	407	13%

Research and Development. These expenses include labor (wages and benefits), non-cash stock compensation expenses and laboratory supply costs associated with investigating and validating new tests and technology platforms, costs to maintain and improve our existing suite of diagnostic tests offered and process improvement projects. Prior to launching a new test or technology, or modifying an existing test, appropriate clinical trials and extensive laboratory validations, consistent with the various regulations that govern our industry, must be performed. These costs are classified as research and development for all periods presented. For the three and six months ended June 30, 2017, research and development expenses decreased from the comparable 2016 periods due primarily to greater efforts during 2016 in launching a next generation sequencing platform for our PGS testing services coupled with validating new microarray testing platforms for our miscarriage analysis tests. These efforts were not repeated during the three and six month periods ended June 30, 2017. Non-cash stock compensation expenses were not significant for the periods presented.

Sales and Marketing. These expenses include salaries and wages associated with our sales force and marketing resources, sales commissions and other expenses associated with promotional and advertising efforts as well as non-cash stock compensation expenses. For the three and six months ended June 30, 2017, sales and marketing expenses decreased from the comparable 2016 periods due primarily to reduced headcount in sales representatives coupled with newer sales representatives earning lower base salaries compared to the prior year mix of sales representatives, coupled with reduced travel and entertainment costs from fewer sales headcount in the 2017 periods compared to the 2016 periods presented. Non-cash stock compensation expenses were not significant for the periods presented.

General and Administrative. These expenses include compensation and benefit costs of our administrative staff, client billing and collections, information technology, executive management, human resources and accounting personnel, as well as facilities-related costs, insurance, legal, audit and other professional services. For the three and six months ended June 30, 2017, general and administrative expenses increased from the comparable 2016 periods due primarily to increased legal and bad debt expenses. Also included in general and administrative expenses are non-cash stock-based compensation expenses, which were \$128,000, \$294,000, \$169,000 and \$341,000 for the three and six months ended June 30, 2017 and 2016, respectively. Changes to stock-based compensation expenses are driven by timing of when newer option awards are granted compared to when older awards become fully vested or expire due to forfeitures, as well as by the differences in valuations attributed to individual awards at the time they are granted. See Note 2 to our consolidated interim financial statements included in Part I, Item 1 of this report for a detailed description of the amounts of non-cash stock compensation expense recognized for the periods presented.

Inflation

Inflation has not had a significant impact on our business, results of operations or financial condition.

Liquidity and Capital Resources

At June 30, 2017, cash and cash equivalents totaled \$3.0 million, compared to \$3.7 million at December 31, 2016. Cash is held primarily in general checking accounts as well as in money market mutual funds backed by U.S. government securities. When held, short-term investments typically are comprised primarily of certificates of deposits issued by U.S. financial institutions. Working capital was \$5.6 million and \$6.1 million at June 30, 2017 and December 31, 2016, respectively. The primary reason for the decrease in working capital was due to lower overall cash balances at June 30, 2017 compared to December 31, 2016, driven by operating, investing and financing activities described below.

The net change in cash and cash equivalents for the periods presented was comprised of the following (in thousands):

	Six Months Ended June 30,		Change
	2017	2016	
Net cash provided by (used in):			
Operating activities	\$(607)	\$(2,544)	\$ 1,937
Investing activities	996	2,603	(1,607)
Financing activities	(94)	4,015	(4,109)
Increase in cash and cash equivalents	<u>\$ 295</u>	<u>\$ 4,074</u>	<u>\$(3,779)</u>

Operating Activities. Higher cash inflows from improved cash collections coupled with slightly lower overall operating expenses during the six months ended June 30, 2017 resulted in lower cash used in operating activities compared to the six months ended June 30, 2016.

Investing Activities. The decrease in net cash flows from investing activities was due to reduced net sales of available-for-sale short-term investments made during the six months ended June 30, 2017 compared to the comparable period in 2016.

Financing Activities. The decrease in net cash flows from financing activities was due primarily to the \$6.9 million of net proceeds received from the March 2016 Series F Financing, partially offset by the \$2.8 million repurchase of Series E preferred stock and dividends paid to the Series E investors commensurate with the 2016 Series F Financing, compared to no sales or repurchases of CombiMatrix securities in 2017.

Future Liquidity. We have a history of incurring net losses and net operating cash flow deficits. We are also deploying new services and continue to develop commercial technologies and services. We believe that our cash and cash equivalents as of June 30, 2017, which totaled \$3.0 million, will be sufficient to meet our expected cash requirements for current operations through and beyond the fourth quarter of 2017, when we anticipate achieving cash flow break-even status. If the Merger is terminated, however, and we have to pay termination fees and transaction expenses, we may not have sufficient funds to make such payments. In order for us to continue as a going concern beyond this point and to ultimately achieve profitability, we may be required to obtain capital from external sources, increase revenues and reduce operating costs. However, there can be no assurance that our operations will become profitable or that external sources of financing, including the issuance of debt and/or equity securities, will be available at times and on terms acceptable to us, or at all. The issuance of additional equity or convertible debt securities will also cause dilution to our stockholders. Also, in order to issue securities at a price below the exercise prices of our outstanding warrants issued in connection with our past preferred stock private placement financings, we must obtain the affirmative consent of holders of at least 67% of each series of

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such outstanding warrants. If we are unable to obtain the consent of these holders in connection with future financings, we may be unable to raise additional capital on acceptable terms, or at all. If external financing sources are not available or are inadequate to fund our operations, we will be required to reduce operating costs, including research projects and personnel, which could compromise our future strategic initiatives and business plans.

Capital Requirements. We may also encounter unforeseen difficulties that may deplete our capital resources more rapidly than anticipated. As a result, we may be required to seek additional funding through equity, debt or other external financing, and there can be no assurance that additional funding will be available on favorable terms, in a timely fashion or at all. At this time, we have no significant commitments for capital expenditures in 2017 or beyond. However, our long-term capital requirements could be substantial and the adequacy of available funds will depend upon many factors, including:

- the costs of commercialization activities, including sales and marketing costs and capital equipment;
- competing technological developments;
- the creation and formation of strategic partnerships;
- variability in third-party reimbursement for our diagnostic tests;
- the costs associated with leasing and improving our Irvine, California facility; and
- other factors that may not be within our control.

Off-Balance Sheet Arrangements

As of June 30, 2017, we did not have any significant off-balance sheet arrangements, as defined in Item 303(a)(4)(ii) of Regulation S-K promulgated by the SEC. We have entered into an operating lease for our laboratory space and corporate offices, totaling approximately 12,200 square feet, expiring in early 2020. We have no significant commitments for capital expenditures for the remainder of 2017 or beyond. We currently have eight active capital leases totaling \$236,000 for certain laboratory and IT-related equipment, with lease payments continuing through February 2021.

Recent Accounting Pronouncements

See Note 2 to the consolidated interim financial statements included in Part I, Item 1 of this report for a discussion on recent accounting pronouncements.

Item 3. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Not required for smaller reporting companies.

Item 4. CONTROLS AND PROCEDURES

Evaluation of Disclosure Controls and Procedures

Under the supervision and with the participation of our management, including our principal executive officer and principal financial officer, we conducted an evaluation of our disclosure controls and procedures, as such term is defined under Rules 13a-15(e) and 15d-15(e) promulgated under the Securities Exchange Act of 1934, as amended (the “Exchange Act”). Based on this evaluation, our principal executive officer and our principal financial officer concluded that as of June 30, 2017, our disclosure controls and procedures were effective in ensuring that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is (i) recorded, processed, summarized and reported within the time periods prescribed by the SEC and (ii) accumulated and communicated to our management, including our principal executive and principal financial officers, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure.

Changes in Internal Control over Financial Reporting

There were no changes in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) that occurred during our last fiscal quarter (the quarter ended June 30, 2017) that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II—OTHER INFORMATION

Item 1. LEGAL PROCEEDINGS

From time to time, we are involved in other litigation arising in the normal course of business. Management believes that resolution of these other matters will not result in any payment that, in the aggregate, would be material to our financial position or results of operations.

Item 1A. RISK FACTORS

The following risk factors include any and all material changes to, and should be read in conjunction with, the risk factors contained in Part 1, Item 1A of our Annual Report on Form 10-K for the fiscal year ended December 31, 2016, filed with the SEC on March 3, 2017.

The Merger is subject to a number of conditions beyond our control. Failure to complete the Merger within the expected time frame or at all could adversely affect our stock price and our future business and financial results.

The Merger is subject to a number of conditions beyond our control that may prevent, delay or otherwise materially adversely affect its completion, including, without limitation, obtaining certain regulatory approvals, the absence of a material adverse effect upon either party, approval from our stockholders, Invitae's registration of common stock to be used to acquire us, and at least 90% participation in a Series F Warrants exchange offer that will be conducted by Invitae in connection with the Merger. We cannot predict whether and when these conditions will be satisfied. Any delay in completing the Merger could cause the combined company not to realize some or all of the synergies expected to be achieved. We will also incur certain transaction costs whether or not the Merger is completed. In addition, if the Merger is terminated due to certain circumstances and we have to pay termination fees and transaction expenses, we may not have sufficient funds to make such payments. Any failure to complete the Merger could have a material adverse effect on our stock price and our future business and financial results.

Uncertainty about the Merger and diversion of management could harm us or the combined company, whether or not the Merger is completed.

The announcement of the Merger or the pendency of the proposed transaction may disrupt our current plans and operations and could result in current and prospective employees, customers, payers, partners and suppliers experiencing uncertainty about their future with us or the combined company. These uncertainties may impair our ability to retain, recruit or motivate key personnel or to increase our customers, payers and partners. Completion of the Merger will also require a significant amount of time and attention from our management. The diversion of management's attention away from ongoing operations could adversely affect our business relationships. If the Merger is not consummated during the fourth quarter of 2017, as currently anticipated, the adverse effects of these uncertainties and the diversion of management's attention could be exacerbated by the delay. Even if the Merger is consummated, integration of operations will require substantial time after consummation of the Merger, and the combined company may lose management personnel and other key employees and be unable to attract and retain such personnel and employees.

The anticipated benefits of the Merger may not be realized fully or at all or may take longer to realize than expected.

The Merger involves the integration of two companies that have previously operated independently. Prior to announcement, we did not conduct any integration planning for the two companies, and our ability to do so prior to consummation of the Merger is substantially limited by applicable law. After the Merger, the two companies will devote significant management attention and resources to integrating the two companies. Delays in this process could adversely affect the combined company's business, financial results, financial condition and stock

price. Even if we are able to integrate our business operations successfully, there can be no assurance that this integration will result in the realization of the full benefits of synergies, cost savings, innovation and operational efficiencies that we currently expect from this integration or that these benefits will be achieved within the anticipated time frame.

The combined company may also be unable to use our current net operating loss carryforwards to offset future taxable income for U.S. federal income tax purposes. Changes in services, changes in sources of revenue, and branding or rebranding initiatives may involve substantial costs and may not be favorably received by customers, resulting in an adverse impact on the combined company's financial results, financial condition and stock price.

Neither the Merger exchange ratio nor the amount that will be offered to Series F Warrant holders in the Series F Warrants exchange offer is adjustable based on the market price of Invitae common stock so the Merger consideration at the closing may have a greater or lesser value than at the time the Merger Agreement was signed.

The Merger Agreement establishes the exchange ratio for our common stock and preferred stock and establishes the amount that will be offered to Series F Warrant holders in the Series F Warrants exchange offer, and any changes in the market price of Invitae common stock before the completion of the Merger will not affect the number of shares our security holders will be entitled to receive pursuant to the Merger Agreement. Therefore, if before the completion of the Merger the market price of Invitae common stock declines from the market price on the date of the Merger Agreement, then our security holders could receive Merger consideration with substantially lower value. Similarly, if before the completion of the Merger the market price of Invitae common stock increases from the market price on the date of the Merger Agreement, then our security holders could receive Merger consideration with substantially more value for their shares of our capital stock than the parties had negotiated for in the establishment of the exchange ratio. Because the exchange ratio does not adjust as a result of changes in the value of Invitae common stock, for each one percentage point that the market value of Invitae common stock rises or declines, there is a corresponding one percentage point rise or decline, respectively, in the value of the total Merger consideration issued to our security holders.

The Merger may be completed even though material adverse changes may result from the announcement of the Merger, industry-wide changes and other causes.

In general, either we or Invitae can refuse to complete the Merger if there is a material adverse change affecting the other party between the date of the Merger Agreement and the closing. However, certain types of changes do not permit either party to refuse to complete the Merger, even if such change could be said to have a material adverse effect on us or Invitae, including:

- conditions generally affecting the industries in which we and Invitae operate or the United States or global economy or capital markets as a whole;
- any natural disaster or any acts of terrorism, sabotage, military action or war or any escalation of worsening thereof;
- changes in regulatory, legislative or political conditions in the United States or any other country or region in the world;
- changes in conditions in the financial markets, credit markets or capital markets in the United States or any other country or region in the world;
- any effect resulting from the execution, delivery, announcement or performance of the obligations under the Merger Agreement or the announcement, pendency or anticipated consummation of the Merger;
- any failure by us or Invitae to meet internal projections or forecasts or third party revenue or earnings predictions for any period ending on or after the date of the Merger Agreement;
- any changes in GAAP or applicable legal requirements after the date of the Merger Agreement;

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- any rejection by a governmental body of a registration or filing by us relating to certain intellectual property rights; or
- any change in our cash position which results from operations in the ordinary course of business.

If adverse changes occur and we and Invitae still complete the Merger, the combined organization stock price may suffer. This in turn may reduce the value of the Merger consideration to our security holders.

We may not be able to meet our cash requirements beyond August of 2018 without obtaining additional capital from external sources and our current outstanding private placement warrants may prevent us from issuing new securities. If we are unable to raise additional capital through future financings or from external sources, we may not be able to continue as a going concern.

As of June 30, 2017, we had \$3.0 million in cash and cash equivalents, which we anticipate will meet our cash requirements through and beyond the fourth quarter of 2017. However, in order for us to continue as a going concern beyond that point, we will have to increase revenue and cash reimbursement, continue to control operating expenses and may be required to obtain capital from external sources. Our ability to continue as a going concern is dependent upon our ability to further implement our business plan, generate sufficient revenues and cash reimbursement and to control operating expenses, of which there can be no assurance.

In order to issue securities at a price below the exercise prices of our outstanding warrants issued in connection with our past preferred stock private placement financings, we must obtain the affirmative consent of holders of at least 67% of each series of such outstanding warrants. If we are unable to obtain the consent of these holders in connection with future financings, we may be unable to raise additional capital on acceptable terms, or at all. If external financing sources are not available in a timely manner or at all, or are inadequate to fund our operations, we could experience reduced revenues and cash flows from the sales of our diagnostic services and our ability to launch, market and sell additional services necessary to grow and sustain our operations could be jeopardized.

Our stock price could decline because of the potentially dilutive effect of future financings and from the exercises of certain common stock warrants.

As of June 30, 2017, we had approximately 2.9 million shares of common stock issued and outstanding. Assuming exercise in full of all options, warrants and convertible securities outstanding as of June 30, 2017, approximately 5.8 million shares of our common stock would be outstanding. Any additional equity or convertible debt financings in the future could result in further dilution to our stockholders.

Item 2. UNREGISTERED SALES OF EQUITY SECURITIES AND USE OF PROCEEDS

None.

Item 3. DEFAULTS UPON SENIOR SECURITIES

None.

Item 4. MINE SAFETY DISCLOSURES

Not applicable.

Item 5. OTHER INFORMATION

None.

Item 6. EXHIBITS

An index of exhibits is found on page 28 of this report.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

COMBIMATRIX CORPORATION

By: /s/ MARK MCDONOUGH

Mark McDonough
Chief Executive Officer
(Principal Executive Officer)

By: /s/ SCOTT R. BURELL

Scott R. Burell
Chief Financial Officer
(Principal Financial and Accounting Officer)

Date: August 11, 2017

EXHIBIT INDEX

Exhibit Number	Description
2.1	Agreement and Plan of Merger and Reorganization by and among the Company, Invitae and Merger Sub, dated as of July 31, 2017. Incorporated by reference to Exhibit 2.1 to the Company's Current Report on Form 8-K (SEC File No. 001-33523) filed with the SEC on July 31, 2017.
3.1	Amended and Restated Certificate of Incorporation. Incorporated by reference to Exhibit 3.1 to the Company's Registration Statement on Form S-1 (SEC File No. 333-139679) filed with the SEC on December 26, 2006.
3.2	Certificate of Amendment to Amended and Restated Certificate of Incorporation. Incorporated by reference to Exhibit 3.1A to the Company's Quarterly Report on Form 10-Q (File No. 001-33523) filed with the SEC on August 14, 2008.
3.3	Certificate of Amendment to Amended and Restated Certificate of Incorporation. Incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on December 4, 2012.
3.4	Certificate of Designation of Preferences, Rights and Limitations of Series A 6% Convertible Preferred Stock. Incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on October 1, 2012.
3.5	Certificate of Designation of Preferences, Rights and Limitations of Series B 6% Convertible Preferred Stock. Incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on March 20, 2013.
3.6	Certificate of Designation of Preferences, Rights and Limitations of Series C 6% Convertible Preferred Stock. Incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on May 6, 2013.
3.7	Certificate of Designation of Preferences, Rights and Limitations of Series D Convertible Preferred Stock. Incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on December 23, 2013.
3.8	Certificate of Designation of Preferences, Rights and Limitations of Series E 6% Convertible Preferred Stock. Incorporated by reference to Exhibit 4.1 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on February 13, 2015.
3.9	Certificate of Amendment to Amended and Restated Certificate of Incorporation. Incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on April 29, 2015.
3.10	Certificate of Amendment to Amended and Restated Certificate of Incorporation. Incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on January 29, 2016.
3.11	Certificate of Designation of Preferences, Rights and Limitations of Series F Convertible Preferred Stock. Incorporated by reference to Exhibit 3.1 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on March 24, 2016.
3.12	Second Amended and Restated Bylaws. Incorporated by reference to Exhibit 3.2 to the Company's Annual Report on Form 10-K (File No. 001-33523) filed with the SEC on March 18, 2010.
10.1	Amended and Restated 2017 Executive Performance Bonus Plan. Incorporated by reference to Exhibit 10.1 to the Company's Current Report on Form 8-K (File No. 001-33523) filed with the SEC on June 19, 2017.

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Exhibit Number	Description
31.1	Certification of Chief Executive Officer pursuant to section 302 of the Sarbanes-Oxley Act of 2002 (*)
31.2	Certification of Chief Financial Officer pursuant to section 302 of the Sarbanes-Oxley Act of 2002 (*)
32.1	Certification of Chief Executive Officer pursuant to section 906 of the Sarbanes-Oxley Act of 2002 (furnished herewith)
32.2	Certification of Chief Financial Officer pursuant to section 906 of the Sarbanes-Oxley Act of 2002 (furnished herewith)
101.0	The following materials from CombiMatrix Corporation's Quarterly Report on Form 10-Q for the quarter and six month periods ended June 30, 2017, formatted in XBRL (eXtensible Business Reporting Language): (i) Consolidated Balance Sheets as of June 30, 2017 and December 31, 2016; (ii) Consolidated Statements of Operations for the three and six months ended June 30, 2017 and 2016; (iii) Consolidated Statements of Comprehensive Loss for the three and six months ended June 30, 2017 and 2016; (iv) Consolidated Statements of Cash Flows for the six months ended June 30, 2017 and 2016; and (v) Notes to Consolidated Financial Statements. (*)

(*) Included herewith.

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

Item 20. Indemnification of Directors and Officers.

Section 102 of the Delaware General Corporation Law, or the DGCL, allows a corporation to eliminate the personal liability of directors of a corporation to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except where the director breached the duty of loyalty, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase in violation of the DGCL or obtained an improper personal benefit.

Section 145 of the DGCL provides, among other things, that Invitae may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding—other than an action by or in the right of Invitae—by reason of the fact that the person is or was a director, officer, agent or employee of Invitae, or is or was serving at Invitae’s request as a director, officer, agent or employee of another corporation, partnership, joint venture, trust or other enterprise against expenses, including attorneys’ fees, judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with such action, suit or proceeding. The power to indemnify applies (a) if such person is successful on the merits or otherwise in defense of any action, suit or proceeding, or (b) if such person acting in good faith and in a manner he or she reasonably believed to be in the best interest, or not opposed to the best interest, of Invitae, and with respect to any criminal action or proceeding had no reasonable cause to believe his or her conduct was unlawful. The power to indemnify applies to actions brought by or in the right of Invitae as well but only to the extent of defense expenses, including attorneys’ fees but excluding amounts paid in settlement, actually and reasonably incurred and not to any satisfaction of judgment or settlement of the claim itself, and with the further limitation that in such actions no indemnification shall be made in the event of any adjudication of liability to Invitae, unless the court believes that in light of all the circumstances indemnification should apply.

Section 174 of the DGCL provides, among other things, that a director, who willfully or negligently approves of an unlawful payment of dividends or an unlawful stock purchase or redemption, may be held liable for such actions. A director who was either absent when the unlawful actions were approved or dissented at the time, may avoid liability by causing his or her dissent to such actions to be entered in the books containing minutes of the meetings of the board of directors at the time such action occurred or immediately after such absent director receives notice of the unlawful acts.

Invitae’s amended and restated certificate of incorporation, as amended, and amended and restated bylaws provide that Invitae shall indemnify its directors, officers, employees and other agents to the fullest extent not prohibited by the DGCL or any other applicable law. In addition, Invitae has entered into agreements to indemnify its directors and expects to continue to enter into agreements to indemnify all of its directors. These agreements require Invitae, among other things, to indemnify its directors and officers against certain liabilities which may arise by reason of their status or service as directors or officers to the fullest extent not prohibited by law. These indemnification provisions and the indemnification agreements may be sufficiently broad to permit indemnification of Invitae’s officers and directors for liabilities, including reimbursement of expenses incurred, arising under the Securities Act of 1933, as amended, or the Securities Act. Invitae also intends to maintain director and officer liability insurance, if available on reasonable terms.

Item 21. Exhibits and Financial Statement Schedules.

(a) Exhibit Index

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A list of exhibits filed with this registration statement on Form S-4 is set forth below.

EXHIBIT INDEX

Exhibit Number	Description
2.1^	Agreement and Plan of Merger and Reorganization, dated as of July 31, 2017, by and among Invitae Corporation, Coronado Merger Sub, Inc. and CombiMatrix Corporation (incorporated by reference to Exhibit 2.1 to Invitae's Current Report on Form 8-K filed on August 1, 2017, and included as Annex A to the proxy statement/prospectus).
3.1	Amended and Restated Certificate of Incorporation of Invitae Corporation (incorporated by reference to Exhibit 3.1 to Invitae's Current Report on Form 8-K filed on February 23, 2015).
3.2	Amended and Restated Bylaws of Invitae Corporation (incorporated by reference to Exhibit 3.2 to Invitae's Current Report on Form 8-K filed on February 23, 2015).
3.3	Certificate of Designation of Preferences, Rights and Limitations of Series A Convertible Preferred Stock of Invitae Corporation (incorporated by reference to Exhibit 3.1 to Invitae's Current Report on Form 8-K filed on August 1, 2017).
4.1	Form of Invitae Corporation Common Stock Certificate (incorporated by reference to Exhibit 4.1 to Invitae's Registration Statement on Form S-1 (File No. 333-201433), as amended, declared effective on February 11, 2015).
4.2#	Form of Invitae Corporation Series D Warrant.
4.3#	Form of Invitae Corporation Series D Warrant Agent Agreement.
4.4#	Form of Invitae Corporation Series F Warrant.
4.5#	Form of Invitae Corporation Series F Warrant Agent Agreement.
5.1#	Legal Opinion of Pillsbury Winthrop Shaw Pittman LLP.
8.1#	Legal Opinion of Pillsbury Winthrop Shaw Pittman LLP regarding tax matters.
8.2#	Legal Opinion of Stradling Yocca Carlson & Rauth, P.C. regarding tax matters.
10.1#	Form of Transaction Bonus Payout Agreement, dated as of July 31, 2017, entered into by and among CombiMatrix Corporation, Invitae Corporation and each of the outside directors of CombiMatrix.
10.2#	Transaction Bonus Payout Agreement, dated as of July 31, 2017, by and among Invitae Corporation, CombiMatrix Corporation and Mark McDonough.
10.3#	Transaction Bonus Payout Agreement, dated as of July 31, 2017, by and among Invitae Corporation, CombiMatrix Corporation and Scott R. Burell.
10.4#	Independent Contractor Agreement, effective as of the closing date of the Merger, by and between Invitae Corporation and Mark McDonough.
10.5#	Independent Contractor Agreement, effective as of the closing date of the Merger, by and between Invitae Corporation and Scott R. Burell.
23.1#	Consent of Independent Registered Public Accounting Firm.
23.2#	Consent of Haskell & White LLP, Independent Registered Public Accounting Firm to CombiMatrix Corporation.

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Exhibit Number	Description
23.3#	Consent of Torreya Capital, Financial Advisor to CombiMatrix Corporation.
23.4#	Consent of Pillsbury Winthrop Shaw Pittman LLP (included in Exhibit 5.1 hereto).
23.5#	Consent of Pillsbury Winthrop Shaw Pittman LLP (included in Exhibit 8.1 hereto).
23.6#	Consent of Stradling Yocca Carlson & Rauth, P.C. (included in Exhibit 8.2 hereto).
24.1#	Powers of Attorney (included on the signature page to this Registration Statement on Form S-4).
99.1#	Form of CombiMatrix Corporation proxy card.
99.2#	Opinion Letter of Torreya Capital (included as Annex B to the proxy statement/prospectus).

Filed herewith.

^ The schedules and exhibits to this exhibit have been omitted pursuant to Item 601(b)(2) of Regulation S-K of the Securities Act. A copy of any omitted schedule and/or exhibit will be furnished to the SEC upon request.

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(b) Financial Statements

The financial statements filed with this registration statement on Form S-4 are set forth on the Financial Statement Index and is incorporated herein by reference.

Item 22. Undertakings

(a) The undersigned Registrant hereby undertakes:

(1) That prior to any public reoffering of the securities registered hereunder through use of a prospectus which is a part of this registration statement, by any person or party who is deemed to be an underwriter within the meaning of Rule 145(c), the Registrant undertakes that such reoffering prospectus will contain the information called for by the applicable registration form with respect to reofferings by persons who may be deemed underwriters, in addition to the information called for by the other items of the applicable form.

(2) That every prospectus (i) that is filed pursuant to paragraph (5) above, or (ii) that purports to meet the requirements of Section 10(a)(3) of the Securities Act of 1933 and is used in connection with an offering of securities subject to Rule 415, will be filed as a part of an amendment to this registration statement and will not be used until such amendment has become effective, and that for the purpose of determining liabilities under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To respond to requests for information that is incorporated by reference into the prospectus pursuant to Items 4, 10(b), 11 or 13 of this form, within one business day of receipt of such request, and to send the incorporated documents by first class mail or other equally prompt means. This includes information contained in documents filed subsequent to the effective date of the registration statement through the date of responding to the request.

(4) To supply by means of a post-effective amendment all information concerning a transaction, and the company being acquired involved therein, that was not the subject of and included in this registration statement when it became effective.

(b) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act, the registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the city of San Francisco, State of California, on September 13, 2017.

INVITAE CORPORATION

By: /s/ Sean E. George
Name: Sean E. George, Ph.D.
Title: President and Chief Executive Officer

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Sean E. George, Ph.D., Shelly D. Guyer and Patricia E. Dumond, and each of them, his/her true and lawful attorney-in-fact and agent, with full power of substitution, for him/her and in his/her name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this registration statement, and any registration statement relating to the offering covered by this registration statement and filed pursuant to Rule 462(b) under the Securities Act of 1933, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent, or his substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

IN WITNESS WHEREOF, each of the undersigned has executed this Power of Attorney as of the date indicated opposite his/her name.

Pursuant to the requirements of the Securities Act, this registration statement has been signed by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Sean E. George</u> Sean E. George, Ph.D.	President, Chief Executive Officer and Director (Principal Executive Officer)	September 13, 2017
<u>/s/ Shelly D. Guyer</u> Shelly D. Guyer	Chief Financial Officer (Principal Financial Officer)	September 13, 2017
<u>/s/ Patricia E. Dumond</u> Patricia E. Dumond	Chief Accounting Officer (Principal Accounting Officer)	September 13, 2017
<u>/s/ Eric Aguiar</u> Eric Aguiar, M.D.	Director	September 13, 2017
<u>/s/ Geoffrey S. Crouse</u> Geoffrey S. Crouse	Director	September 13, 2017
<u>/s/ Christine M. Gorjanc</u> Christine M. Gorjanc	Director	September 13, 2017
<u>/s/ Randal W. Scott</u> Randal W. Scott, Ph.D.	Executive Chairman and Director	September 13, 2017

COMMON STOCK PURCHASE WARRANT

INVITAE CORPORATION

Warrant Shares: _____ Initial Exercise Date: _____, 2017
 Warrant No. WD- _____ Issue Date: _____, 2017

THIS COMMON STOCK PURCHASE WARRANT (the “Warrant”) certifies that, for value received, _____ or its assigns (the “Holder”) is entitled, upon the terms and subject to the limitations on exercise and the conditions hereinafter set forth, at any time on or after the date hereof (the “Initial Exercise Date”) and on or prior to the close of business on December 19, 2018 (the “Termination Date”) but not thereafter, to subscribe for and purchase from Invitae Corporation, a Delaware corporation (the “Company”), up to the above referenced number of shares (as subject to adjustment and certain limitations hereunder, the “Warrant Shares”) of Common Stock (as defined below). The purchase price of one share of Common Stock under this Warrant shall be equal to the Exercise Price, as defined in Section 2(b).

Section 1. Definitions. In addition to the terms defined elsewhere in this Agreement, for all purposes of this Agreement, the following terms have the meanings set forth in this Section 1:

“Affiliate” means any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a Person as such terms are used in and construed under Rule 405 under the Securities Act of 1933, as amended (the “Securities Act”).

“Business Day” means any day except any Saturday, any Sunday, any day which is a federal legal holiday in the United States or any day on which banking institutions in the State of New York are authorized or required by law or other governmental action to close.

“Common Stock” means the common stock of the Company, par value \$0.0001 per share, and any other class of securities into which such securities may hereafter be reclassified or changed.

“Common Stock Equivalents” means any securities of the Company or its subsidiaries which would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock.

“Person” means an individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof) or other entity of any kind.

“Trading Day” means a day on which the principal Trading Market is open for trading.

“Trading Market” means any of the following markets or exchanges on which the Common Stock is listed or quoted for trading on the date in question: the NYSE MKT, the Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market, the New York Stock Exchange or the OTC Bulletin Board (or any successors to any of the foregoing).

“Transfer Agent” means American Stock Transfer & Trust Company, LLC, the current transfer agent of the Company with a mailing address of 6201 15th Avenue, Brooklyn, New York 11219 and a phone number of (718) 921-8200, and any successor transfer agent of the Company.

“VWAP” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if the OTC Bulletin Board is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the OTC Bulletin Board, (c) if the Common Stock is not then listed or quoted for trading on the OTC Bulletin Board and if prices for the Common Stock are then reported in the “Pink Sheets” published by Pink OTC Markets, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Holders of Warrants representing not less than a majority of the Common Stock obtainable upon exercise of all such Warrants then outstanding, and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

“Warrants” means the substantially identical warrants initially issued by the Company on or about the date first written above and having the same exercise price as this Warrant.

Section 2. Exercise.

(a) Exercise of Warrant. Exercise of the purchase rights represented by this Warrant may be made, in whole or in part, at any time or times on or after the Initial Exercise Date and on or before the Termination Date by delivery to the Company (or such other office or agency of the Company as it may designate by notice in writing to the registered Holder at the address of the Holder appearing on the books of the Company) of a duly executed facsimile copy of the Notice of Exercise Form annexed hereto and, within three (3) Trading Days of the date said Notice of Exercise is delivered to the Company, the Company shall have received payment of the aggregate Exercise Price of the shares thereby purchased by wire transfer or cashier’s check drawn on a United States bank or, if available, pursuant to the cashless exercise procedure specified in Section 2(c) below. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in

full, in which case, the Holder shall surrender this Warrant to the Company for cancellation within three (3) Trading Days of the date the final Notice of Exercise is delivered to the Company. Partial exercises of this Warrant resulting in purchases of a portion of the total number of Warrant Shares available hereunder shall have the effect of lowering the outstanding number of Warrant Shares purchasable hereunder in an amount equal to the applicable number of Warrant Shares purchased. The Holder and the Company shall maintain records showing the number of Warrant Shares purchased and the date of such purchases. The Company shall deliver any objection to any Notice of Exercise Form within one (1) Business Day of receipt of such notice. **The Holder and any assignee, by acceptance of this Warrant, acknowledge and agree that, by reason of the provisions of this paragraph, following the purchase of a portion of the Warrant Shares hereunder, the number of Warrant Shares available for purchase hereunder at any given time may be less than the amount stated on the face hereof.**

(b) Exercise Price. The exercise price per share of the Common Stock under this Warrant shall be \$ _____, subject to adjustment hereunder (the “Exercise Price”).

(c) Cashless Exercise. If at the time of exercise hereof there is no effective registration statement registering, or the prospectus contained therein is not available for the issuance of the Warrant Shares to the Holder and all of the Warrant Shares are not then registered for resale by Holder into the market at market prices from time to time on an effective registration statement for use on a continuous basis (or the prospectus contained therein is not available for use), then this Warrant may also be exercised, in whole or in part, at such time by means of a “cashless exercise” in which the Holder shall be entitled to receive a number of Warrant Shares equal to the quotient obtained by dividing [(A-B) (X)] by (A), where:

- (A) = the VWAP on the Trading Day immediately preceding the date on which Holder elects to exercise this Warrant by means of a “cashless exercise,” as set forth in the applicable Notice of Exercise;
- (B) = the Exercise Price of this Warrant, as adjusted hereunder; and
- (X) = the number of Warrant Shares that would be issuable upon exercise of this Warrant (or portion thereof if a partial exercise) in accordance with the terms of this Warrant if such exercise were by means of a cash exercise rather than a cashless exercise.

(d) Mechanics of Exercise.

(i) Delivery of Warrant Shares Upon Exercise. Warrant Shares purchased hereunder shall be transmitted by the Transfer Agent to the Holder by crediting the account of the Holder’s prime broker with The Depository Trust Company through its Deposit or Withdrawal at Custodian system (“DWAC”) if the Company is then a participant in such system and either (A) there is an effective registration statement permitting the issuance of the Warrant Shares to or resale of the Warrant Shares by the Holder or (B) this Warrant is being exercised via cashless exercise, and otherwise by physical delivery to the address specified by the Holder in the Notice of Exercise by the date that is three (3) Trading Days after the latest of (A) the delivery to the Company of the Notice

of Exercise Form (together with a customary representation letter of the Holder), (B) surrender of this Warrant (if required), and (C) payment of the aggregate Exercise Price as set forth above (including by cashless exercise, if permitted) (such date, the “Warrant Share Delivery Date”). This Warrant shall be deemed to have been exercised on the first date on which all of the foregoing have been delivered to the Company. The Warrant Shares shall be deemed to have been issued, and Holder or any other person so designated to be named therein shall be deemed to have become a holder of record of such shares for all purposes, as of the date the Warrant has been exercised, with payment to the Company of the Exercise Price (or by cashless exercise, if permitted) and all taxes required to be paid by the Holder, if any, pursuant to Section 2(d)(vi) prior to the issuance of such shares, having been paid.

(ii) Delivery of New Warrants Upon Exercise. If this Warrant shall have been exercised in part, the Company shall, at the request of the Holder and upon surrender of this Warrant certificate, at the time of delivery of the Warrant Shares, deliver to the Holder a new Warrant evidencing the rights of the Holder to purchase the unpurchased Warrant Shares called for by this Warrant, which new Warrant shall in all other respects be identical with this Warrant.

(iii) Rescission Rights. If the Company fails to cause the Transfer Agent to transmit to the Holder the Warrant Shares pursuant to Section 2(d)(i) by the Warrant Share Delivery Date, then the Holder will have the right to rescind such exercise.

(iv) Compensation for Buy-In on Failure to Timely Deliver Warrant Shares Upon Exercise. In addition to any other rights available to the Holder, if the Company fails to cause the Transfer Agent to transmit to the Holder the Warrant Shares pursuant to an exercise within two (2) Trading Days after the Warrant Share Delivery Date, and if after such date the Holder is required by its broker to purchase (in an open market transaction) or the Holder’s brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a “Buy-In”), then the Company shall (A) pay in cash to the Holder the amount, if any, by which (x) the Holder’s total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (y) the amount obtained by multiplying (1) the number of Warrant Shares that the Company was required to deliver to the Holder in connection with the exercise at issue and that were sold times (2) the price at which the sell order giving rise to such purchase obligation was executed, and (B) at the option of the Holder, either reinstate the portion of the Warrant and equivalent number of Warrant Shares for which such exercise was not honored (in which case such exercise shall be deemed rescinded) or deliver to the Holder the number of shares of Common Stock that would have been issued had the Company timely complied with its exercise and delivery obligations hereunder. For example, if the Holder purchases Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted exercise of shares of Common Stock with an

aggregate sale price giving rise to such purchase obligation of \$10,000, under clause (A) of the immediately preceding sentence the Company shall be required to pay the Holder \$1,000. The Holder shall provide the Company written notice indicating the amounts payable to the Holder in respect of the Buy-In and, upon request of the Company, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

(v) No Fractional Shares or Scrip. No fractional shares or scrip representing fractional shares shall be issued upon the exercise of this Warrant. As to any fraction of a share which the Holder would otherwise be entitled to purchase upon such exercise, the Company shall, at its election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Exercise Price or round up to the next whole share. For the avoidance of doubt, the calculations of the number of Warrant Shares issuable upon exercise of this Warrant shall be aggregated with the number of shares issuable upon the concurrent exercise of any other Warrants, to determine the number of whole shares and fractional shares issuable to the Holder.

(vi) Charges, Taxes and Expenses. Issuance of Warrant Shares shall be made without charge to the Holder for any issue or transfer tax or other incidental expense in respect of the issuance of Warrant Shares, all of which taxes and expenses shall be paid by the Company, and such Warrant Shares shall be issued in the name of the Holder or in such name or names as may be directed by the Holder; provided, however, that in the event that Warrant Shares are to be issued in a name other than the name of the Holder, this Warrant when surrendered for exercise shall be accompanied by the Assignment Form attached hereto duly executed by the Holder and the Company may require, as a condition thereto, the payment of a sum sufficient to reimburse it for any transfer tax incidental thereto. The Company shall pay all Transfer Agent fees required for processing of any Notice of Exercise.

(vii) Closing of Books. The Company will not close its stockholder books or records in any manner which prevents the timely exercise of this Warrant, pursuant to the terms hereof.

(e) Holder's Exercise Limitations. The Company shall not effect any exercise of this Warrant, and the Holder shall not have the right to exercise any portion of this Warrant, pursuant to Section 2 or otherwise, to the extent that after giving effect to such issuance after exercise as set forth on the applicable Notice of Exercise, the Holder (together with the Holder's Affiliates, and any other Persons acting as a group together with the Holder or any of the Holder's Affiliates), would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by the Holder and its Affiliates shall include the number of shares of

Common Stock issuable upon exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (i) exercise of the remaining, nonexercised portion of this Warrant beneficially owned by the Holder or any of its Affiliates and (ii) exercise or conversion of the unexercised or nonconverted portion of any other securities of the Company (including, without limitation, any other Common Stock Equivalents) subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the Holder or any of its Affiliates. Except as set forth in the preceding sentence, for purposes of this Section 2(e), beneficial ownership shall be calculated in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”) and the rules and regulations promulgated thereunder, it being acknowledged by the Holder that the Company is not representing to the Holder that such calculation is in compliance with Section 13(d) of the Exchange Act and the Holder is solely responsible for any schedules required to be filed in accordance therewith. To the extent that the limitation contained in this Section 2(e) applies, the determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates) and of which portion of this Warrant is exercisable shall be in the sole discretion of the Holder, and the submission of a Notice of Exercise shall be deemed to be the Holder’s determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates) and of which portion of this Warrant is exercisable, in each case subject to the Beneficial Ownership Limitation, and the Company shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 2(e), in determining the number of outstanding shares of Common Stock, the Holder may rely on the number of outstanding shares of Common Stock as reflected in (A) the Company’s most recent periodic or annual report filed with the Securities and Exchange Commission, as the case may be, (B) a more recent public announcement by the Company or (C) a more recent written notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request of the Holder, the Company shall within two (2) Trading Days confirm orally and in writing to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder or its Affiliates since the date as of which such number of outstanding shares of Common Stock was reported. The “Beneficial Ownership Limitation” shall be 4.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon exercise of this Warrant. The Holder, upon not less than 61 days’ prior notice to the Company (which notice may not be waived), may increase or decrease the Beneficial Ownership Limitation provisions of this Section 2(e), provided that the Beneficial Ownership Limitation in no event exceeds 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon exercise of this Warrant held by the Holder and the provisions of this Section 2(e) shall continue to apply. Any such increase or decrease will not be effective until the 61st day after such notice is delivered to the Company and shall only apply to such Holder and no other Holder. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 2(e) to correct this paragraph (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation herein contained or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph shall apply to a successor holder of this Warrant.

Section 3. Certain Adjustments.

(a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding: (i) pays a stock dividend or otherwise makes a stock distribution or distributions on shares of its Common Stock or any other equity or equity equivalent securities payable in shares of Common Stock (which, for avoidance of doubt, shall not include any shares of Common Stock issued by the Company upon exercise of this Warrant), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of reverse stock split) outstanding shares of Common Stock into a smaller number of shares or (iv) issues by reclassification of shares of the Common Stock any shares of capital stock of the Company, then in each case the Exercise Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding treasury shares, if any) outstanding immediately before such event and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event, and the number of shares issuable upon exercise of this Warrant shall be proportionately adjusted such that the aggregate Exercise Price of this Warrant shall remain unchanged. Any adjustment made pursuant to this Section 3(a) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision, combination or re-classification.

(b) Subsequent Rights Offerings. In addition to any adjustments pursuant to the other subsections of this Section 3, if at any time the Company grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the “Purchase Rights”), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (provided, however, to the extent that the Holder’s right to participate in any such Purchase Right would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Purchase Right to such extent (or beneficial ownership of such shares of Common Stock as a result of such Purchase Right to such extent) and such Purchase Right to such extent shall be held in abeyance for the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

(c) Pro Rata Distributions. During such time as this Warrant is outstanding, if the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities,

property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a “Distribution”), at any time after the issuance of this Warrant, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, however, to the extent that the Holder’s right to participate in any such Distribution would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Distribution to such extent (or in the beneficial ownership of any shares of Common Stock as a result of such Distribution to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation). To the extent that this Warrant has not been partially or completed exercised at the time of such Distribution, such portion of the Distribution shall be held in abeyance for the benefit of the Holder until the Holder has exercised this Warrant.

(d) Fundamental Transaction. If, at any time while this Warrant is outstanding, (i) the Company, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Company with or into another Person, (ii) the Company, directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of its assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Company or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the outstanding Common Stock, (iv) the Company, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property (other than a reclassification under Section 3(a)), or (v) the Company, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person or group of Persons whereby such other Person or group acquires more than 50% of the outstanding shares of Common Stock (not including any shares of Common Stock held by the other Person or other Persons making or party to, or associated or affiliated with the other Persons making or party to, such stock or share purchase agreement or other business combination) (each a “Fundamental Transaction”), then, upon any subsequent exercise of this Warrant, the Holder shall have the right to receive, for each Warrant Share that would have been issuable upon such exercise immediately prior to the occurrence of such Fundamental Transaction, the number of shares of Common Stock of the successor or acquiring corporation or of the Company, if it is the surviving corporation, and any additional consideration (the “Alternate Consideration”) receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which this Warrant is exercisable immediately prior to such Fundamental Transaction. For purposes of any such exercise, the determination of the Exercise Price shall be appropriately adjusted to apply to such

Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one share of Common Stock in such Fundamental Transaction, and the Company shall apportion the Exercise Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the Holder shall be given the same choice as to the Alternate Consideration it receives upon any exercise of this Warrant following such Fundamental Transaction. The Company shall cause any successor entity in a Fundamental Transaction in which the Company is not the survivor (the “Successor Entity”) to assume in writing all of the obligations of the Company under this Warrant in accordance with the provisions of this Section 3(d). Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Warrant referring to the “Company” shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant with the same effect as if such Successor Entity had been named as the Company herein.

(e) Calculations. All calculations under this Section 3 shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this Section 3, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding treasury shares, if any) issued and outstanding.

(f) Notice to Holder.

(i) Adjustment to Exercise Price. Whenever the Exercise Price is adjusted pursuant to any provision of this Section 3, the Company shall promptly deliver to the Holder a notice setting forth the Exercise Price after such adjustment and any resulting adjustment to the number of Warrant Shares and setting forth a brief statement of the facts requiring such adjustment.

(ii) Notice to Allow Exercise by Holder. If (A) the Company shall declare a dividend (or any other distribution in whatever form) on the Common Stock, (B) the Company shall declare a special nonrecurring cash dividend on or a redemption of the Common Stock, (C) the Company shall authorize the granting to all holders of the Common Stock rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of the Company shall be required in connection with any reclassification of the Common Stock, any consolidation or merger to which the Company is a party, any sale or transfer of all or substantially all of the assets of the Company, or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property, or (E) the Company shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Company, then, in each case, the Company shall cause to be delivered to the Holder at its last address as it shall appear upon the Warrant Register (as defined below) of the Company, at least 10 calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the

date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of which it is expected that holders of the Common Stock of record shall be entitled to exchange their shares of the Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange; provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice. The Holder shall remain entitled to exercise this Warrant during the period commencing on the date of such notice through the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

Section 4. Transfer of Warrant.

(a) Transferability. This Warrant and all rights hereunder (including, without limitation, any registration rights) are transferable, in whole or in part, upon surrender of this Warrant at the principal office of the Company or its designated agent, together with a written assignment of this Warrant substantially in the form attached hereto duly executed by the Holder or its agent or attorney and funds sufficient to pay any transfer taxes payable upon the making of such transfer. Upon such surrender and, if required, such payment, the Company shall execute and deliver a new Warrant or Warrants in the name of the assignee or assignees, as applicable, and in the denomination or denominations specified in such instrument of assignment, and shall issue to the assignor a new Warrant evidencing the portion of this Warrant not so assigned, and this Warrant shall promptly be cancelled. The Warrant, if properly assigned in accordance herewith, may be exercised by a new holder for the purchase of Warrant Shares without having a new Warrant issued.

(b) New Warrants. This Warrant may be divided or combined with other Warrants upon presentation hereof at the aforesaid office of the Company, together with a written notice specifying the names and denominations in which new Warrants are to be issued, signed by the Holder or its agent or attorney. Subject to compliance with Section 4(a), as to any transfer which may be involved in such division or combination, the Company shall execute and deliver a new Warrant or Warrants in exchange for the Warrant or Warrants to be divided or combined in accordance with such notice. All Warrants issued on transfers or exchanges shall be dated the original Issue Date and shall be identical with this Warrant except as to the number of Warrant Shares issuable pursuant thereto.

(c) Warrant Register. The Company shall register this Warrant, upon records to be maintained by the Company for that purpose (the “Warrant Register”), in the name of the record Holder hereof from time to time. The Company may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, absent actual notice to the contrary.

Section 5. Miscellaneous.

(a) No Rights as Stockholder Until Exercise. This Warrant does not entitle the Holder to any voting rights, dividends or other rights as a stockholder of the Company prior to the exercise hereof as set forth in Section 2(d)(i), except as expressly set forth in Section 3.

(b) Loss, Theft, Destruction or Mutilation of Warrant. The Company covenants that upon receipt by the Company of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of this Warrant or any stock certificate relating to the Warrant Shares, and in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to it (which, in the case of the Warrant, shall not include the posting of any bond), and upon surrender and cancellation of such Warrant or stock certificate, if mutilated, the Company will make and deliver a new Warrant or stock certificate of like tenor and dated as of such cancellation, in lieu of such Warrant or stock certificate.

(c) Saturdays, Sundays, Holidays, etc. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall not be a Business Day, then such action may be taken or such right may be exercised on the next succeeding Business Day.

(d) Authorized Shares.

The Company covenants that, during the period the Warrant is outstanding, it will reserve from its authorized and unissued Common Stock a sufficient number of shares to provide for the issuance of the Warrant Shares upon the exercise of any purchase rights under this Warrant. The Company further covenants that its issuance of this Warrant shall constitute full authority to its officers who are charged with the duty of issuing the necessary Warrant Shares upon the exercise of the purchase rights under this Warrant. The Company will take all such reasonable action as may be necessary to assure that such Warrant Shares may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of the Trading Market upon which the Common Stock may be listed. The Company covenants that all Warrant Shares which may be issued upon the exercise of the purchase rights represented by this Warrant will, upon exercise of the purchase rights represented by this Warrant and payment for such Warrant Shares in accordance herewith, be duly authorized, validly issued, fully paid and nonassessable and free from all taxes, liens and charges created by the Company in respect of the issue thereof (other than taxes in respect of any transfer occurring contemporaneously with such issue).

Except and to the extent as waived or consented to by the Holder, the Company shall not by any action, including, without limitation, amending its certificate of incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of the Holder as set forth in this Warrant against impairment. Without limiting the generality of the foregoing, the Company will (i) not increase the par value of any Warrant Shares above the amount payable therefor upon such exercise immediately prior to such increase in par value, (ii) take all such action as may be necessary or appropriate in order that the Company may

validly and legally issue fully paid and nonassessable Warrant Shares upon the exercise of this Warrant and (iii) use commercially reasonable efforts to obtain all such authorizations, exemptions or consents from any public regulatory body having jurisdiction thereof, as may be necessary to enable the Company to perform its obligations under this Warrant.

Before taking any action which would result in an adjustment in the number of Warrant Shares for which this Warrant is exercisable or in the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

(e) Governing Law. All questions concerning the construction, validity, enforcement and interpretation of this Warrant shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of law thereof. Each party agrees that all legal proceedings concerning the interpretations, enforcement and defense of the transactions contemplated by this Warrant (whether brought against a party hereto or its respective affiliates, directors, officers, shareholders, partners, members, employees or agents) shall be commenced exclusively in the state and federal courts sitting in the City of New York. Each party hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in the City of New York, Borough of Manhattan for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein (including with respect to the enforcement of this Warrant), and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is improper or is an inconvenient venue for such proceeding. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Warrant and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by law. If either party shall commence an action, suit or proceeding to enforce any provisions of this Warrant, then the prevailing party in such action, suit or proceeding shall be reimbursed by the other party for its reasonable attorneys' fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding.

(f) Restrictions. The Holder acknowledges that the Warrant Shares acquired upon the exercise of this Warrant, if not registered and the Holder does not utilize cashless exercise, will have restrictions upon resale imposed by state and federal securities laws.

(g) Nonwaiver and Expenses. No course of dealing or any delay or failure to exercise any right hereunder on the part of the Holder shall operate as a waiver of such right or otherwise prejudice the Holder's rights, powers or remedies, notwithstanding the fact that all rights hereunder terminate on the Termination Date. If the Company willfully and knowingly fails to comply with any provision of this Warrant, which results in any material damages to the Holder, the Company shall pay to the Holder such amounts as shall be sufficient to cover any costs and expenses including, but not limited to, reasonable attorneys' fees, including those of appellate proceedings, incurred by the Holder in collecting any amounts due pursuant hereto or in otherwise enforcing any of its rights, powers or remedies hereunder.

(h) Notices. Any notice, request or other document required or permitted to be given or delivered to the Holder by the Company shall be in writing and shall be deemed given, delivered and effective on the earliest of: (a) the date of transmission, if such notice or communication is delivered via facsimile at the facsimile number set forth on the signature pages attached hereto at or prior to 5:30 p.m. (New York City time) on a Trading Day, (b) the next Trading Day after the date of transmission, if such notice or communication is delivered via facsimile at the facsimile number set forth on the signature pages attached hereto on a day that is not a Trading Day or later than 5:30 p.m. (New York City time) on any Trading Day, (c) the third (3rd) Trading Day following the date of mailing, if sent by U.S. nationally recognized overnight courier service or (d) upon actual receipt by the party to whom such notice is required to be given. The address for such notices and communications shall be as set forth on the signature pages attached hereto.

(i) Limitation of Liability. No provision hereof, in the absence of any affirmative action by the Holder to exercise this Warrant to purchase Warrant Shares, and no enumeration herein of the rights or privileges of the Holder, shall give rise to any liability of the Holder for the purchase price of any Common Stock or as a stockholder of the Company, whether such liability is asserted by the Company or by creditors of the Company.

(j) Remedies. The Holder, in addition to being entitled to exercise all rights granted by law, including recovery of damages, will be entitled to specific performance of its rights under this Warrant. The Company agrees that monetary damages would not be adequate compensation for any loss incurred by reason of a breach by it of the provisions of this Warrant and hereby agrees to waive and not to assert the defense in any action for specific performance that a remedy at law would be adequate.

(k) Successors and Assigns. Subject to applicable securities laws, this Warrant and the rights and obligations evidenced hereby shall inure to the benefit of and be binding upon the successors and permitted assigns of the Company and the successors and permitted assigns of the Holder. The provisions of this Warrant are intended to be for the benefit of any holder from time to time of this Warrant and shall be enforceable by the Holder or holder of Warrant Shares.

(l) Amendment. The provisions of this Warrant and all of the other Warrants may be amended and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company has obtained the written consent of the Persons holding Warrants representing not less than a majority of the Common Stock obtainable upon exercise of all such Warrants then outstanding; provided, that the number of Warrant Shares subject to this Warrant, the Exercise Price, the Initial Exercise Date and the Termination Date may not be amended, and the right to exercise this Warrant may not be altered or waived, without the written consent of the Holder. Any such amendment shall apply to all Warrants and be binding upon all registered holders of such Warrants whether or not they have consented (except only for those amendments that, pursuant the preceding sentence, require the written consent of the Holder).

(m) Severability. Wherever possible, each provision of this Warrant shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Warrant shall be prohibited by or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provisions or the remaining provisions of this Warrant.

(n) Headings. The headings used in this Warrant are for the convenience of reference only and shall not, for any purpose, be deemed a part of this Warrant.

(Signature Page Follows)

IN WITNESS WHEREOF, the Company has caused this Warrant to be executed by its officer thereunto duly authorized as of the date first above indicated.

INVITAE CORPORATION

By: _____
Name:
Title:

Holder's Address: _____

NOTICE OF EXERCISE

TO: INVITAE CORPORATION

(1) The undersigned hereby elects to purchase _____ Warrant Shares of the Company pursuant to the terms of the attached Warrant (only if exercised in full), and tenders herewith payment of the Exercise Price in full, together with all applicable transfer taxes, if any.

(2) Payment shall take the form of (check applicable box):

in lawful money of the United States; or

if permitted, the cancellation of such number of Warrant Shares as is necessary, in accordance with the formula set forth in subsection 2(c), to exercise this Warrant with respect to the maximum number of Warrant Shares purchasable pursuant to the cashless exercise procedure set forth in subsection 2(c).

(3) Please issue said Warrant Shares in the name of the undersigned or in such other name as is specified below:

The Warrant Shares shall be delivered to the following DWAC Account Number:

(4) The undersigned represents and warrants to the Company that in giving effect to the exercise evidenced hereby, the undersigned will not own in excess of the number of shares of Common Stock permitted to be owned under Section 2(e) of this Warrant to which this notice relates.

[SIGNATURE OF HOLDER]

Name of Investing Entity:

Signature of Authorized Signatory of Investing Entity :

Name of Authorized Signatory:

Title of Authorized Signatory:

Date:

ASSIGNMENT FORM

(To assign the foregoing Warrant, execute this form and supply required information. Do not use this form to exercise the Warrant.)

FOR VALUE RECEIVED, all of or shares of the foregoing Warrant and all rights evidenced thereby are hereby assigned to whose address is .

Dated: ,

Holder's Signature: _____

Holder's Address: _____

Signature Guaranteed: _____

NOTE: The signature to this Assignment Form must correspond with the name as it appears on the face of the Warrant, without alteration or enlargement or any change whatsoever, and must be guaranteed by a bank or trust company. Officers of corporations and those acting in a fiduciary or other representative capacity should file proper evidence of authority to assign the foregoing Warrant.

INVITAE CORPORATION

and

AMERICAN STOCK TRANSFER & TRUST COMPANY, LLC

WARRANT AGENT AGREEMENT
(Series D Warrants)

Dated as of _____, 2017

THIS WARRANT AGENT AGREEMENT (this "Agreement"), dated as of _____, 2017, is by and between Invitae Corporation, a Delaware corporation (the "Company") and American Stock Transfer & Trust Company, LLC, a New York limited liability trust company, as warrant agent (the "Warrant Agent").

R E C I T A L S

WHEREAS, the Company is party to an Agreement and Plan of Merger and Reorganization, dated July 31, 2017 (the "Merger Agreement"), by and among the Company, Coronado Merger Sub, Inc. ("Merger Sub") and CombiMatrix Corporation ("CombiMatrix"), pursuant to which Merger Sub will merge with and into CombiMatrix, with CombiMatrix surviving the merger as a wholly-owned subsidiary of the Company (the "Merger"). Pursuant to the terms of the Merger Agreement, each Series D warrant to purchase shares of CombiMatrix's common stock that remains outstanding and unexercised at the time of the Merger will be assumed by the Company and converted (the "Warrant Conversion") into one "Series D" warrant (a "Warrant") representing the right to purchase shares of the Company's common stock, par value \$0.0001 per share (the "Common Stock"). Each whole Warrant entitles the holder thereof (a "Holder" which term shall include a Holder's transferees, successors and assigns) to purchase shares of Common Stock upon the terms and subject to the conditions set forth therein;

WHEREAS, the Company has filed with the Securities and Exchange Commission a registration statement on Form S-4, No. 333-_____, as amended, and prospectus, for, among other things, the registration, under the Securities Act of 1933, as amended (the "1933 Act"), of the shares of Common Stock underlying the Warrants;

WHEREAS, in connection with the Warrant Conversion, the Company and the Warrant Agent wish to enter into this Agreement and set forth the terms and conditions of the Warrants pursuant to the form attached hereto as Exhibit B; and

WHEREAS, the Company wishes the Warrant Agent to act on behalf of the Company, and the Warrant Agent is willing so to act, in connection with the issuance, registration, transfer, exchange, exercise and replacement of the Warrants and, in the Warrant Agent's capacity as the Company's transfer agent and registrar, the delivery of the Warrant Shares (as defined below).

NOW, THEREFORE, in consideration of the premises and the mutual agreements herein set forth, the parties hereby agree as follows:

Section 1. Certain Definitions. For purposes of this Agreement, the following terms have the meanings indicated:

(a) “Business Day” means any day other than a Saturday, Sunday or a day on which banking institutions in the State of New York are authorized or obligated by law or executive order to close.

(b) “Exercise Notice” means with respect to the exercise of a Warrant, a form of election to purchase Common Stock in substantially the form attached as the Notice of Exercise Form annexed to the Warrant attached hereto as Exhibit B.

(c) “Exercise Price” means the price per share as set forth in the Warrant, as may be adjusted from time to time as described in the Warrant.

(d) “Person” means an individual, a limited liability company, a partnership, a joint venture, a corporation, a trust, an unincorporated organization, any other entity or a government or any department or agency thereof.

(e) “Warrant Shares” means the shares of Common Stock issuable upon exercise of the Warrants.

Section 2. Appointment of Warrant Agent. The Company hereby appoints the Warrant Agent to act as agent for the Company in accordance with the express terms and conditions (and no implied terms and conditions) set forth herein, and the Warrant Agent hereby accepts such appointment. Invitae shall pay reasonable and customary fees for the Warrant Agent’s services under this Agreement. The Company may from time to time appoint such co-warrant agents as it may, in its sole discretion, deem necessary or desirable upon 10 days’ prior written notice to the Warrant Agent. The Warrant Agent shall have no duty to supervise, and shall in no event be liable for the acts or omissions of any such co-warrant agent.

Section 3. Book-Entry Warrants.

(a) The Warrants shall be issuable in book-entry form. Ownership of beneficial interests in the Warrants shall be shown on, and the transfer of such ownership shall be effected through, records maintained by (i) the Warrant Agent or its nominee for each Warrant or (ii) institutions that have accounts with the Warrant Agent.

(b) If the Warrant Agent subsequently ceases to make its book-entry settlement system available for the Warrants, the Company may instruct the Warrant Agent regarding other arrangements for book-entry settlement or may instruct the Warrant Agent to deliver to each Holder a Warrant certificate in the form attached hereto as Exhibit B.

Section 4. Terms and Conditions of Warrants; Effect of Countersignature. The terms and conditions of the Warrants are set forth in the Warrant attached as Exhibit B hereto (the “Terms and Conditions”). In the event of a conflict between the terms of this Agreement and the Terms and Conditions, the terms of this Agreement shall prevail. Unless and until countersigned by the manual or facsimile signature of the Warrant Agent pursuant to this Agreement, a Warrant shall be invalid and of no effect and may not be exercised by the Holder thereof.

Section 5. Transfer of Warrants.

(a) A Holder of a Warrant may transfer or assign its Warrant pursuant to the Terms and Conditions upon delivery of written notice (duly executed by such Holder or its agent or attorney) and funds sufficient to pay any transfer taxes or charges payable upon the making of such transfer to the Warrant Agent at the office of the Warrant Agent designated for such purpose, or to the office of one of its agents as may be designated in writing by the Warrant Agent. If any such notice is delivered to the Company, the Company will promptly forward the notice to the Warrant Agent. A party requesting transfer of Warrants or other securities must provide any evidence of authority that may be required by the Warrant Agent, including but not limited to, a signature guarantee from an eligible guarantor institution participating in a signature guarantee program approved by the Securities Transfer Association.

(b) If any Warrant is lost, stolen, mutilated or destroyed, absent notice to the Company or the Warrant Agent of an acquisition by a protected purchaser, the Company may, upon receipt by the Warrant Agent of an open penalty surety bond satisfactory to it and holding it and the Company harmless, issue, in a form mutually agreed to by the Warrant Agent and the Company, a new Warrant of like denomination, tenor and date as the Warrant so lost, stolen, mutilated or destroyed, and countersigned by the Warrant Agent. Any such new Warrant shall constitute a substitute contractual obligation of the Company, whether or not the allegedly lost, stolen, mutilated or destroyed Warrant shall be at any time enforceable by anyone.

Section 6. Registration. The Warrant Agent will keep or cause to be kept, at its office, or at the office of one of its agents, books for registration and transfer of the Warrants issued hereunder. Such books shall show the names and addresses of the respective Holders of the Warrants, the number of Warrants held by each Holder, and the date on which the Warrant was granted to such Holder. The Warrant Agent will create a special account for the issuance of the Warrants.

Section 7. Exercise of Warrants.

(a) Subject to the Terms and Conditions (including, without limitation, the limitations set forth in Section 2 of the Warrant and Section 7(c) herein), the Holder of a Warrant may exercise the Warrant, in whole or in part, at the Holder's election at any time on or after the Initial Exercise Date (as defined in the Warrant) and before the Termination Date (as defined in the Warrant). The Holder shall exercise the Warrant, in each case, by delivery of an executed Exercise Notice to the Warrant Agent (or to the Company if the exercise is made pursuant to a cashless exercise pursuant to Section 2(c) of the Warrant) of the Holder's election to exercise the Warrant and payment of the Exercise Price, which may be made, at the option of the Holder, by check delivered to the Warrant Agent at the office of the Warrant Agent designated for such purpose or to the office of one of its agents as may be designated in writing by the Warrant Agent, or by

wire transfer of immediately available funds to the account of the Warrant Agent set forth on Exhibit A hereto. The Warrant Agent shall forward funds received for Warrant exercises in a given month by the 5th business day of the following month by wire transfer to an account designated by the Company. If permitted by the Terms and Conditions (including Section 2(c) of the Warrant), the Holder of a Warrant may exercise the Warrant by cashless exercise, in whole or in part, upon delivery of an executed Exercise Notice to the Company. Upon receipt of an Exercise Notice for a cashless exercise, the Company shall calculate and transmit to the Warrant Agent within one (1) Business Day (and the Warrant Agent shall have no obligation under this section to calculate) the number of Warrant Shares issuable in connection with the cashless exercise (the “Cashless Exercise Notification”). The Warrant Agent shall have no duty or obligation under this Agreement or the Warrant to calculate, confirm, investigate or verify the accuracy of the correctness of, the number of Warrant Shares issuable in connection with any exercise hereunder.

(b) Upon receipt by the Warrant Agent of the Exercise Notice and the Exercise Price as described in Section 7(a) above, or the Cashless Exercise Notification from the Company, the Warrant Agent shall use reasonable efforts to cause to be delivered the Warrant Shares to or upon the order of the Holder of such Warrant, registered in such name or names as may be designated by such Holder by (x) in the event of a cash exercise, the date that is three (3) Business Days after the latest of (A) the delivery to the Warrant Agent of the properly executed and completed Exercise Notice, (B) surrender of such Warrant by the Holder (if required) and (C) payment of the Exercise Price and other amounts as set forth in such Exercise Notice or in the Terms and Conditions or (y) in the event of a cashless exercise, the date that is three (3) Business Days after the delivery to the Warrant Agent by the Company of the Cashless Exercise Notification (each such date, the “Delivery Date”); provided, however, that the Warrant Agent shall not be liable to the Company or the Holder for any damages arising out of the failure to deliver the Warrant Shares by the Delivery Date to the extent that such failure relates to the acts or omissions of the Company, a Holder or a Holder’s prime broker. Notwithstanding the foregoing, if the Company is then a participant in the Deposit Withdrawal at Custodian (“DWAC”) system of the Depository Trust Company (the “Depository”) and either (A) there is an effective registration statement permitting the issuance of the Warrant Shares to and resale of the Warrant Shares by Holder or (B) the Warrant is being exercised via cashless exercise pursuant to the Terms and Conditions, the certificates for Warrant Shares shall be transmitted by the Warrant Agent to the Holder by crediting the account of the Holder’s prime broker with the Depository through its DWAC system to the extent the Holder arranges with its broker to initiate delivery through the DWAC system and the Warrant Agent has been duly instructed to deliver the Warrant Shares through the DWAC system.

(c) A Holder of a Warrant shall not have the right to exercise any portion of the Warrant to the extent that, after giving effect to such issuance, the Holder (together with the Holder’s affiliates and any other persons acting as a group together with the Holder or any of the Holder’s affiliates), would beneficially own in excess of 4.99% of the number of shares of the Company’s Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon exercise of the

Warrant. A Holder, upon not less than 61 days' prior notice to the Company (which notice may not be waived), may increase or decrease the limitation set forth in this Section 7(c) to the extent permitted by Section 2(e) of the Warrant, provided that the limitation in no event exceeds 9.99% of the number of shares of the Company's Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon exercise of the Warrant held by the Holder. Upon receipt of any notice to increase the applicable limitation applicable to a Holder, the Company shall deliver a copy of such notice to the Warrant Agent within five (5) Business Days.

Section 8. Certain Representations: Reservation and Availability of Shares of Common Stock.

(a) This Agreement has been duly authorized, executed and delivered by the Company and, assuming due authorization, execution and delivery hereof by the Warrant Agent, constitutes a valid and legally binding obligation of the Company enforceable against the Company in accordance with its terms, and the Warrants and the Warrant Shares upon issuance have been duly authorized, executed and issued by the Company and, assuming due authentication thereof by the Warrant Agent pursuant hereto, constitute valid and legally binding obligations of the Company enforceable against the Company in accordance with their terms and entitled to the benefits hereof; in each case except as enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws relating to or affecting creditors' rights generally or by general equitable principles (regardless of whether such enforceability is considered in a proceeding in equity or at law).

(b) The Company covenants and agrees that it will cause to be reserved and kept available out of its authorized and unissued shares of Common Stock or its authorized and issued shares of Common Stock held in its treasury, free from preemptive rights, the number of shares of Common Stock that will be sufficient to permit the exercise in full of all outstanding Warrants.

(c) The Company shall provide an opinion of counsel prior to the Warrant Agent setting up a reserve of Warrants and Common Stock to be used in connection with the exercise of the Warrants stating that (i) such shares of Common Stock are registered under the 1933 Act, or are exempt from such registration and the shares are "covered securities" under Section 18 of the 1933 Act, and (ii) such shares will be validly issued, fully paid and non-assessable upon exercise of the Warrants in accordance with their terms.

(d) The Company will, from time to time, promptly pay all taxes and charges that may be imposed upon the Company or the Warrant Agent in respect of the issuance or delivery of Warrant Shares, including those payable pursuant to the Terms and Conditions. The Warrant Agent shall not register any transfer or issue or deliver any Warrant certificate(s) or Warrant Shares unless or until the persons requesting the registration or issuance shall have paid to the Warrant Agent for the account of the Company the amount of such tax or charge, if any, or shall have established to the reasonable satisfaction of the Company and the Warrant Agent that such tax or charge, if any, has been paid.

Section 9. Common Stock Record Date. Each person in whose name any certificate for shares of Common Stock is issued (or to whose prime broker's account is credited shares of Common Stock through the DWAC system) upon the exercise of Warrants shall for all purposes be deemed to have become the holder of record for the Common Stock represented thereby on, and such certificate shall be dated, (x) in the event of a cashless exercise, the date on which the Company receives the Cashless Exercise Notice or (y) in the event of an exercise for cash, the later of (A) the date on which the Warrant Agent receives such Exercise Notice or (B) the date on which the Warrant Agent receives the Exercise Price; provided, however, that if the date of such submission, payment and submission is a date upon which the Common Stock transfer books of the Company are closed, such person shall be deemed to have become the record holder of such shares on, and such certificate shall be dated, the next succeeding day on which the Common Stock transfer books of the Company are open.

Section 10. Adjustment of Exercise Price, Number of Shares of Common Stock or Number of Warrants. The Exercise Price, the number of shares covered by each Warrant and the number of Warrants outstanding are subject to adjustment from time to time as provided in the Terms and Conditions (“Adjustment Events”). The Company hereby agrees that it will provide the Warrant Agent with reasonable written notice of Adjustment Events. The Company further agrees that it will provide the Warrant Agent with any new or amended exercise terms. The Warrant Agent shall have no obligation under this Agreement to determine whether an Adjustment Event has occurred or to calculate any of the adjustments set forth herein.

Section 11. Certification of Adjusted Exercise Price or Number of Shares of Common Stock. Whenever the Exercise Price or the number of shares of Common Stock issuable upon the exercise of each Warrant is adjusted as provided in the Terms and Conditions, the Company shall (a) promptly prepare a certificate setting forth the Exercise Price of each Warrant as so adjusted, and a brief statement of the facts accounting for such adjustment, (b) promptly file with the Warrant Agent a copy of such certificate and (c) instruct the Warrant Agent to mail, at the expense of the Company, such certificate to each Holder of a Warrant.

Section 12. Reclassification, Consolidation, Purchase, Combination, Sale or Conveyance. If, at any time while the Warrants are outstanding, the Company shall effect any Fundamental Transaction, as such term is used in the Terms and Conditions, the Company shall instruct the Warrant Agent to mail by first class mail, postage prepaid, to each Holder of a Warrant, written notice of the execution of any related amendment, supplement or new form of Warrant. Any amendment, supplement or new form of Warrant entered into by the successor corporation or transferee shall provide for adjustments as set forth in the Terms and Conditions. The Warrant Agent shall be under no responsibility to determine the correctness of any provisions contained in such amendment, supplement or new form of Warrant relating either to the kind or amount of securities or other property receivable upon exercise of warrants or with respect to the method employed and provided therein for any adjustments and shall be entitled to rely upon the provisions contained in any such amendment, supplement or new form of Warrant. The provisions of this Section 12 shall similarly apply to successive Fundamental Transactions.

Section 13. Concerning the Warrant Agent.

(a) The Company agrees to pay to the Warrant Agent reasonable compensation for all services rendered by it hereunder and, from time to time, on demand of the Warrant Agent, its reasonable expenses and reasonable counsel fees and other disbursements and advances incurred by the Warrant Agent in the preparation, negotiation, delivery, amendment, administration and execution of this Agreement and the exercise and performance of its duties hereunder.

(b) The Company covenants and agrees to indemnify and to hold the Warrant Agent harmless against any costs, expenses (including reasonable fees of its legal counsel), losses or damages, which may be paid, incurred or suffered by or to which it may become subject, arising from or out of, directly or indirectly, any claims or liability resulting from its actions as warrant agent pursuant hereto; provided, that such covenant and agreement does not extend to, and the Warrant Agent shall not be indemnified with respect to, such costs, expenses, losses and damages incurred or suffered by the Warrant Agent as a result of, or arising out of, its gross negligence, bad faith, or willful misconduct (each as determined by a final, non-appealable judgment of a court of competent jurisdiction). The costs and expenses incurred by the Warrant Agent in enforcing this right of indemnification shall be paid by the Company if the Warrant Agent is the prevailing party.

(c) Notwithstanding anything in this Agreement to the contrary, in no event will the Warrant Agent be liable for special, punitive, indirect, incidental or consequential loss or damage of any kind whatsoever (including but not limited to lost profits), even if the Warrant Agent has been advised of the likelihood of such loss or damage and regardless of the form of action. The Warrant Agent will not be deemed to have knowledge of any event of which it was supposed to receive notice thereof hereunder, and the Warrant Agent will be fully protected and will incur no liability for failing to take any action in connection therewith unless and until it has received such notice.

(d) The Warrant Agent shall be liable for losses or damage to the Company directly attributable to the Warrant Agent's gross negligence, bad faith or willful misconduct (each as determined in a final non-appealable judgment of a court of competent jurisdiction) in the performance of its obligations hereunder.

(e) Promptly after the receipt by the Warrant Agent of notice of any demand or claim or the commencement of any action, suit, proceeding or investigation, the Warrant Agent shall, if a claim in respect thereof is to be made against the Company, notify the Company thereof in writing. For the purposes of this Section 13, the terms "expense" or "loss" mean any amount paid or payable to satisfy any claim, demand, action, suit or proceeding, and all reasonable costs and expenses, including, but not limited to, reasonable counsel fees and disbursements, paid or incurred in investigating or defending against any such claim, demand, action, suit, proceeding or investigation.

(f) Promptly after the receipt by the Company of notice of any demand or claim or the commencement of any action, suit, proceeding or investigation, the Company shall, if a claim in respect thereof is to be made against the Warrant Agent, notify the Warrant Agent thereof in writing.

(g) All funds received by the Warrant Agent under this Agreement that are to be distributed or applied by the Warrant Agent in the performance of services under this Agreement (the “Funds”) shall be held by the Warrant Agent as agent for the Company and deposited in one or more bank accounts to be maintained by the Warrant Agent in its name as agent for the Company. Until paid pursuant to the terms of this Agreement, the Warrant Agent will hold the Funds through such accounts in: deposit accounts of commercial banks with Tier 1 capital exceeding \$1 billion or with an average rating above investment grade by S&P (LT Local Issuer Credit Rating), Moody’s (Long Term Rating) and Fitch Ratings, Inc. (LT Issuer Default Rating) (each as reported by Bloomberg Finance L.P.). The Warrant Agent shall have no responsibility or liability for any diminution of the Funds that may result from any deposit made by the Warrant Agent in accordance with this paragraph, including any losses resulting from a default by any bank, financial institution or other third party. The Warrant Agent may from time to time receive interest, dividends or other earnings in connection with such deposits. The Warrant Agent shall not be obligated to pay such interest, dividends or earnings to the Company, any Holder or any other party.

(h) In the event of a cash exercise of the Warrants, the Company shall instruct the Warrant Agent as to the cost basis for the newly issued shares. In the event of a cashless exercise of the Warrants, the Company shall instruct the Warrant Agent as to the cost basis for the newly issued shares at the time of the delivery to the Warrant Agent by the Company of the Cashless Exercise Notification.

(i) From time to time, the Warrant Agent may request funding to cover any fractional payments. The Warrant Agent shall have no obligation to make fractional payments unless the Company shall have provided the necessary funds to pay in full all amounts due and payable with respect thereto.

(j) Notwithstanding anything contained herein to the contrary, the Warrant Agent’s aggregate liability during any term of this Agreement with respect to, arising from, or arising in connection with this Agreement, or from all services provided or omitted to be provided under this Agreement, whether in contract, or in tort, or otherwise, is limited to, and shall not exceed, the amounts paid hereunder by the Company to the Warrant Agent as fees and charges, but not including reimbursable expenses of the Warrant Agent.

The provisions of this Section 13 and Section 15 shall survive the termination of this Agreement, the exercise or expiration of the Warrants and the resignation, replacement or removal of the Warrant Agent.

Section 14. Purchase or Consolidation or Change of Name of Warrant Agent. Any Person into which the Warrant Agent or any successor warrant agent may be merged or with which it may be consolidated, or any Person resulting from any merger or consolidation to which the Warrant Agent or any successor warrant agent shall be party, or any corporation succeeding

to the business of the Warrant Agent or any successor warrant agent, shall be the successor to the Warrant Agent under this Agreement without the execution or filing of any paper or any further act on the part of any of the parties hereto, provided that such entity would be eligible for appointment as a successor warrant agent under the provisions of Section 16.

Section 15. Duties of Warrant Agent. The Warrant Agent undertakes the express duties and obligations imposed by this Agreement upon the following terms and conditions (and no duties or obligations shall be inferred), by all of which the Company and the Holders of Warrants, by their acceptance thereof, shall be bound:

(a) The Warrant Agent shall not be accountable with respect to the validity, value, kind or amount of any Warrant Shares, securities or property which may be issued or delivered at any time upon the exercise of any Warrant and makes no representation with respect thereto.

(b) The Warrant Agent shall not be obligated to expend or risk its own funds or to take any action that it believes would expose or subject it to expense or liability or to a risk of incurring expense or liability, unless it has been furnished with assurances of repayment or indemnity satisfactory to it.

(c) The Warrant Agent may consult with its legal counsel, and the advice or opinion of such counsel shall be full and complete authorization and protection to the Warrant Agent and the Warrant Agent shall not incur any liability for or in respect of any action taken or omitted by it in the absence of bad faith and in accordance with such advice or opinion.

(d) Whenever in the performance of its duties under this Agreement the Warrant Agent shall deem it necessary or desirable that any fact or matter be proved or established by the Company prior to taking or suffering any action hereunder, such fact or matter (unless other evidence in respect thereof be herein specifically prescribed) may be deemed to be conclusively proved and established by written (including electronic) instructions of the Chief Executive Officer or President of the Company or by the Chief Financial Officer of the Company and delivered to the Warrant Agent; and such certificate shall be full authentication to the Warrant Agent for any action taken or suffered by it, in the absence of bad faith, under the provisions of this Agreement in reliance upon such writing.

(e) The Warrant Agent may rely on, and will be held harmless and protected and shall incur no liability in acting or refraining from acting, upon any resolution, certificate, statement, instrument, opinion, report, notice, request, direction, consent, order, bond, debenture, note, other evidence of indebtedness or other paper or document from the Company with respect to any matter relating to its acting as warrant agent hereunder believed by it to be genuine and to have been signed or presented by the proper Person or upon any written or oral instructions or statements from the Company with respect to any matter relating to its acting as warrant agent hereunder. The Warrant Agent need not investigate any fact or matter stated in such paper or document.

(f) The Warrant Agent shall not be liable for or by reason of any of the statements of fact or recitals contained in this Agreement or in the Warrant or be required to verify the same, but all such statements and recitals are and shall be deemed to have been made by the Company only.

(g) The Warrant Agent shall not have any duty or responsibility in the case of the receipt of any written demand from any Holder of Warrants with respect to any action or default by the Company, including, without limiting the generality of the foregoing, any duty or responsibility to initiate or attempt to initiate any proceedings at law or otherwise or to make any demand upon the Company.

(h) The Warrant Agent shall not be under any responsibility in respect of the validity of this Agreement or the execution and delivery hereof (except the due execution hereof by the Warrant Agent); nor shall it be responsible for any breach by the Company of any covenant or condition contained in this Agreement or in the Warrant; nor shall it be responsible for the adjustment of the Exercise Price or the making of any change in the number of shares of Common Stock or Warrant Shares required under the provisions of Section 7, Section 10, Section 12 and the Warrant or responsible for the manner, method or amount of any such change or the ascertaining of the existence of facts that would require any such adjustment or change (except with respect to the exercise of Warrants after actual notice of any adjustment of the Exercise Price); nor shall it by any act hereunder be deemed to make any representation or warranty as to the authorization or reservation of any shares of Common Stock to be issued pursuant to this Agreement or as to whether any shares of Common Stock will, when issued, be duly authorized, validly issued, fully paid and nonassessable.

(i) The Company agrees that it will perform, execute, acknowledge and deliver or cause to be performed, executed, acknowledged and delivered all such further and other acts, instruments and assurances as may reasonably be required by the Warrant Agent for the carrying out or performing by the Warrant Agent of the provisions of this Agreement.

(j) The Warrant Agent is hereby authorized to accept instructions with respect to the performance of its duties hereunder from the Chief Executive Officer or the Chief Financial Officer of the Company, may apply to such officers for advice or instructions in connection with its duties, and may consult with legal counsel for the Warrant Agent with respect to any matter arising in connection with the services to be performed by the Warrant Agent under this Agreement. The Warrant Agent shall not be liable and shall be indemnified and held harmless for any action taken or suffered to be taken by it in accordance with instructions of any officer of the Company, provided the Warrant Agent carries out such instructions without gross negligence, bad faith or willful misconduct. The Warrant Agent shall not be held to have notice of any change of authority of any person, until receipt of written notice thereof from the Company.

(k) The Warrant Agent and any shareholder, director, officer, manager, member or employee of the Warrant Agent may buy, sell or deal in any of the Warrants or other securities of the Company or become pecuniarily interested in any transaction in which the Company may be interested, or contract with or lend money to the Company or otherwise act as fully and freely as though it were not warrant agent under this Agreement. Nothing herein shall preclude the Warrant Agent from acting in any other capacity for the Company or for any other legal entity.

(l) The Warrant Agent may execute and exercise any of the rights or powers hereby vested in it or perform any duty hereunder either itself or by or through its attorney or agents, and the Warrant Agent shall not be answerable or accountable for any act, default, neglect or misconduct of any such attorney or agents or for any loss to the Company resulting from any such act, default, neglect or misconduct, absent gross negligence, bad faith or willful misconduct (each as determined by a final judgment of a court of competent jurisdiction) in the selection and continued employment thereof.

(m) The Warrant Agent shall not be liable or responsible for any failure of the Company to comply with any of its obligations relating to any registration statement filed with the Securities and Exchange Commission or this Agreement, including without limitation obligations under applicable regulation or law.

(n) The Warrant Agent shall not be accountable or under any duty or responsibility for the use by the Company of any Warrants authenticated by the Warrant Agent and delivered by it to the Company pursuant to this Agreement or for the application by the Company of the proceeds of the issue and sale, or exercise, of the Warrants.

(o) The Warrant Agent shall act hereunder solely as agent for the Company, and its duties shall be determined solely by the express provisions hereof (and no duties or obligations shall be inferred or implied). The Warrant Agent shall not assume any obligations or relationship of agency or trust with any of the owners or Holders of the Warrants.

(p) The Warrant Agent may rely on and be fully authorized and protected in acting or failing to act upon (a) any guaranty of signature by an "eligible guarantor institution" that is a member or participant in the Securities Transfer Agents Medallion Program or other comparable "signature guarantee program" or insurance program in addition to, or in substitution for, the foregoing; or (b) any law, act, regulation or any interpretation of the same even though such law, act, or regulation may thereafter have been altered, changed, amended or repealed.

(q) In the event the Warrant Agent believes any ambiguity or uncertainty exists hereunder or in any notice, instruction, direction, request or other communication, paper or document received by the Warrant Agent hereunder, the Warrant Agent, may, in its sole discretion, refrain from taking any action so long as the Warrant Agent promptly notifies the Company of such ambiguity or uncertainty, and shall be fully protected and shall not be liable in any way to the Company, the Holder of any Warrant or any other person or entity for refraining from taking such action, unless the Warrant Agent receives written instructions signed by the Company which eliminates such ambiguity or uncertainty to the satisfaction of the Warrant Agent.

Section 16. Change of Warrant Agent. The Warrant Agent may resign and be discharged from its duties under this Agreement upon 30 days' notice in writing mailed to the Company and, in the event that the Warrant Agent or one of its affiliates is not also the transfer agent for the Company, to each transfer agent of the Common Stock in accordance with Section 18. In the event the transfer agency relationship in effect between the Company and the Warrant Agent terminates, the Warrant Agent will be deemed to have resigned automatically and be discharged from its duties under this Agreement as of the effective date of such termination, and the Company will be responsible for sending any required notice(s). The Company may remove the Warrant Agent or any successor warrant agent upon 30 days' notice in writing, mailed to the Warrant Agent or successor warrant agent, as the case may be, and to each transfer agent of the Common Stock by registered or certified mail, and to the Holders of the Warrants by first- class mail. If the Warrant Agent shall resign or be removed or shall otherwise become incapable of acting, the Company shall appoint a successor to the Warrant Agent. If the Company shall fail to make such appointment within a period of 30 days after such removal or after it has been notified in writing of such resignation or incapacity by the resigning or incapacitated Warrant Agent or by the Holder of a Warrant, then the Holder of any Warrant may apply to any court of competent jurisdiction for the appointment of a new warrant agent. Any successor warrant agent, whether appointed by the Company or by such a court, shall be a Person organized and doing business under the laws of the United States or of a state thereof, in good standing and which is authorized under such laws to exercise corporate trust or stock transfer powers. After appointment, the successor warrant agent shall be vested with the same powers, rights, duties and responsibilities as if it had been originally named as warrant agent without further act or deed; but the predecessor warrant agent shall deliver and transfer to the successor warrant agent any property at the time held by it hereunder, and execute and deliver any further assurance, conveyance, act or deed necessary for the purpose. Not later than the effective date of any such appointment, the Company shall file notice thereof in writing with the predecessor warrant agent and each transfer agent of the Common Stock, and mail a notice thereof in writing to the Holders of the Warrants. However, failure to give any notice provided for in this Section 16, or any defect therein, shall not affect the legality or validity of the resignation or removal of the Warrant Agent or the appointment of the successor warrant agent, as the case may be.

Section 17. Warrant Exercise Solicitation. From time to time, the Company may engage one or more registered broker-dealer(s) to act as the Company's agent for the solicitation of the exercise of the Warrants. If so engaged, the Company will provide the Warrant Agent with written notice of the engagement and the Warrant Agent agrees that it will reasonably cooperate with such solicitation activities.

Section 18. Notices. Subject to the provisions of Section 16, any notice, statement or demands authorized by this Agreement to be given or made by (i) the Company or by the Holder of any Warrant to or on the Warrant Agent, or (ii) the Warrant Agent or by the Holder of any Warrant to or on the Company, must be in writing and sufficiently given or made when sent by overnight delivery service or first-class mail, postage prepaid addressed as follows (or at such other address for a party as shall be specified by like notice):

If to the Warrant Agent, to:

American Stock Transfer & Trust Company, LLC

6201 15th Avenue
Brooklyn, NY 11219
Attention: Compliance Dept.

If to the Company, to:

Invitae Corporation
1400 16th Street
San Francisco, CA 94103
Attention: Chief Financial Officer

Any notice, statement or demand authorized by this Agreement to be given or made by the Company or the Warrant Agent to the Holder of any Warrant, must be in writing and sufficiently given or made when sent by email, facsimile, first-class mail, postage prepaid, to the address of such Holder as shown on the registry books of the Company. Any notice required to be delivered by the Company to the Holder of any Warrant may be given by the Warrant Agent on behalf of the Company.

Section 19. Supplements and Amendments.

(a) The Company and the Warrant Agent may from time to time supplement or amend this Agreement without the approval of any Holders of Warrant Certificates in order to cure any ambiguity, to correct or supplement any provision contained herein which may be defective or inconsistent with any other provisions herein, or to make any other provisions with regard to matters or questions arising hereunder which the Company and the Warrant Agent may deem necessary or desirable and which shall not adversely affect the interests of the Holders of Warrants.

(b) In addition to the foregoing, in accordance with the Terms and Conditions, the Company and the Warrant Agent may modify this Agreement for the purpose of adding any provisions to or changing in any manner or eliminating any of the provisions of this Agreement or modifying in any manner the rights of the Holders of the Warrants. As a condition precedent to the Warrant Agent's execution of any such amendment that amends the rights of the Holders of the Warrants, the Company shall deliver to the Warrant Agent a certificate from a duly authorized officer of the Company that states that the Terms and Conditions have been duly amended pursuant to the terms thereof and that the proposed amendment to this Agreement is compliant with this Section 19 and Terms and Conditions, as amended; provided, however, that the Warrant Agent shall not be obligated to execute any supplement or amendment that adversely affect its rights, duties or obligations or immunities hereunder.

Section 20. Successors. All covenants and provisions of this Agreement by or for the benefit of the Company or the Warrant Agent shall bind and inure to the benefit of their respective successors and assigns hereunder.

Section 21. Benefits of this Agreement. Nothing in this Agreement shall be construed to give any Person other than the Company and the Warrant Agent any legal or equitable right, remedy or claim under this Agreement; but this Agreement shall be for the sole and exclusive benefit of the Company, the Warrant Agent and the Holders of the Warrants.

Section 22. Governing Law. This Agreement and each Warrant issued hereunder shall be governed by, and construed in accordance with, the laws of the State of New York without giving effect to the conflicts of law principles thereof. The Company and each Holder of Warrants hereby irrevocably submits to the exclusive jurisdiction of the courts of the State of New York or the United States District Court for the Southern District of New York, over any suit, action or proceeding arising out of or relating to this Agreement. The Company and each Holder of Warrants acknowledge that the forum designated by this Section 22 has a reasonable relation to this Agreement and to such Persons' relationship with one another. The Company and each Holder of Warrants hereby waive, to the fullest extent permitted by applicable law, any objection which they now or hereafter have to personal jurisdiction or to the laying of venue of any such suit, action or proceeding brought in any court referred to in this Section 22. The Company and each Holder of Warrants undertake not to commence any action subject to this Agreement in any forum other than the forum described in this Section 22. The Company and each Holder of Warrants agree that, to the fullest extent permitted by applicable law, a final and non-appealable judgment in any such suit, action or proceeding brought in any such court will be conclusive and binding upon such Persons.

Section 23. Confidentiality. The Warrant Agent and the Company agree that all books, records, information and data pertaining to the business of the other party, including inter alia, personal, non-public warrant holder information, which are exchanged or received pursuant to the negotiation or the carrying out of this Agreement including the fees for services set forth in the attached schedule shall remain confidential, and shall not be voluntarily disclosed to any other person, except as may be required by law, including, without limitation, pursuant to subpoenas from state or federal government authorities (e.g., in divorce and criminal actions).

Section 24. Counterparts. This Agreement may be executed in any number of counterparts and each of such counterparts shall for all purposes be deemed to be an original, and all such counterparts shall together constitute but one and the same instrument. A signature to this Agreement executed and/or transmitted electronically shall have the same authority, effect, and enforceability as an original signature

Section 25. Captions. The captions of the sections of this Agreement have been inserted for convenience only and shall not control or affect the meaning or construction of any of the provisions hereof.

Section 26. Customer Identification Program. The Company acknowledges that the Warrant Agent is subject to the customer identification program ("Customer Identification Program") requirements under the USA PATRIOT Act and its implementing regulations, and that the Warrant Agent must obtain, verify and record information that allows the Warrant Agent to identify the Company. Accordingly, prior to accepting an appointment hereunder, the Warrant Agent may request information from the Company that will help the Warrant Agent to identify the Company, including without limitation the Company's physical address, tax identification number, organizational documents, certificate of good standing, license to do business, or any other information that the Warrant Agent deems necessary. The Company agrees that the Warrant Agent cannot accept an appointment hereunder unless and until the Warrant Agent verifies the Company's identity in accordance with the Customer Identification Program requirements.

Section 27. Force Majeure. Notwithstanding anything to the contrary contained herein, neither the Warrant Agent nor the Company shall be liable for, or considered to be in breach of or default under this Agreement (including Section 13) on account of any delay or failure to perform its obligations hereunder due to causes beyond such party's reasonable control including, without limitation, acts of God, terrorist acts, shortage of supply, breakdowns or malfunctions, interruptions or malfunction of computer facilities, or loss of data due to power failures or mechanical difficulties with information storage or retrieval systems, labor difficulties, war, or civil unrest.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed as of the day and year first above written.

INVITAE CORPORATION

By: _____

Name: Shelly Guyer

Title: Chief Financial Officer

**AMERICAN STOCK TRANSFER & TRUST COMPANY,
LLC**

By: _____

Name:

Title:

[Signature page to Warrant Agent Agreement (Series D Warrants)]

EXHIBIT A

WIRE INSTRUCTIONS

Santander Bank NA.
601 Penn Street
Reading, PA 19601

ABA # 231372691

SWIFT CODE: SVRNUS33

For further credit to: American Stock Transfer & Trust, LLC

6201 15TH Avenue

Brooklyn, NY 11219

Account # 3036002123

Reference: CombiMatrix Corporation

Attn: Accounts Receivable

EXHIBIT B

FORM OF WARRANT

See attached .

COMMON STOCK PURCHASE WARRANT

INVITAE CORPORATION

Warrant Shares: Initial Exercise Date: , 2017
Warrant No. WD- Issue Date: , 2017

THIS COMMON STOCK PURCHASE WARRANT (the “Warrant”) certifies that, for value received, or its assigns (the “Holder”) is entitled, upon the terms and subject to the limitations on exercise and the conditions hereinafter set forth, at any time on or after the date hereof (the “Initial Exercise Date”) and on or prior to the close of business on December 19, 2018 (the “Termination Date”) but not thereafter, to subscribe for and purchase from Invitae Corporation, a Delaware corporation (the “Company”), up to the above referenced number of shares (as subject to adjustment and certain limitations hereunder, the “Warrant Shares”) of Common Stock (as defined below). The purchase price of one share of Common Stock under this Warrant shall be equal to the Exercise Price, as defined in Section 2(b).

Section 1. Definitions. In addition to the terms defined elsewhere in this Agreement, for all purposes of this Agreement, the following terms have the meanings set forth in this Section 1:

“Affiliate” means any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a Person as such terms are used in and construed under Rule 405 under the Securities Act of 1933, as amended (the “Securities Act”).

“Business Day” means any day except any Saturday, any Sunday, any day which is a federal legal holiday in the United States or any day on which banking institutions in the State of New York are authorized or required by law or other governmental action to close.

“Common Stock” means the common stock of the Company, par value \$0.0001 per share, and any other class of securities into which such securities may hereafter be reclassified or changed.

“Common Stock Equivalents” means any securities of the Company or its subsidiaries which would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock.

“Person” means an individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof) or other entity of any kind.

“Trading Day” means a day on which the principal Trading Market is open for trading.

“Trading Market” means any of the following markets or exchanges on which the Common Stock is listed or quoted for trading on the date in question: the NYSE MKT, the Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market, the New York Stock Exchange or the OTC Bulletin Board (or any successors to any of the foregoing).

“Transfer Agent” means American Stock Transfer & Trust Company, LLC, the current transfer agent of the Company with a mailing address of 6201 15th Avenue, Brooklyn, New York 11219 and a phone number of (718) 921-8200, and any successor transfer agent of the Company.

“VWAP” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if the OTC Bulletin Board is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the OTC Bulletin Board, (c) if the Common Stock is not then listed or quoted for trading on the OTC Bulletin Board and if prices for the Common Stock are then reported in the “Pink Sheets” published by Pink OTC Markets, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Holders of Warrants representing not less than a majority of the Common Stock obtainable upon exercise of all such Warrants then outstanding, and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

“Warrants” means the substantially identical warrants initially issued by the Company on or about the date first written above and having the same exercise price as this Warrant.

Section 2. Exercise.

(a) Exercise of Warrant. Exercise of the purchase rights represented by this Warrant may be made, in whole or in part, at any time or times on or after the Initial Exercise Date and on or before the Termination Date by delivery to the Company (or such other office or agency of the Company as it may designate by notice in writing to the registered Holder at the address of the Holder appearing on the books of the Company) of a duly executed facsimile copy of the Notice of Exercise Form annexed hereto and, within three (3) Trading Days of the date said Notice of Exercise is delivered to the Company, the Company shall have received payment of the aggregate Exercise Price of the shares thereby purchased by wire transfer or cashier’s check drawn on a United States bank or, if available, pursuant to the cashless exercise procedure specified in Section 2(c) below. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in

full, in which case, the Holder shall surrender this Warrant to the Company for cancellation within three (3) Trading Days of the date the final Notice of Exercise is delivered to the Company. Partial exercises of this Warrant resulting in purchases of a portion of the total number of Warrant Shares available hereunder shall have the effect of lowering the outstanding number of Warrant Shares purchasable hereunder in an amount equal to the applicable number of Warrant Shares purchased. The Holder and the Company shall maintain records showing the number of Warrant Shares purchased and the date of such purchases. The Company shall deliver any objection to any Notice of Exercise Form within one (1) Business Day of receipt of such notice. **The Holder and any assignee, by acceptance of this Warrant, acknowledge and agree that, by reason of the provisions of this paragraph, following the purchase of a portion of the Warrant Shares hereunder, the number of Warrant Shares available for purchase hereunder at any given time may be less than the amount stated on the face hereof.**

(b) Exercise Price. The exercise price per share of the Common Stock under this Warrant shall be \$ _____, subject to adjustment hereunder (the “Exercise Price”).

(c) Cashless Exercise. If at the time of exercise hereof there is no effective registration statement registering, or the prospectus contained therein is not available for the issuance of the Warrant Shares to the Holder and all of the Warrant Shares are not then registered for resale by Holder into the market at market prices from time to time on an effective registration statement for use on a continuous basis (or the prospectus contained therein is not available for use), then this Warrant may also be exercised, in whole or in part, at such time by means of a “cashless exercise” in which the Holder shall be entitled to receive a number of Warrant Shares equal to the quotient obtained by dividing [(A-B) (X)] by (A), where:

- (A) = the VWAP on the Trading Day immediately preceding the date on which Holder elects to exercise this Warrant by means of a “cashless exercise,” as set forth in the applicable Notice of Exercise;
- (B) = the Exercise Price of this Warrant, as adjusted hereunder; and
- (X) = the number of Warrant Shares that would be issuable upon exercise of this Warrant (or portion thereof if a partial exercise) in accordance with the terms of this Warrant if such exercise were by means of a cash exercise rather than a cashless exercise.

(d) Mechanics of Exercise.

(i) Delivery of Warrant Shares Upon Exercise. Warrant Shares purchased hereunder shall be transmitted by the Transfer Agent to the Holder by crediting the account of the Holder’s prime broker with The Depository Trust Company through its Deposit or Withdrawal at Custodian system (“DWAC”) if the Company is then a participant in such system and either (A) there is an effective registration statement permitting the issuance of the Warrant Shares to or resale of the Warrant Shares by the Holder or (B) this Warrant is being exercised via cashless exercise, and otherwise by physical delivery to the address specified by the Holder in the Notice of Exercise by the date that is three (3) Trading Days after the latest of (A) the delivery to the Company of the Notice

of Exercise Form (together with a customary representation letter of the Holder), (B) surrender of this Warrant (if required), and (C) payment of the aggregate Exercise Price as set forth above (including by cashless exercise, if permitted) (such date, the “Warrant Share Delivery Date”). This Warrant shall be deemed to have been exercised on the first date on which all of the foregoing have been delivered to the Company. The Warrant Shares shall be deemed to have been issued, and Holder or any other person so designated to be named therein shall be deemed to have become a holder of record of such shares for all purposes, as of the date the Warrant has been exercised, with payment to the Company of the Exercise Price (or by cashless exercise, if permitted) and all taxes required to be paid by the Holder, if any, pursuant to Section 2(d)(vi) prior to the issuance of such shares, having been paid.

(ii) Delivery of New Warrants Upon Exercise. If this Warrant shall have been exercised in part, the Company shall, at the request of the Holder and upon surrender of this Warrant certificate, at the time of delivery of the Warrant Shares, deliver to the Holder a new Warrant evidencing the rights of the Holder to purchase the unpurchased Warrant Shares called for by this Warrant, which new Warrant shall in all other respects be identical with this Warrant.

(iii) Rescission Rights. If the Company fails to cause the Transfer Agent to transmit to the Holder the Warrant Shares pursuant to Section 2(d)(i) by the Warrant Share Delivery Date, then the Holder will have the right to rescind such exercise.

(iv) Compensation for Buy-In on Failure to Timely Deliver Warrant Shares Upon Exercise. In addition to any other rights available to the Holder, if the Company fails to cause the Transfer Agent to transmit to the Holder the Warrant Shares pursuant to an exercise within two (2) Trading Days after the Warrant Share Delivery Date, and if after such date the Holder is required by its broker to purchase (in an open market transaction) or the Holder’s brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a “Buy-In”), then the Company shall (A) pay in cash to the Holder the amount, if any, by which (x) the Holder’s total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (y) the amount obtained by multiplying (1) the number of Warrant Shares that the Company was required to deliver to the Holder in connection with the exercise at issue and that were sold times (2) the price at which the sell order giving rise to such purchase obligation was executed, and (B) at the option of the Holder, either reinstate the portion of the Warrant and equivalent number of Warrant Shares for which such exercise was not honored (in which case such exercise shall be deemed rescinded) or deliver to the Holder the number of shares of Common Stock that would have been issued had the Company timely complied with its exercise and delivery obligations hereunder. For example, if the Holder purchases Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted exercise of shares of Common Stock with an

aggregate sale price giving rise to such purchase obligation of \$10,000, under clause (A) of the immediately preceding sentence the Company shall be required to pay the Holder \$1,000. The Holder shall provide the Company written notice indicating the amounts payable to the Holder in respect of the Buy-In and, upon request of the Company, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

(v) No Fractional Shares or Scrip. No fractional shares or scrip representing fractional shares shall be issued upon the exercise of this Warrant. As to any fraction of a share which the Holder would otherwise be entitled to purchase upon such exercise, the Company shall, at its election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Exercise Price or round up to the next whole share. For the avoidance of doubt, the calculations of the number of Warrant Shares issuable upon exercise of this Warrant shall be aggregated with the number of shares issuable upon the concurrent exercise of any other Warrants, to determine the number of whole shares and fractional shares issuable to the Holder.

(vi) Charges, Taxes and Expenses. Issuance of Warrant Shares shall be made without charge to the Holder for any issue or transfer tax or other incidental expense in respect of the issuance of Warrant Shares, all of which taxes and expenses shall be paid by the Company, and such Warrant Shares shall be issued in the name of the Holder or in such name or names as may be directed by the Holder; provided, however, that in the event that Warrant Shares are to be issued in a name other than the name of the Holder, this Warrant when surrendered for exercise shall be accompanied by the Assignment Form attached hereto duly executed by the Holder and the Company may require, as a condition thereto, the payment of a sum sufficient to reimburse it for any transfer tax incidental thereto. The Company shall pay all Transfer Agent fees required for processing of any Notice of Exercise.

(vii) Closing of Books. The Company will not close its stockholder books or records in any manner which prevents the timely exercise of this Warrant, pursuant to the terms hereof.

(e) Holder's Exercise Limitations. The Company shall not effect any exercise of this Warrant, and the Holder shall not have the right to exercise any portion of this Warrant, pursuant to Section 2 or otherwise, to the extent that after giving effect to such issuance after exercise as set forth on the applicable Notice of Exercise, the Holder (together with the Holder's Affiliates, and any other Persons acting as a group together with the Holder or any of the Holder's Affiliates), would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by the Holder and its Affiliates shall include the number of shares of

Common Stock issuable upon exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (i) exercise of the remaining, nonexercised portion of this Warrant beneficially owned by the Holder or any of its Affiliates and (ii) exercise or conversion of the unexercised or nonconverted portion of any other securities of the Company (including, without limitation, any other Common Stock Equivalents) subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the Holder or any of its Affiliates. Except as set forth in the preceding sentence, for purposes of this Section 2(e), beneficial ownership shall be calculated in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”) and the rules and regulations promulgated thereunder, it being acknowledged by the Holder that the Company is not representing to the Holder that such calculation is in compliance with Section 13(d) of the Exchange Act and the Holder is solely responsible for any schedules required to be filed in accordance therewith. To the extent that the limitation contained in this Section 2(e) applies, the determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates) and of which portion of this Warrant is exercisable shall be in the sole discretion of the Holder, and the submission of a Notice of Exercise shall be deemed to be the Holder’s determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates) and of which portion of this Warrant is exercisable, in each case subject to the Beneficial Ownership Limitation, and the Company shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 2(e), in determining the number of outstanding shares of Common Stock, the Holder may rely on the number of outstanding shares of Common Stock as reflected in (A) the Company’s most recent periodic or annual report filed with the Securities and Exchange Commission, as the case may be, (B) a more recent public announcement by the Company or (C) a more recent written notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request of the Holder, the Company shall within two (2) Trading Days confirm orally and in writing to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder or its Affiliates since the date as of which such number of outstanding shares of Common Stock was reported. The “Beneficial Ownership Limitation” shall be 4.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon exercise of this Warrant. The Holder, upon not less than 61 days’ prior notice to the Company (which notice may not be waived), may increase or decrease the Beneficial Ownership Limitation provisions of this Section 2(e), provided that the Beneficial Ownership Limitation in no event exceeds 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon exercise of this Warrant held by the Holder and the provisions of this Section 2(e) shall continue to apply. Any such increase or decrease will not be effective until the 61st day after such notice is delivered to the Company and shall only apply to such Holder and no other Holder. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 2(e) to correct this paragraph (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation herein contained or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph shall apply to a successor holder of this Warrant.

Section 3. Certain Adjustments.

(a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding: (i) pays a stock dividend or otherwise makes a stock distribution or distributions on shares of its Common Stock or any other equity or equity equivalent securities payable in shares of Common Stock (which, for avoidance of doubt, shall not include any shares of Common Stock issued by the Company upon exercise of this Warrant), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of reverse stock split) outstanding shares of Common Stock into a smaller number of shares or (iv) issues by reclassification of shares of the Common Stock any shares of capital stock of the Company, then in each case the Exercise Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding treasury shares, if any) outstanding immediately before such event and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event, and the number of shares issuable upon exercise of this Warrant shall be proportionately adjusted such that the aggregate Exercise Price of this Warrant shall remain unchanged. Any adjustment made pursuant to this Section 3(a) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision, combination or re-classification.

(b) Subsequent Rights Offerings. In addition to any adjustments pursuant to the other subsections of this Section 3, if at any time the Company grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the “Purchase Rights”), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (provided, however, to the extent that the Holder’s right to participate in any such Purchase Right would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Purchase Right to such extent (or beneficial ownership of such shares of Common Stock as a result of such Purchase Right to such extent) and such Purchase Right to such extent shall be held in abeyance for the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

(c) Pro Rata Distributions. During such time as this Warrant is outstanding, if the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities,

property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a “Distribution”), at any time after the issuance of this Warrant, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, however, to the extent that the Holder’s right to participate in any such Distribution would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Distribution to such extent (or in the beneficial ownership of any shares of Common Stock as a result of such Distribution to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation). To the extent that this Warrant has not been partially or completed exercised at the time of such Distribution, such portion of the Distribution shall be held in abeyance for the benefit of the Holder until the Holder has exercised this Warrant.

(d) Fundamental Transaction. If, at any time while this Warrant is outstanding, (i) the Company, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Company with or into another Person, (ii) the Company, directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of its assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Company or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the outstanding Common Stock, (iv) the Company, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property (other than a reclassification under Section 3(a)), or (v) the Company, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person or group of Persons whereby such other Person or group acquires more than 50% of the outstanding shares of Common Stock (not including any shares of Common Stock held by the other Person or other Persons making or party to, or associated or affiliated with the other Persons making or party to, such stock or share purchase agreement or other business combination) (each a “Fundamental Transaction”), then, upon any subsequent exercise of this Warrant, the Holder shall have the right to receive, for each Warrant Share that would have been issuable upon such exercise immediately prior to the occurrence of such Fundamental Transaction, the number of shares of Common Stock of the successor or acquiring corporation or of the Company, if it is the surviving corporation, and any additional consideration (the “Alternate Consideration”) receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which this Warrant is exercisable immediately prior to such Fundamental Transaction. For purposes of any such exercise, the determination of the Exercise Price shall be appropriately adjusted to apply to such

Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one share of Common Stock in such Fundamental Transaction, and the Company shall apportion the Exercise Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the Holder shall be given the same choice as to the Alternate Consideration it receives upon any exercise of this Warrant following such Fundamental Transaction. The Company shall cause any successor entity in a Fundamental Transaction in which the Company is not the survivor (the “Successor Entity”) to assume in writing all of the obligations of the Company under this Warrant in accordance with the provisions of this Section 3(d). Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Warrant referring to the “Company” shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant with the same effect as if such Successor Entity had been named as the Company herein.

(e) Calculations. All calculations under this Section 3 shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this Section 3, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding treasury shares, if any) issued and outstanding.

(f) Notice to Holder.

(i) Adjustment to Exercise Price. Whenever the Exercise Price is adjusted pursuant to any provision of this Section 3, the Company shall promptly deliver to the Holder a notice setting forth the Exercise Price after such adjustment and any resulting adjustment to the number of Warrant Shares and setting forth a brief statement of the facts requiring such adjustment.

(ii) Notice to Allow Exercise by Holder. If (A) the Company shall declare a dividend (or any other distribution in whatever form) on the Common Stock, (B) the Company shall declare a special nonrecurring cash dividend on or a redemption of the Common Stock, (C) the Company shall authorize the granting to all holders of the Common Stock rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of the Company shall be required in connection with any reclassification of the Common Stock, any consolidation or merger to which the Company is a party, any sale or transfer of all or substantially all of the assets of the Company, or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property, or (E) the Company shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Company, then, in each case, the Company shall cause to be delivered to the Holder at its last address as it shall appear upon the Warrant Register (as defined below) of the Company, at least 10 calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the

date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of which it is expected that holders of the Common Stock of record shall be entitled to exchange their shares of the Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange; provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice. The Holder shall remain entitled to exercise this Warrant during the period commencing on the date of such notice through the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

Section 4. Transfer of Warrant.

(a) Transferability. This Warrant and all rights hereunder (including, without limitation, any registration rights) are transferable, in whole or in part, upon surrender of this Warrant at the principal office of the Company or its designated agent, together with a written assignment of this Warrant substantially in the form attached hereto duly executed by the Holder or its agent or attorney and funds sufficient to pay any transfer taxes payable upon the making of such transfer. Upon such surrender and, if required, such payment, the Company shall execute and deliver a new Warrant or Warrants in the name of the assignee or assignees, as applicable, and in the denomination or denominations specified in such instrument of assignment, and shall issue to the assignor a new Warrant evidencing the portion of this Warrant not so assigned, and this Warrant shall promptly be cancelled. The Warrant, if properly assigned in accordance herewith, may be exercised by a new holder for the purchase of Warrant Shares without having a new Warrant issued.

(b) New Warrants. This Warrant may be divided or combined with other Warrants upon presentation hereof at the aforesaid office of the Company, together with a written notice specifying the names and denominations in which new Warrants are to be issued, signed by the Holder or its agent or attorney. Subject to compliance with Section 4(a), as to any transfer which may be involved in such division or combination, the Company shall execute and deliver a new Warrant or Warrants in exchange for the Warrant or Warrants to be divided or combined in accordance with such notice. All Warrants issued on transfers or exchanges shall be dated the original Issue Date and shall be identical with this Warrant except as to the number of Warrant Shares issuable pursuant thereto.

(c) Warrant Register. The Company shall register this Warrant, upon records to be maintained by the Company for that purpose (the “Warrant Register”), in the name of the record Holder hereof from time to time. The Company may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, absent actual notice to the contrary.

Section 5. Miscellaneous.

(a) No Rights as Stockholder Until Exercise. This Warrant does not entitle the Holder to any voting rights, dividends or other rights as a stockholder of the Company prior to the exercise hereof as set forth in Section 2(d)(i), except as expressly set forth in Section 3.

(b) Loss, Theft, Destruction or Mutilation of Warrant. The Company covenants that upon receipt by the Company of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of this Warrant or any stock certificate relating to the Warrant Shares, and in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to it (which, in the case of the Warrant, shall not include the posting of any bond), and upon surrender and cancellation of such Warrant or stock certificate, if mutilated, the Company will make and deliver a new Warrant or stock certificate of like tenor and dated as of such cancellation, in lieu of such Warrant or stock certificate.

(c) Saturdays, Sundays, Holidays, etc. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall not be a Business Day, then such action may be taken or such right may be exercised on the next succeeding Business Day.

(d) Authorized Shares.

The Company covenants that, during the period the Warrant is outstanding, it will reserve from its authorized and unissued Common Stock a sufficient number of shares to provide for the issuance of the Warrant Shares upon the exercise of any purchase rights under this Warrant. The Company further covenants that its issuance of this Warrant shall constitute full authority to its officers who are charged with the duty of issuing the necessary Warrant Shares upon the exercise of the purchase rights under this Warrant. The Company will take all such reasonable action as may be necessary to assure that such Warrant Shares may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of the Trading Market upon which the Common Stock may be listed. The Company covenants that all Warrant Shares which may be issued upon the exercise of the purchase rights represented by this Warrant will, upon exercise of the purchase rights represented by this Warrant and payment for such Warrant Shares in accordance herewith, be duly authorized, validly issued, fully paid and nonassessable and free from all taxes, liens and charges created by the Company in respect of the issue thereof (other than taxes in respect of any transfer occurring contemporaneously with such issue).

Except and to the extent as waived or consented to by the Holder, the Company shall not by any action, including, without limitation, amending its certificate of incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of the Holder as set forth in this Warrant against impairment. Without limiting the generality of the foregoing, the Company will (i) not increase the par value of any Warrant Shares above the amount payable therefor upon such exercise immediately prior to such increase in par value, (ii) take all such action as may be necessary or appropriate in order that the Company may

validly and legally issue fully paid and nonassessable Warrant Shares upon the exercise of this Warrant and (iii) use commercially reasonable efforts to obtain all such authorizations, exemptions or consents from any public regulatory body having jurisdiction thereof, as may be necessary to enable the Company to perform its obligations under this Warrant.

Before taking any action which would result in an adjustment in the number of Warrant Shares for which this Warrant is exercisable or in the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

(e) Governing Law. All questions concerning the construction, validity, enforcement and interpretation of this Warrant shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of law thereof. Each party agrees that all legal proceedings concerning the interpretations, enforcement and defense of the transactions contemplated by this Warrant (whether brought against a party hereto or its respective affiliates, directors, officers, shareholders, partners, members, employees or agents) shall be commenced exclusively in the state and federal courts sitting in the City of New York. Each party hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in the City of New York, Borough of Manhattan for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein (including with respect to the enforcement of this Warrant), and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is improper or is an inconvenient venue for such proceeding. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Warrant and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by law. If either party shall commence an action, suit or proceeding to enforce any provisions of this Warrant, then the prevailing party in such action, suit or proceeding shall be reimbursed by the other party for its reasonable attorneys' fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding.

(f) Restrictions. The Holder acknowledges that the Warrant Shares acquired upon the exercise of this Warrant, if not registered and the Holder does not utilize cashless exercise, will have restrictions upon resale imposed by state and federal securities laws.

(g) Nonwaiver and Expenses. No course of dealing or any delay or failure to exercise any right hereunder on the part of the Holder shall operate as a waiver of such right or otherwise prejudice the Holder's rights, powers or remedies, notwithstanding the fact that all rights hereunder terminate on the Termination Date. If the Company willfully and knowingly fails to comply with any provision of this Warrant, which results in any material damages to the Holder, the Company shall pay to the Holder such amounts as shall be sufficient to cover any costs and expenses including, but not limited to, reasonable attorneys' fees, including those of appellate proceedings, incurred by the Holder in collecting any amounts due pursuant hereto or in otherwise enforcing any of its rights, powers or remedies hereunder.

(h) Notices. Any notice, request or other document required or permitted to be given or delivered to the Holder by the Company shall be in writing and shall be deemed given, delivered and effective on the earliest of: (a) the date of transmission, if such notice or communication is delivered via facsimile at the facsimile number set forth on the signature pages attached hereto at or prior to 5:30 p.m. (New York City time) on a Trading Day, (b) the next Trading Day after the date of transmission, if such notice or communication is delivered via facsimile at the facsimile number set forth on the signature pages attached hereto on a day that is not a Trading Day or later than 5:30 p.m. (New York City time) on any Trading Day, (c) the third (3rd) Trading Day following the date of mailing, if sent by U.S. nationally recognized overnight courier service or (d) upon actual receipt by the party to whom such notice is required to be given. The address for such notices and communications shall be as set forth on the signature pages attached hereto.

(i) Limitation of Liability. No provision hereof, in the absence of any affirmative action by the Holder to exercise this Warrant to purchase Warrant Shares, and no enumeration herein of the rights or privileges of the Holder, shall give rise to any liability of the Holder for the purchase price of any Common Stock or as a stockholder of the Company, whether such liability is asserted by the Company or by creditors of the Company.

(j) Remedies. The Holder, in addition to being entitled to exercise all rights granted by law, including recovery of damages, will be entitled to specific performance of its rights under this Warrant. The Company agrees that monetary damages would not be adequate compensation for any loss incurred by reason of a breach by it of the provisions of this Warrant and hereby agrees to waive and not to assert the defense in any action for specific performance that a remedy at law would be adequate.

(k) Successors and Assigns. Subject to applicable securities laws, this Warrant and the rights and obligations evidenced hereby shall inure to the benefit of and be binding upon the successors and permitted assigns of the Company and the successors and permitted assigns of the Holder. The provisions of this Warrant are intended to be for the benefit of any holder from time to time of this Warrant and shall be enforceable by the Holder or holder of Warrant Shares.

(l) Amendment. The provisions of this Warrant and all of the other Warrants may be amended and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company has obtained the written consent of the Persons holding Warrants representing not less than a majority of the Common Stock obtainable upon exercise of all such Warrants then outstanding; provided, that the number of Warrant Shares subject to this Warrant, the Exercise Price, the Initial Exercise Date and the Termination Date may not be amended, and the right to exercise this Warrant may not be altered or waived, without the written consent of the Holder. Any such amendment shall apply to all Warrants and be binding upon all registered holders of such Warrants whether or not they have consented (except only for those amendments that, pursuant the preceding sentence, require the written consent of the Holder).

(m) Severability. Wherever possible, each provision of this Warrant shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Warrant shall be prohibited by or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provisions or the remaining provisions of this Warrant.

(n) Headings. The headings used in this Warrant are for the convenience of reference only and shall not, for any purpose, be deemed a part of this Warrant.

(Signature Page Follows)

IN WITNESS WHEREOF, the Company has caused this Warrant to be executed by its officer thereunto duly authorized as of the date first above indicated.

INVITAE CORPORATION

By: _____
Name:
Title:

Holder's Address: _____

NOTICE OF EXERCISE

TO: INVITAE CORPORATION

(1) The undersigned hereby elects to purchase _____ Warrant Shares of the Company pursuant to the terms of the attached Warrant (only if exercised in full), and tenders herewith payment of the Exercise Price in full, together with all applicable transfer taxes, if any.

(2) Payment shall take the form of (check applicable box):

in lawful money of the United States; or

if permitted, the cancellation of such number of Warrant Shares as is necessary, in accordance with the formula set forth in subsection 2(c), to exercise this Warrant with respect to the maximum number of Warrant Shares purchasable pursuant to the cashless exercise procedure set forth in subsection 2(c).

(3) Please issue said Warrant Shares in the name of the undersigned or in such other name as is specified below:

The Warrant Shares shall be delivered to the following DWAC Account Number:

(4) The undersigned represents and warrants to the Company that in giving effect to the exercise evidenced hereby, the undersigned will not own in excess of the number of shares of Common Stock permitted to be owned under Section 2(e) of this Warrant to which this notice relates.

[SIGNATURE OF HOLDER]

Name of Investing Entity:

Signature of Authorized Signatory of Investing Entity :

Name of Authorized Signatory:

Title of Authorized Signatory:

Date:

ASSIGNMENT FORM

(To assign the foregoing Warrant, execute this form and supply required information. Do not use this form to exercise the Warrant.)

FOR VALUE RECEIVED, all of or shares of the foregoing Warrant and all rights evidenced thereby are hereby assigned to whose address is .

Dated: ,

Holder's Signature: _____

Holder's Address: _____

Signature Guaranteed: _____

NOTE: The signature to this Assignment Form must correspond with the name as it appears on the face of the Warrant, without alteration or enlargement or any change whatsoever, and must be guaranteed by a bank or trust company. Officers of corporations and those acting in a fiduciary or other representative capacity should file proper evidence of authority to assign the foregoing Warrant.

COMMON STOCK PURCHASE WARRANT

INVITAE CORPORATION

Warrant Shares: _____
 Warrant No. WF- _____

Initial Exercise Date: _____, 2017
 Issue Date: _____, 2017

THIS COMMON STOCK PURCHASE WARRANT (the “Warrant”) certifies that, for value received, _____ or its assigns (the “Holder”) is entitled, upon the terms and subject to the limitations on exercise and the conditions hereinafter set forth, at any time on or after the date hereof (the “Initial Exercise Date”) and on or prior to the close of business on March 24, 2021 (the “Termination Date”) but not thereafter, to subscribe for and purchase from Invitae Corporation, a Delaware corporation (the “Company”), up to the above referenced number of shares (as subject to adjustment and certain limitations hereunder, the “Warrant Shares”) of Common Stock (as defined below). The purchase price of one share of Common Stock under this Warrant shall be equal to the Exercise Price, as defined in Section 2(b).

Section 1. Definitions. In addition to the terms defined elsewhere in this Agreement, for all purposes of this Agreement, the following terms have the meanings set forth in this Section 1:

“Affiliate” means any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a Person as such terms are used in and construed under Rule 405 under the Securities Act of 1933, as amended (the “Securities Act”).

“Business Day” means any day except any Saturday, any Sunday, any day which is a federal legal holiday in the United States or any day on which banking institutions in the State of New York are authorized or required by law or other governmental action to close.

“Common Stock” means the common stock of the Company, par value \$0.0001 per share, and any other class of securities into which such securities may hereafter be reclassified or changed.

“Common Stock Equivalents” means any securities of the Company or its subsidiaries which would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock.

“Person” means an individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof) or other entity of any kind.

“Trading Day” means a day on which the principal Trading Market is open for trading.

“Trading Market” means any of the following markets or exchanges on which the Common Stock is listed or quoted for trading on the date in question: the NYSE MKT, the Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market, the New York Stock Exchange or the OTC Bulletin Board (or any successors to any of the foregoing).

“Transfer Agent” means American Stock Transfer & Trust Company, LLC, the current transfer agent of the Company with a mailing address of 6201 15th Avenue, Brooklyn, New York 11219 and a phone number of (718) 921-8200, and any successor transfer agent of the Company.

“VWAP” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if the OTC Bulletin Board is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the OTC Bulletin Board, (c) if the Common Stock is not then listed or quoted for trading on the OTC Bulletin Board and if prices for the Common Stock are then reported in the “Pink Sheets” published by Pink OTC Markets, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Holders of Warrants representing not less than a majority of the Common Stock obtainable upon exercise of all such Warrants then outstanding, and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

“Warrants” means the substantially identical warrants initially issued by the Company on or about the date first written above and having the same exercise price as this Warrant.

Section 2. Exercise.

(a) Exercise of Warrant. Exercise of the purchase rights represented by this Warrant may be made, in whole or in part, at any time or times on or after the Initial Exercise Date and on or before the Termination Date by delivery to the Company (or such other office or agency of the Company as it may designate by notice in writing to the registered Holder at the address of the Holder appearing on the books of the Company) of a duly executed facsimile copy (or e-mail attachment) of the Notice of Exercise in the form annexed hereto and, within three (3) Trading Days of the date said Notice of Exercise is delivered to the Company, payment of the aggregate Exercise Price of the shares thereby purchased by wire transfer or cashier’s check drawn on a United States bank or, if available, pursuant to the cashless exercise procedure specified in Section 2(c) below is specified in the applicable Notice of Exercise. No ink-original Notice of Exercise shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Exercise form be required. Notwithstanding anything

herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in full, in which case, the Holder shall surrender this Warrant to the Company for cancellation within three (3) Trading Days of the date the final Notice of Exercise is delivered to the Company. Partial exercises of this Warrant resulting in purchases of a portion of the total number of Warrant Shares available hereunder shall have the effect of lowering the outstanding number of Warrant Shares purchasable hereunder in an amount equal to the applicable number of Warrant Shares purchased. The Holder and the Company shall maintain records showing the number of Warrant Shares purchased and the date of such purchases. The Company shall deliver any objection to any Notice of Exercise within one (1) Business Day of receipt of such notice. **The Holder and any assignee, by acceptance of this Warrant, acknowledge and agree that, by reason of the provisions of this paragraph, following the purchase of a portion of the Warrant Shares hereunder, the number of Warrant Shares available for purchase hereunder at any given time may be less than the amount stated on the face hereof.**

(b) Exercise Price. The exercise price per share of the Common Stock under this Warrant shall be \$ _____, subject to adjustment hereunder (the "Exercise Price").

(c) Cashless Exercise. If at the time of exercise hereof there is no effective registration statement registering, or the prospectus contained therein is not available for the issuance of the Warrant Shares to the Holder, then this Warrant may also be exercised, in whole or in part, at such time by means of a "cashless exercise" in which the Holder shall be entitled to receive a number of Warrant Shares equal to the quotient obtained by dividing [(A-B) (X)] by (A), where:

- (A) = the last VWAP immediately preceding the time of delivery of the Notice of Exercise giving rise to the applicable "cashless exercise," as set forth in the applicable Notice of Exercise (to clarify, the "last VWAP" will be the last VWAP as calculated over an entire Trading Day such that, in the event that this Warrant is exercised at a time that the Trading Market is open, the prior Trading Day's VWAP shall be used in this calculation);
- (B) = the Exercise Price of this Warrant, as adjusted hereunder; and
- (X) = the number of Warrant Shares that would be issuable upon exercise of this Warrant (or portion thereof if a partial exercise) in accordance with the terms of this Warrant if such exercise were by means of a cash exercise rather than a cashless exercise.

If Warrant Shares are issued in such a cashless exercise, the parties acknowledge and agree that in accordance with Section 3(a)(9) of the Securities Act, the Warrant Shares shall take on the registered characteristics of the Warrants being exercised. The Company agrees not to take any position contrary to this Section 2(c).

(d) Mechanics of Exercise.

(i) Delivery of Warrant Shares Upon Exercise. The Company shall cause the Warrant Shares purchased hereunder to be transmitted by the Transfer Agent to the Holder by crediting the account of the Holder's or its designee's balance account with The Depository Trust Company through its Deposit or Withdrawal at Custodian system ("DWAC") if the Company is then a participant in such system and either (A) there is an effective registration statement permitting the issuance of the Warrant Shares to or resale of the Warrant Shares by the Holder or (B) this Warrant is being exercised via cashless exercise, and otherwise by physical delivery of a certificate, registered in the Company's share register in the name of the Holder or its designee, for the number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the address specified by the Holder in the Notice of Exercise by the date that is three (3) Trading Days after the delivery to the Company of the Notice of Exercise (such date, the "Warrant Share Delivery Date"), provided that the Company shall not be obligated to deliver Warrant Shares hereunder unless the Company has received the aggregate Exercise Price on or before the Warrant Share Delivery Date. Upon delivery of the Notice of Exercise the Holder shall be deemed for all corporate purposes to have become the holder of record of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date of delivery of the Warrant Shares; provided payment of the aggregate Exercise Price (other than in the case of a Cashless Exercise) is received within three (3) Trading Days of delivery of the Notice of Exercise. If the Company fails for any reason (other than a delay in delivery of the aggregate Exercise Price) to deliver to the Holder the Warrant Shares subject to a Notice of Exercise by the Warrant Share Delivery Date, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each \$1,000 of Warrant Shares subject to such exercise (based on the VWAP of the Common Stock on the date of the applicable Notice of Exercise), \$10 per Trading Day (increasing to \$20 per Trading Day on the fifth Trading Day after such liquidated damages begin to accrue) for each Trading Day after such Warrant Share Delivery Date until such Warrant Shares are delivered or the Holder rescinds such exercise. The Company agrees to maintain a transfer agent that is a participant in the FAST program so long as this Warrant remains outstanding and exercisable.

(ii) Delivery of New Warrants Upon Exercise. If this Warrant shall have been exercised in part, the Company shall, at the request of the Holder and upon surrender of this Warrant certificate, at the time of delivery of the Warrant Shares, deliver to the Holder a new Warrant evidencing the rights of the Holder to purchase the unpurchased Warrant Shares called for by this Warrant, which new Warrant shall in all other respects be identical with this Warrant.

(iii) Rescission Rights. If the Company fails to cause the Transfer Agent to transmit to the Holder the Warrant Shares pursuant to Section 2(d) (i) by the Warrant Share Delivery Date, then the Holder will have the right to rescind such exercise.

(iv) Compensation for Buy-In on Failure to Timely Deliver Warrant Shares Upon Exercise. In addition to any other rights available to the Holder, if the Company fails to cause the Transfer Agent to transmit to the Holder the Warrant Shares pursuant to an exercise by the Warrant Share Delivery Date, and if after such date the Holder is required by its broker to purchase (in an open market transaction or otherwise) or the Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a "Buy-In"), then the Company shall (A) pay in cash to the Holder the amount, if any, by which (x) the Holder's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (y) the amount obtained by multiplying (1) the number of Warrant Shares that the Company was required to deliver to the Holder in connection with the exercise at issue and that were sold times (2) the price at which the sell order giving rise to such purchase obligation was executed, and (B) at the option of the Holder, either reinstate the portion of the Warrant and equivalent number of Warrant Shares for which such exercise was not honored (in which case such exercise shall be deemed rescinded) or deliver to the Holder the number of shares of Common Stock that would have been issued had the Company timely complied with its exercise and delivery obligations hereunder. For example, if the Holder purchases Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted exercise of shares of Common Stock with an aggregate sale price giving rise to such purchase obligation of \$10,000, under clause (A) of the immediately preceding sentence the Company shall be required to pay the Holder \$1,000. The Holder shall provide the Company written notice indicating the amounts payable to the Holder in respect of the Buy-In and, upon request of the Company, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

(v) No Fractional Shares or Scrip. No fractional shares or scrip representing fractional shares shall be issued upon the exercise of this Warrant. As to any fraction of a share which the Holder would otherwise be entitled to purchase upon such exercise, the Company shall, at its election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Exercise Price or round up to the next whole share. For the avoidance of doubt, the calculations of the number of Warrant Shares issuable upon exercise of this Warrant shall be aggregated with the number of shares issuable upon the concurrent exercise of any other Warrants, to determine the number of whole shares and fractional shares issuable to the Holder.

(vi) Charges, Taxes and Expenses. Issuance of Warrant Shares shall be made without charge to the Holder for any issue or transfer tax or other incidental expense in respect of the issuance of Warrant Shares, all of which taxes and expenses shall be paid by the Company, and such Warrant Shares shall be issued in the name of the Holder or in such name or names as may be directed by the Holder in compliance with applicable securities laws; provided, however, that in the event that Warrant Shares are to be issued in a name other than the name of the Holder, this Warrant when surrendered for exercise shall be accompanied by the Assignment Form attached hereto duly executed by the Holder and the Company may require, as a condition thereto, the payment of a sum sufficient to reimburse it for any transfer tax incidental thereto. The Company shall pay all Transfer Agent fees required for same-day processing of any Notice of Exercise and all fees to the Depository Trust Company (or another established clearing corporation performing similar functions) required for same-day electronic delivery of the Warrant Shares (it being understood that the foregoing does not obligate the Company to process Notices of Exercise same-day).

(vii) Closing of Books. The Company will not close its stockholder books or records in any manner which prevents the timely exercise of this Warrant, pursuant to the terms hereof.

(e) Holder's Exercise Limitations. The Company shall not effect any exercise of this Warrant, and the Holder shall not have the right to exercise any portion of this Warrant, pursuant to Section 2 or otherwise, to the extent that after giving effect to such issuance after exercise as set forth on the applicable Notice of Exercise, the Holder (together with the Holder's Affiliates, and any other Persons acting as a group together with the Holder or any of the Holder's Affiliates (such Persons, "Attribution Parties")), would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by the Holder and its Affiliates and Attribution Parties shall include the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (i) exercise of the remaining, nonexercised portion of this Warrant beneficially owned by the Holder or any of its Affiliates or Attribution Parties and (ii) exercise or conversion of the unexercised or nonconverted portion of any other securities of the Company (including, without limitation, any other Common Stock Equivalents) subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the Holder or any of its Affiliates or Attribution Parties. Except as set forth in the preceding sentence, for purposes of this Section 2(e), beneficial ownership shall be calculated in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") and the rules and regulations promulgated thereunder, it being acknowledged by the Holder that the Company is not representing to the Holder that such calculation is in compliance with Section 13(d) of the Exchange Act and the Holder is solely responsible for any schedules required to be filed in accordance therewith. To the extent that the limitation contained in this Section 2(e) applies, the determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable shall be in the sole discretion of the Holder, and the submission of a Notice of Exercise shall be deemed to be the Holder's determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable, in each case subject to the Beneficial Ownership Limitation, and

the Company shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 2(e), in determining the number of outstanding shares of Common Stock, the Holder may rely on the number of outstanding shares of Common Stock as reflected in (A) the Company's most recent periodic or annual report filed with the Securities and Exchange Commission (the "Commission"), as the case may be, (B) a more recent public announcement by the Company or (C) a more recent written notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request of the Holder, the Company shall within two (2) Trading Days confirm orally and in writing to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder or its Affiliates or Attribution Parties since the date as of which such number of outstanding shares of Common Stock was reported. The "Beneficial Ownership Limitation" shall be 4.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon exercise of this Warrant. The Holder, upon notice to the Company, may increase or decrease the Beneficial Ownership Limitation provisions of this Section 2(e), provided that the Beneficial Ownership Limitation in no event exceeds 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon exercise of this Warrant held by the Holder and the provisions of this Section 2(e) shall continue to apply. Any increase in the Beneficial Ownership Limitation will not be effective until the 61st day after such notice is delivered to the Company. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 2(e) to correct this paragraph (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation herein contained or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph shall apply to a successor holder of this Warrant.

Section 3. Certain Adjustments.

(a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding: (i) pays a stock dividend or otherwise makes a stock distribution or distributions on shares of its Common Stock or any other equity or equity equivalent securities payable in shares of Common Stock (which, for avoidance of doubt, shall not include any shares of Common Stock issued by the Company upon exercise of this Warrant), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of reverse stock split) outstanding shares of Common Stock into a smaller number of shares or (iv) issues by reclassification of shares of the Common Stock any shares of capital stock of the Company, then in each case the Exercise Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding treasury shares, if any) outstanding immediately before such event and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event, and the number of shares issuable upon exercise of this Warrant shall be proportionately adjusted such that the aggregate Exercise Price of this Warrant shall remain unchanged. Any adjustment made pursuant to this Section 3(a) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision, combination or re-classification.

(b) Subsequent Rights Offerings. In addition to any adjustments pursuant to the other subsections of this Section 3, if at any time the Company grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the “Purchase Rights”), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (provided, however, to the extent that the Holder’s right to participate in any such Purchase Right would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Purchase Right to such extent (or beneficial ownership of such shares of Common Stock as a result of such Purchase Right to such extent) and such Purchase Right to such extent shall be held in abeyance for the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

(c) Pro Rata Distributions. During such time as this Warrant is outstanding, if the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a “Distribution”), at any time after the issuance of this Warrant, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, however, to the extent that the Holder’s right to participate in any such Distribution would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Distribution to such extent (or in the beneficial ownership of any shares of Common Stock as a result of such Distribution to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation). To the extent that this Warrant has not been partially or completely exercised at the time of such Distribution, such portion of the Distribution shall be held in abeyance for the benefit of the Holder until the Holder has exercised this Warrant.

(d) Fundamental Transaction. If, at any time while this Warrant is outstanding, (i) the Company, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Company with or into another Person, (ii) the Company, directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of its assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Company or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the outstanding Common Stock, (iv) the Company, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property (other than a reclassification under Section 3(a)), or (v) the Company, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person or group of Persons whereby such other Person or group acquires more than 50% of the outstanding shares of Common Stock (not including any shares of Common Stock held by the other Person or other Persons making or party to, or associated or affiliated with the other Persons making or party to, such stock or share purchase agreement or other business combination) (each a “Fundamental Transaction”), then, upon any subsequent exercise of this Warrant, the Holder shall have the right to receive, for each Warrant Share that would have been issuable upon such exercise immediately prior to the occurrence of such Fundamental Transaction (without regard to any limitation in Section 2(e) on the exercise of this Warrant), the number of shares of Common Stock of the successor or acquiring corporation or of the Company, if it is the surviving corporation, and any additional consideration (the “Alternate Consideration”) receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which this Warrant is exercisable immediately prior to such Fundamental Transaction (without regard to any limitation in Section 2(e) on the exercise of this Warrant). For purposes of any such exercise, the determination of the Exercise Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one share of Common Stock in such Fundamental Transaction, and the Company shall apportion the Exercise Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the Holder shall be given the same choice as to the Alternate Consideration it receives upon any exercise of this Warrant following such Fundamental Transaction. Notwithstanding anything to the contrary, in the event of a Fundamental Transaction that is (1) an all cash transaction, (2) a “Rule 13e-3 transaction” as defined in Rule 13e-3 under the Exchange Act, or (3) a Fundamental Transaction involving a person or entity not traded on a national securities exchange, including, but not limited to, the Nasdaq Global Select Market, the Nasdaq Global Market, or the Nasdaq Capital Market, the Company or any Successor Entity (as defined below) shall, at the Holder’s option, exercisable at any time concurrently with, or within 30 days after, the consummation of the Fundamental Transaction, purchase this Warrant from the Holder by paying to the Holder an amount of cash equal to the Black Scholes Value of the remaining unexercised portion of this Warrant on the date of the consummation of such Fundamental Transaction. “Black Scholes Value” means the value of this Warrant based on the Black and Scholes Option Pricing Model obtained from the “OV” function on Bloomberg, L.P.

(“ Bloomberg ”) determined as of the day of consummation of the applicable Fundamental Transaction for pricing purposes and reflecting (A) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the time between the date of the public announcement of the applicable Fundamental Transaction and the Termination Date, (B) an expected volatility equal to the greater of 100% and the 100 day volatility obtained from the HVT function on Bloomberg as of the Trading Day immediately following the public announcement of the applicable Fundamental Transaction, (C) the underlying price per share used in such calculation shall be the sum of the price per share being offered in cash, if any, plus the value of any non-cash consideration, if any, being offered in such Fundamental Transaction and (D) a remaining option time equal to the time between the date of the public announcement of the applicable Fundamental Transaction and the Termination Date. The Company shall cause any successor entity in a Fundamental Transaction in which the Company is not the survivor (the “ Successor Entity ”) to assume in writing all of the obligations of the Company under this Warrant in accordance with the provisions of this Section 3(d) pursuant to written agreements in form and substance reasonably satisfactory to the Holder and approved by the Holder (without unreasonable delay) prior to such Fundamental Transaction and shall, at the option of the Holder, deliver to the Holder in exchange for this Warrant a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Warrant which is exercisable for a corresponding number of shares of capital stock of such Successor Entity (or its parent entity) equivalent to the shares of Common Stock acquirable and receivable upon exercise of this Warrant (without regard to any limitations on the exercise of this Warrant) prior to such Fundamental Transaction, and with an exercise price which applies the Exercise Price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such number of shares of capital stock and such exercise price being for the purpose of protecting the economic value of this Warrant immediately prior to the consummation of such Fundamental Transaction), and which is reasonably satisfactory in form and substance to the Holder. Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Warrant referring to the “Company” shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant with the same effect as if such Successor Entity had been named as the Company herein.

(e) Calculations. All calculations under this Section 3 shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this Section 3, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding treasury shares, if any) issued and outstanding.

(f) Notice to Holder.

(i) Adjustment to Exercise Price. Whenever the Exercise Price is adjusted pursuant to any provision of this Section 3, the Company shall promptly deliver to the Holder a notice setting forth the Exercise Price after such adjustment and any resulting adjustment to the number of Warrant Shares and setting forth a brief statement of the facts requiring such adjustment.

(ii) Notice to Allow Exercise by Holder. If (A) the Company shall declare a dividend (or any other distribution in whatever form) on the Common Stock, (B) the Company shall declare a special nonrecurring cash dividend on or a redemption of the Common Stock, (C) the Company shall authorize the granting to all holders of the Common Stock rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of the Company shall be required in connection with any reclassification of the Common Stock, any consolidation or merger to which the Company is a party, any sale or transfer of all or substantially all of the assets of the Company, or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property, or (E) the Company shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Company, then, in each case, the Company shall cause to be delivered by facsimile or email to the Holder at its last facsimile number or email address as it shall appear upon the Warrant Register (as defined below) of the Company, at least 20 calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of which it is expected that holders of the Common Stock of record shall be entitled to exchange their shares of the Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange; provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice. To the extent that any notice provided in this Warrant constitutes, or contains, material, non-public information regarding the Company or any of its subsidiaries, the Company shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. The Holder shall remain entitled to exercise this Warrant during the period commencing on the date of such notice to the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

Section 4. Transfer of Warrant.

(a) Transferability. This Warrant and all rights hereunder (including, without limitation, any registration rights) are transferable, in whole or in part, upon surrender of this Warrant at the principal office of the Company or its designated agent, together with a written assignment of this Warrant substantially in the form attached hereto duly executed by the Holder or its agent or attorney and funds sufficient to pay any transfer taxes payable upon the making of such transfer. Upon such surrender and, if required, such payment, the Company shall execute and deliver a new Warrant or Warrants in the name of the assignee or assignees, as applicable, and in the denomination or denominations specified in such instrument of assignment, and shall issue to the assignor a new Warrant evidencing the portion of this Warrant not so assigned, and

this Warrant shall promptly be cancelled. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant, in the event that the Warrant is not in electronic form, to the Company unless the Holder has assigned this Warrant in full, in which case, the Holder shall surrender this Warrant to the Company within three (3) Trading Days of the date the Holder delivers an assignment form to the Company assigning this Warrant in full. The Warrant, if properly assigned in accordance herewith, may be exercised by a new holder for the purchase of Warrant Shares without having a new Warrant issued.

(b) New Warrants. This Warrant may be divided or combined with other Warrants upon presentation hereof at the aforesaid office of the Company, together with a written notice specifying the names and denominations in which new Warrants are to be issued, signed by the Holder or its agent or attorney. Subject to compliance with Section 4(a), as to any transfer which may be involved in such division or combination, the Company shall execute and deliver a new Warrant or Warrants in exchange for the Warrant or Warrants to be divided or combined in accordance with such notice. All Warrants issued on transfers or exchanges shall be dated the original Issue Date and shall be identical with this Warrant except as to the number of Warrant Shares issuable pursuant thereto.

(c) Warrant Register. The Company shall register this Warrant, upon records to be maintained by the Company for that purpose (the “Warrant Register”), in the name of the record Holder hereof from time to time. The Company may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, absent actual notice to the contrary.

Section 5. Miscellaneous.

(a) No Rights as Stockholder Until Exercise. This Warrant does not entitle the Holder to any voting rights, dividends or other rights as a stockholder of the Company prior to the exercise hereof as set forth in Section 2(d)(i), except as expressly set forth in Section 3.

(b) Loss, Theft, Destruction or Mutilation of Warrant. The Company covenants that upon receipt by the Company of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of this Warrant or any stock certificate relating to the Warrant Shares, and in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to it (which, in the case of the Warrant, shall not include the posting of any bond), and upon surrender and cancellation of such Warrant or stock certificate, if mutilated, the Company will make and deliver a new Warrant or stock certificate of like tenor and dated as of such cancellation, in lieu of such Warrant or stock certificate.

(c) Saturdays, Sundays, Holidays, etc. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall not be a Business Day, then such action may be taken or such right may be exercised on the next succeeding Business Day.

(d) Authorized Shares.

The Company covenants that, during the period the Warrant is outstanding, it will reserve from its authorized and unissued Common Stock a sufficient number of shares to provide for the issuance of the Warrant Shares upon the exercise of any purchase rights under this Warrant. The Company further covenants that its issuance of this Warrant shall constitute full authority to its officers who are charged with the duty of issuing the necessary Warrant Shares upon the exercise of the purchase rights under this Warrant. The Company will take all such reasonable action as may be necessary to assure that such Warrant Shares may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of the Trading Market upon which the Common Stock may be listed. The Company covenants that all Warrant Shares which may be issued upon the exercise of the purchase rights represented by this Warrant will, upon exercise of the purchase rights represented by this Warrant and payment for such Warrant Shares in accordance herewith, be duly authorized, validly issued, fully paid and nonassessable and free from all taxes, liens and charges created by the Company in respect of the issue thereof (other than taxes in respect of any transfer occurring contemporaneously with such issue).

Except and to the extent as waived or consented to by the Holder, the Company shall not by any action, including, without limitation, amending its certificate of incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of the Holder as set forth in this Warrant against impairment. Without limiting the generality of the foregoing, the Company will (i) not increase the par value of any Warrant Shares above the amount payable therefor upon such exercise immediately prior to such increase in par value, (ii) take all such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable Warrant Shares upon the exercise of this Warrant and (iii) use commercially reasonable efforts to obtain all such authorizations, exemptions or consents from any public regulatory body having jurisdiction thereof, as may be necessary to enable the Company to perform its obligations under this Warrant.

Before taking any action which would result in an adjustment in the number of Warrant Shares for which this Warrant is exercisable or in the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

(e) Governing Law. All questions concerning the construction, validity, enforcement and interpretation of this Warrant shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of law thereof. If either party shall commence an action, suit or proceeding to enforce any provisions of this Warrant, other than pursuant to federal securities laws, then the prevailing party in such action, suit or proceeding shall be reimbursed by the other party for its reasonable attorneys' fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding.

(f) Restrictions. The Holder acknowledges that the Warrant Shares acquired upon the exercise of this Warrant, if not registered and the Holder does not utilize cashless exercise, will have restrictions upon resale imposed by state and federal securities laws.

(g) Nonwaiver and Expenses. No course of dealing or any delay or failure to exercise any right hereunder on the part of the Holder shall operate as a waiver of such right or otherwise prejudice the Holder's rights, powers or remedies, notwithstanding the fact that all rights hereunder terminate on the Termination Date. If the Company willfully and knowingly fails to comply with any provision of this Warrant, which results in any material damages to the Holder, the Company shall pay to the Holder such amounts as shall be sufficient to cover any costs and expenses including, but not limited to, reasonable attorneys' fees, including those of appellate proceedings, incurred by the Holder in collecting any amounts due pursuant hereto or in otherwise enforcing any of its rights, powers or remedies hereunder.

(h) Notices. Any notice, request or other document required or permitted to be given or delivered to the Holder by the Company shall be in writing and shall be deemed given, delivered and effective on the earliest of: (a) the date of transmission, if such notice or communication is delivered via facsimile at the facsimile number set forth on the signature pages attached hereto at or prior to 5:30 p.m. (New York City time) on a Trading Day, (b) the next Trading Day after the date of transmission, if such notice or communication is delivered via facsimile at the facsimile number set forth on the signature pages attached hereto on a day that is not a Trading Day or later than 5:30 p.m. (New York City time) on any Trading Day, (c) the third (3rd) Trading Day following the date of mailing, if sent by U.S. nationally recognized overnight courier service or (d) upon actual receipt by the party to whom such notice is required to be given. The address for such notices and communications shall be as set forth on the signature pages attached hereto.

(i) Limitation of Liability. No provision hereof, in the absence of any affirmative action by the Holder to exercise this Warrant to purchase Warrant Shares, and no enumeration herein of the rights or privileges of the Holder, shall give rise to any liability of the Holder for the purchase price of any Common Stock or as a stockholder of the Company, whether such liability is asserted by the Company or by creditors of the Company.

(j) Remedies. The Holder, in addition to being entitled to exercise all rights granted by law, including recovery of damages, will be entitled to specific performance of its rights under this Warrant. The Company agrees that monetary damages would not be adequate compensation for any loss incurred by reason of a breach by it of the provisions of this Warrant and hereby agrees to waive and not to assert the defense in any action for specific performance that a remedy at law would be adequate.

(k) Successors and Assigns. Subject to applicable securities laws, this Warrant and the rights and obligations evidenced hereby shall inure to the benefit of and be binding upon the successors and permitted assigns of the Company and the successors and permitted assigns of the Holder. The provisions of this Warrant are intended to be for the benefit of any holder from time to time of this Warrant and shall be enforceable by the Holder or holder of Warrant Shares.

(l) Amendment. The provisions of this Warrant and all of the other Warrants may be amended and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company has obtained the written consent of the Persons holding Warrants representing not less than two-thirds of the Common

Stock obtainable upon exercise of all such Warrants then outstanding; provided, that the number of Warrant Shares subject to this Warrant, the Exercise Price, the Initial Exercise Date and the Termination Date may not be amended, and the right to exercise this Warrant may not be altered or waived, without the written consent of the Holder. Any such amendment shall apply to all Warrants and be binding upon all registered holders of such Warrants whether or not they have consented (except only for those amendments that, pursuant the preceding sentence, require the written consent of the Holder).

(m) Severability. Wherever possible, each provision of this Warrant shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Warrant shall be prohibited by or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provisions or the remaining provisions of this Warrant.

(n) Headings. The headings used in this Warrant are for the convenience of reference only and shall not, for any purpose, be deemed a part of this Warrant.

(Signature Page Follows)

IN WITNESS WHEREOF, the Company has caused this Warrant to be executed by its officer thereunto duly authorized as of the date first above indicated.

INVITAE CORPORATION

By: _____

Name:

Title:

Holder's Address: _____

NOTICE OF EXERCISE

TO: INVITAE CORPORATION

(1) The undersigned hereby elects to purchase _____ Warrant Shares of the Company pursuant to the terms of the attached Warrant (only if exercised in full), and tenders herewith payment of the Exercise Price in full, together with all applicable transfer taxes, if any.

(2) Payment shall take the form of (check applicable box):

in lawful money of the United States; or

if permitted, the cancellation of such number of Warrant Shares as is necessary, in accordance with the formula set forth in subsection 2(c), to exercise this Warrant with respect to the maximum number of Warrant Shares purchasable pursuant to the cashless exercise procedure set forth in subsection 2(c).

(3) Please issue said Warrant Shares in the name of the undersigned or in such other name as is specified below:

The Warrant Shares shall be delivered to the following DWAC Account Number:

(4) The undersigned represents and warrants to the Company that in giving effect to the exercise evidenced hereby, the undersigned will not own in excess of the number of shares of Common Stock permitted to be owned under Section 2(e) of this Warrant to which this notice relates.

[SIGNATURE OF HOLDER]

Name of Investing Entity:

Signature of Authorized Signatory of Investing Entity :

Name of Authorized Signatory:

Title of Authorized Signatory:

Date:

INVITAE CORPORATION
and
AMERICAN STOCK TRANSFER & TRUST COMPANY, LLC
WARRANT AGENT AGREEMENT
(Series F Warrants)

Dated as of _____, 2017

THIS WARRANT AGENT AGREEMENT (this “Agreement”), dated as of _____, 2017, is by and between Invitae Corporation, a Delaware corporation (the “Company”) and American Stock Transfer & Trust Company, LLC, a New York limited liability trust company, as warrant agent (the “Warrant Agent”).

R E C I T A L S

WHEREAS, the Company is party to an Agreement and Plan of Merger and Reorganization, dated July 31, 2017 (the “Merger Agreement”), by and among the Company, Coronado Merger Sub, Inc. (“Merger Sub”) and CombiMatrix Corporation (“CombiMatrix”), pursuant to which Merger Sub will merge with and into CombiMatrix, with CombiMatrix surviving the merger as a wholly-owned subsidiary of the Company (the “Merger”). Pursuant to the terms of the Merger Agreement, each Series F warrant to purchase shares of CombiMatrix’s common stock that remains outstanding and unexercised at the time of the Merger will be assumed by the Company and converted (the “Warrant Conversion”) into one “Series F” warrant (a “Warrant”) representing the right to purchase shares of the Company’s common stock, par value \$0.0001 per share (the “Common Stock”). Each whole Warrant entitles the holder thereof (a “Holder” which term shall include a Holder’s transferees, successors and assigns) to purchase shares of Common Stock upon the terms and subject to the conditions set forth therein;

WHEREAS, the Company has filed with the Securities and Exchange Commission a registration statement on Form S-4, No. 333-_____, as amended, and prospectus, for, among other things, the registration, under the Securities Act of 1933, as amended (the “1933 Act”), of the shares of Common Stock underlying the Warrants;

WHEREAS, in connection with the Warrant Conversion, the Company and the Warrant Agent wish to enter into this Agreement and set forth the terms and conditions of the Warrants pursuant to the form attached hereto as Exhibit B; and

WHEREAS, the Company wishes the Warrant Agent to act on behalf of the Company, and the Warrant Agent is willing so to act, in connection with the issuance, registration, transfer, exchange, exercise and replacement of the Warrants and, in the Warrant Agent’s capacity as the Company’s transfer agent and registrar, the delivery of the Warrant Shares (as defined below).

NOW, THEREFORE, in consideration of the premises and the mutual agreements herein set forth, the parties hereby agree as follows:

Section 1. Certain Definitions. For purposes of this Agreement, the following terms have the meanings indicated:

(a) “Business Day” means any day other than a Saturday, Sunday or a day on which banking institutions in the State of New York are authorized or obligated by law or executive order to close.

(b) “Exercise Notice” means with respect to the exercise of a Warrant, a form of election to purchase Common Stock in substantially the form attached as the Notice of Exercise Form annexed to the Warrant attached hereto as Exhibit B.

(c) “Exercise Price” means the price per share as set forth in the Warrant, as may be adjusted from time to time as described in the Warrant.

(d) “Person” means an individual, a limited liability company, a partnership, a joint venture, a corporation, a trust, an unincorporated organization, any other entity or a government or any department or agency thereof.

(e) “Warrant Shares” means the shares of Common Stock issuable upon exercise of the Warrants.

Section 2. Appointment of Warrant Agent. The Company hereby appoints the Warrant Agent to act as agent for the Company in accordance with the express terms and conditions (and no implied terms and conditions) set forth herein, and the Warrant Agent hereby accepts such appointment. Invitae shall pay reasonable and customary fees for the Warrant Agent’s services under this Agreement. The Company may from time to time appoint such co-warrant agents as it may, in its sole discretion, deem necessary or desirable upon 10 days’ prior written notice to the Warrant Agent. The Warrant Agent shall have no duty to supervise, and shall in no event be liable for the acts or omissions of any such co-warrant agent.

Section 3. Book-Entry Warrants.

(a) The Warrants shall be issuable in book-entry form. Ownership of beneficial interests in the Warrants shall be shown on, and the transfer of such ownership shall be effected through, records maintained by (i) the Warrant Agent or its nominee for each Warrant or (ii) institutions that have accounts with the Warrant Agent.

(b) If the Warrant Agent subsequently ceases to make its book-entry settlement system available for the Warrants, the Company may instruct the Warrant Agent regarding other arrangements for book-entry settlement or may instruct the Warrant Agent to deliver to each Holder a Warrant certificate in the form attached hereto as Exhibit B.

Section 4. Terms and Conditions of Warrants; Effect of Countersignature. The terms and conditions of the Warrants are set forth in the Warrant attached as Exhibit B hereto (the “Terms and Conditions”). In the event of a conflict between the terms of this Agreement and the Terms and Conditions, the terms of this Agreement shall prevail. Unless and until countersigned by the manual or facsimile signature of the Warrant Agent pursuant to this Agreement, a Warrant shall be invalid and of no effect and may not be exercised by the Holder thereof.

Section 5. Transfer of Warrants.

(a) A Holder of a Warrant may transfer or assign its Warrant pursuant to the Terms and Conditions upon delivery of written notice (duly executed by such Holder or its agent or attorney) and funds sufficient to pay any transfer taxes or charges payable upon the making of such transfer to the Warrant Agent at the office of the Warrant Agent designated for such purpose, or to the office of one of its agents as may be designated in writing by the Warrant Agent. If any such notice is delivered to the Company, the Company will promptly forward the notice to the Warrant Agent. A party requesting transfer of Warrants or other securities must provide any evidence of authority that may be required by the Warrant Agent, including but not limited to, a signature guarantee from an eligible guarantor institution participating in a signature guarantee program approved by the Securities Transfer Association.

(b) If any Warrant is lost, stolen, mutilated or destroyed, absent notice to the Company or the Warrant Agent of an acquisition by a protected purchaser, the Company may, upon receipt by the Warrant Agent of an open penalty surety bond satisfactory to it and holding it and the Company harmless, issue, in a form mutually agreed to by the Warrant Agent and the Company, a new Warrant of like denomination, tenor and date as the Warrant so lost, stolen, mutilated or destroyed, and countersigned by the Warrant Agent. Any such new Warrant shall constitute a substitute contractual obligation of the Company, whether or not the allegedly lost, stolen, mutilated or destroyed Warrant shall be at any time enforceable by anyone.

Section 6. Registration. The Warrant Agent will keep or cause to be kept, at its office, or at the office of one of its agents, books for registration and transfer of the Warrants issued hereunder. Such books shall show the names and addresses of the respective Holders of the Warrants, the number of Warrants held by each Holder, and the date on which the Warrant was granted to such Holder. The Warrant Agent will create a special account for the issuance of the Warrants.

Section 7. Exercise of Warrants.

(a) Subject to the Terms and Conditions (including, without limitation, the limitations set forth in Section 2 of the Warrant and Section 7(c) herein), the Holder of a Warrant may exercise the Warrant, in whole or in part, at the Holder's election at any time on or after the Initial Exercise Date (as defined in the Warrant) and before the Termination Date (as defined in the Warrant). The Holder shall exercise the Warrant, in each case, by delivery of an executed Exercise Notice to the Warrant Agent (or to the Company if the exercise is made pursuant to a cashless exercise pursuant to Section 2(c) of the Warrant) of the Holder's election to exercise the Warrant and payment of the Exercise Price, which may be made, at the option of the Holder, by check delivered to the Warrant Agent at the office of the Warrant Agent designated for such purpose or to the office of one of its agents as may be designated in writing by the Warrant Agent, or by

wire transfer of immediately available funds to the account of the Warrant Agent set forth on Exhibit A hereto. The Warrant Agent shall forward funds received for Warrant exercises in a given month by the 5th business day of the following month by wire transfer to an account designated by the Company. If permitted by the Terms and Conditions (including Section 2(c) of the Warrant), the Holder of a Warrant may exercise the Warrant by cashless exercise, in whole or in part, upon delivery of an executed Exercise Notice to the Company. Upon receipt of an Exercise Notice for a cashless exercise, the Company shall calculate and transmit to the Warrant Agent within one (1) Business Day (and the Warrant Agent shall have no obligation under this section to calculate) the number of Warrant Shares issuable in connection with the cashless exercise (the “Cashless Exercise Notification”). The Warrant Agent shall have no duty or obligation under this Agreement or the Warrant to calculate, confirm, investigate or verify the accuracy of the correctness of, the number of Warrant Shares issuable in connection with any exercise hereunder.

(b) Upon receipt by the Warrant Agent of the Exercise Notice and the Exercise Price as described in Section 7(a) above, or the Cashless Exercise Notification from the Company, the Warrant Agent shall use reasonable efforts to cause to be delivered the Warrant Shares to or upon the order of the Holder of such Warrant, registered in such name or names as may be designated by such Holder by (x) in the event of a cash exercise, the date that is three (3) Business Days after the latest of (A) the delivery to the Warrant Agent of the properly executed and completed Exercise Notice, (B) surrender of such Warrant by the Holder (if required) and (C) payment of the Exercise Price and other amounts as set forth in such Exercise Notice or in the Terms and Conditions or (y) in the event of a cashless exercise, the date that is three (3) Business Days after the delivery to the Warrant Agent by the Company of the Cashless Exercise Notification (each such date, the “Delivery Date”); provided, however, that the Warrant Agent shall not be liable to the Company or the Holder for any damages arising out of the failure to deliver the Warrant Shares by the Delivery Date to the extent that such failure relates to the acts or omissions of the Company, a Holder or a Holder’s prime broker. Notwithstanding the foregoing, if the Company is then a participant in the Deposit Withdrawal at Custodian (“DWAC”) system of the Depository Trust Company (the “Depository”) and either (A) there is an effective registration statement permitting the issuance of the Warrant Shares to and resale of the Warrant Shares by Holder or (B) the Warrant is being exercised via cashless exercise pursuant to the Terms and Conditions, the certificates for Warrant Shares shall be transmitted by the Warrant Agent to the Holder by crediting the account of the Holder’s prime broker with the Depository through its DWAC system to the extent the Holder arranges with its broker to initiate delivery through the DWAC system and the Warrant Agent has been duly instructed to deliver the Warrant Shares through the DWAC system.

(c) A Holder of a Warrant shall not have the right to exercise any portion of the Warrant to the extent that, after giving effect to such issuance, the Holder (together with the Holder’s affiliates and any other persons acting as a group together with the Holder or any of the Holder’s affiliates), would beneficially own in excess of 4.99% of the number of shares of the Company’s Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon exercise of the

Warrant. A Holder, upon not less than 61 days' prior notice to the Company (which notice may not be waived), may increase or decrease the limitation set forth in this Section 7(c) to the extent permitted by Section 2(e) of the Warrant, provided that the limitation in no event exceeds 9.99% of the number of shares of the Company's Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon exercise of the Warrant held by the Holder. Upon receipt of any notice to increase the applicable limitation applicable to a Holder, the Company shall deliver a copy of such notice to the Warrant Agent within five (5) Business Days.

Section 8. Certain Representations: Reservation and Availability of Shares of Common Stock.

(a) This Agreement has been duly authorized, executed and delivered by the Company and, assuming due authorization, execution and delivery hereof by the Warrant Agent, constitutes a valid and legally binding obligation of the Company enforceable against the Company in accordance with its terms, and the Warrants and the Warrant Shares upon issuance have been duly authorized, executed and issued by the Company and, assuming due authentication thereof by the Warrant Agent pursuant hereto, constitute valid and legally binding obligations of the Company enforceable against the Company in accordance with their terms and entitled to the benefits hereof; in each case except as enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws relating to or affecting creditors' rights generally or by general equitable principles (regardless of whether such enforceability is considered in a proceeding in equity or at law).

(b) The Company covenants and agrees that it will cause to be reserved and kept available out of its authorized and unissued shares of Common Stock or its authorized and issued shares of Common Stock held in its treasury, free from preemptive rights, the number of shares of Common Stock that will be sufficient to permit the exercise in full of all outstanding Warrants.

(c) The Company shall provide an opinion of counsel prior to the Warrant Agent setting up a reserve of Warrants and Common Stock to be used in connection with the exercise of the Warrants stating that (i) such shares of Common Stock are registered under the 1933 Act, or are exempt from such registration and the shares are "covered securities" under Section 18 of the 1933 Act, and (ii) such shares will be validly issued, fully paid and non-assessable upon exercise of the Warrants in accordance with their terms.

(d) The Company will, from time to time, promptly pay all taxes and charges that may be imposed upon the Company or the Warrant Agent in respect of the issuance or delivery of Warrant Shares, including those payable pursuant to the Terms and Conditions. The Warrant Agent shall not register any transfer or issue or deliver any Warrant certificate(s) or Warrant Shares unless or until the persons requesting the registration or issuance shall have paid to the Warrant Agent for the account of the Company the amount of such tax or charge, if any, or shall have established to the reasonable satisfaction of the Company and the Warrant Agent that such tax or charge, if any, has been paid.

Section 9. Common Stock Record Date. Each person in whose name any certificate for shares of Common Stock is issued (or to whose prime broker's account is credited shares of Common Stock through the DWAC system) upon the exercise of Warrants shall for all purposes be deemed to have become the holder of record for the Common Stock represented thereby on, and such certificate shall be dated, (x) in the event of a cashless exercise, the date on which the Company receives the Cashless Exercise Notice or (y) in the event of an exercise for cash, the later of (A) the date on which the Warrant Agent receives such Exercise Notice or (B) the date on which the Warrant Agent receives the Exercise Price; provided, however, that if the date of such submission, payment and submission is a date upon which the Common Stock transfer books of the Company are closed, such person shall be deemed to have become the record holder of such shares on, and such certificate shall be dated, the next succeeding day on which the Common Stock transfer books of the Company are open.

Section 10. Adjustment of Exercise Price, Number of Shares of Common Stock or Number of Warrants. The Exercise Price, the number of shares covered by each Warrant and the number of Warrants outstanding are subject to adjustment from time to time as provided in the Terms and Conditions (“Adjustment Events”). The Company hereby agrees that it will provide the Warrant Agent with reasonable written notice of Adjustment Events. The Company further agrees that it will provide the Warrant Agent with any new or amended exercise terms. The Warrant Agent shall have no obligation under this Agreement to determine whether an Adjustment Event has occurred or to calculate any of the adjustments set forth herein.

Section 11. Certification of Adjusted Exercise Price or Number of Shares of Common Stock. Whenever the Exercise Price or the number of shares of Common Stock issuable upon the exercise of each Warrant is adjusted as provided in the Terms and Conditions, the Company shall (a) promptly prepare a certificate setting forth the Exercise Price of each Warrant as so adjusted, and a brief statement of the facts accounting for such adjustment, (b) promptly file with the Warrant Agent a copy of such certificate and (c) instruct the Warrant Agent to mail, at the expense of the Company, such certificate to each Holder of a Warrant.

Section 12. Reclassification, Consolidation, Purchase, Combination, Sale or Conveyance. If, at any time while the Warrants are outstanding, the Company shall effect any Fundamental Transaction, as such term is used in the Terms and Conditions, the Company shall instruct the Warrant Agent to mail by first class mail, postage prepaid, to each Holder of a Warrant, written notice of the execution of any related amendment, supplement or new form of Warrant. Any amendment, supplement or new form of Warrant entered into by the successor corporation or transferee shall provide for adjustments as set forth in the Terms and Conditions. The Warrant Agent shall be under no responsibility to determine the correctness of any provisions contained in such amendment, supplement or new form of Warrant relating either to the kind or amount of securities or other property receivable upon exercise of warrants or with respect to the method employed and provided therein for any adjustments and shall be entitled to rely upon the provisions contained in any such amendment, supplement or new form of Warrant. The provisions of this Section 12 shall similarly apply to successive Fundamental Transactions.

Section 13. Concerning the Warrant Agent.

(a) The Company agrees to pay to the Warrant Agent reasonable compensation for all services rendered by it hereunder and, from time to time, on demand of the Warrant Agent, its reasonable expenses and reasonable counsel fees and other disbursements and advances incurred by the Warrant Agent in the preparation, negotiation, delivery, amendment, administration and execution of this Agreement and the exercise and performance of its duties hereunder.

(b) The Company covenants and agrees to indemnify and to hold the Warrant Agent harmless against any costs, expenses (including reasonable fees of its legal counsel), losses or damages, which may be paid, incurred or suffered by or to which it may become subject, arising from or out of, directly or indirectly, any claims or liability resulting from its actions as warrant agent pursuant hereto; provided, that such covenant and agreement does not extend to, and the Warrant Agent shall not be indemnified with respect to, such costs, expenses, losses and damages incurred or suffered by the Warrant Agent as a result of, or arising out of, its gross negligence, bad faith, or willful misconduct (each as determined by a final, non-appealable judgment of a court of competent jurisdiction). The costs and expenses incurred by the Warrant Agent in enforcing this right of indemnification shall be paid by the Company if the Warrant Agent is the prevailing party.

(c) Notwithstanding anything in this Agreement to the contrary, in no event will the Warrant Agent be liable for special, punitive, indirect, incidental or consequential loss or damage of any kind whatsoever (including but not limited to lost profits), even if the Warrant Agent has been advised of the likelihood of such loss or damage and regardless of the form of action. The Warrant Agent will not be deemed to have knowledge of any event of which it was supposed to receive notice thereof hereunder, and the Warrant Agent will be fully protected and will incur no liability for failing to take any action in connection therewith unless and until it has received such notice.

(d) The Warrant Agent shall be liable for losses or damage to the Company directly attributable to the Warrant Agent's gross negligence, bad faith or willful misconduct (each as determined in a final non-appealable judgment of a court of competent jurisdiction) in the performance of its obligations hereunder.

(e) Promptly after the receipt by the Warrant Agent of notice of any demand or claim or the commencement of any action, suit, proceeding or investigation, the Warrant Agent shall, if a claim in respect thereof is to be made against the Company, notify the Company thereof in writing. For the purposes of this Section 13, the terms "expense" or "loss" mean any amount paid or payable to satisfy any claim, demand, action, suit or proceeding, and all reasonable costs and expenses, including, but not limited to, reasonable counsel fees and disbursements, paid or incurred in investigating or defending against any such claim, demand, action, suit, proceeding or investigation.

(f) Promptly after the receipt by the Company of notice of any demand or claim or the commencement of any action, suit, proceeding or investigation, the Company shall, if a claim in respect thereof is to be made against the Warrant Agent, notify the Warrant Agent thereof in writing.

(g) All funds received by the Warrant Agent under this Agreement that are to be distributed or applied by the Warrant Agent in the performance of services under this Agreement (the “Funds”) shall be held by the Warrant Agent as agent for the Company and deposited in one or more bank accounts to be maintained by the Warrant Agent in its name as agent for the Company. Until paid pursuant to the terms of this Agreement, the Warrant Agent will hold the Funds through such accounts in: deposit accounts of commercial banks with Tier 1 capital exceeding \$1 billion or with an average rating above investment grade by S&P (LT Local Issuer Credit Rating), Moody’s (Long Term Rating) and Fitch Ratings, Inc. (LT Issuer Default Rating) (each as reported by Bloomberg Finance L.P.). The Warrant Agent shall have no responsibility or liability for any diminution of the Funds that may result from any deposit made by the Warrant Agent in accordance with this paragraph, including any losses resulting from a default by any bank, financial institution or other third party. The Warrant Agent may from time to time receive interest, dividends or other earnings in connection with such deposits. The Warrant Agent shall not be obligated to pay such interest, dividends or earnings to the Company, any Holder or any other party.

(h) In the event of a cash exercise of the Warrants, the Company shall instruct the Warrant Agent as to the cost basis for the newly issued shares. In the event of a cashless exercise of the Warrants, the Company shall instruct the Warrant Agent as to the cost basis for the newly issued shares at the time of the delivery to the Warrant Agent by the Company of the Cashless Exercise Notification.

(i) From time to time, the Warrant Agent may request funding to cover any fractional payments. The Warrant Agent shall have no obligation to make fractional payments unless the Company shall have provided the necessary funds to pay in full all amounts due and payable with respect thereto.

(j) Notwithstanding anything contained herein to the contrary, the Warrant Agent’s aggregate liability during any term of this Agreement with respect to, arising from, or arising in connection with this Agreement, or from all services provided or omitted to be provided under this Agreement, whether in contract, or in tort, or otherwise, is limited to, and shall not exceed, the amounts paid hereunder by the Company to the Warrant Agent as fees and charges, but not including reimbursable expenses of the Warrant Agent.

The provisions of this Section 13 and Section 15 shall survive the termination of this Agreement, the exercise or expiration of the Warrants and the resignation, replacement or removal of the Warrant Agent.

Section 14. Purchase or Consolidation or Change of Name of Warrant Agent. Any Person into which the Warrant Agent or any successor warrant agent may be merged or with which it may be consolidated, or any Person resulting from any merger or consolidation to which the Warrant Agent or any successor warrant agent shall be party, or any corporation succeeding

to the business of the Warrant Agent or any successor warrant agent, shall be the successor to the Warrant Agent under this Agreement without the execution or filing of any paper or any further act on the part of any of the parties hereto, provided that such entity would be eligible for appointment as a successor warrant agent under the provisions of Section 16.

Section 15. Duties of Warrant Agent. The Warrant Agent undertakes the express duties and obligations imposed by this Agreement upon the following terms and conditions (and no duties or obligations shall be inferred), by all of which the Company and the Holders of Warrants, by their acceptance thereof, shall be bound:

(a) The Warrant Agent shall not be accountable with respect to the validity, value, kind or amount of any Warrant Shares, securities or property which may be issued or delivered at any time upon the exercise of any Warrant and makes no representation with respect thereto.

(b) The Warrant Agent shall not be obligated to expend or risk its own funds or to take any action that it believes would expose or subject it to expense or liability or to a risk of incurring expense or liability, unless it has been furnished with assurances of repayment or indemnity satisfactory to it.

(c) The Warrant Agent may consult with its legal counsel, and the advice or opinion of such counsel shall be full and complete authorization and protection to the Warrant Agent and the Warrant Agent shall not incur any liability for or in respect of any action taken or omitted by it in the absence of bad faith and in accordance with such advice or opinion.

(d) Whenever in the performance of its duties under this Agreement the Warrant Agent shall deem it necessary or desirable that any fact or matter be proved or established by the Company prior to taking or suffering any action hereunder, such fact or matter (unless other evidence in respect thereof be herein specifically prescribed) may be deemed to be conclusively proved and established by written (including electronic) instructions of the Chief Executive Officer or President of the Company or by the Chief Financial Officer of the Company and delivered to the Warrant Agent; and such certificate shall be full authentication to the Warrant Agent for any action taken or suffered by it, in the absence of bad faith, under the provisions of this Agreement in reliance upon such writing.

(e) The Warrant Agent may rely on, and will be held harmless and protected and shall incur no liability in acting or refraining from acting, upon any resolution, certificate, statement, instrument, opinion, report, notice, request, direction, consent, order, bond, debenture, note, other evidence of indebtedness or other paper or document from the Company with respect to any matter relating to its acting as warrant agent hereunder believed by it to be genuine and to have been signed or presented by the proper Person or upon any written or oral instructions or statements from the Company with respect to any matter relating to its acting as warrant agent hereunder. The Warrant Agent need not investigate any fact or matter stated in such paper or document.

(f) The Warrant Agent shall not be liable for or by reason of any of the statements of fact or recitals contained in this Agreement or in the Warrant or be required to verify the same, but all such statements and recitals are and shall be deemed to have been made by the Company only.

(g) The Warrant Agent shall not have any duty or responsibility in the case of the receipt of any written demand from any Holder of Warrants with respect to any action or default by the Company, including, without limiting the generality of the foregoing, any duty or responsibility to initiate or attempt to initiate any proceedings at law or otherwise or to make any demand upon the Company.

(h) The Warrant Agent shall not be under any responsibility in respect of the validity of this Agreement or the execution and delivery hereof (except the due execution hereof by the Warrant Agent); nor shall it be responsible for any breach by the Company of any covenant or condition contained in this Agreement or in the Warrant; nor shall it be responsible for the adjustment of the Exercise Price or the making of any change in the number of shares of Common Stock or Warrant Shares required under the provisions of Section 7, Section 10, Section 12 and the Warrant or responsible for the manner, method or amount of any such change or the ascertaining of the existence of facts that would require any such adjustment or change (except with respect to the exercise of Warrants after actual notice of any adjustment of the Exercise Price); nor shall it by any act hereunder be deemed to make any representation or warranty as to the authorization or reservation of any shares of Common Stock to be issued pursuant to this Agreement or as to whether any shares of Common Stock will, when issued, be duly authorized, validly issued, fully paid and nonassessable.

(i) The Company agrees that it will perform, execute, acknowledge and deliver or cause to be performed, executed, acknowledged and delivered all such further and other acts, instruments and assurances as may reasonably be required by the Warrant Agent for the carrying out or performing by the Warrant Agent of the provisions of this Agreement.

(j) The Warrant Agent is hereby authorized to accept instructions with respect to the performance of its duties hereunder from the Chief Executive Officer or the Chief Financial Officer of the Company, may apply to such officers for advice or instructions in connection with its duties, and may consult with legal counsel for the Warrant Agent with respect to any matter arising in connection with the services to be performed by the Warrant Agent under this Agreement. The Warrant Agent shall not be liable and shall be indemnified and held harmless for any action taken or suffered to be taken by it in accordance with instructions of any officer of the Company, provided the Warrant Agent carries out such instructions without gross negligence, bad faith or willful misconduct. The Warrant Agent shall not be held to have notice of any change of authority of any person, until receipt of written notice thereof from the Company.

(k) The Warrant Agent and any shareholder, director, officer, manager, member or employee of the Warrant Agent may buy, sell or deal in any of the Warrants or other securities of the Company or become pecuniarily interested in any transaction in which the Company may be interested, or contract with or lend money to the Company or otherwise act as fully and freely as though it were not warrant agent under this Agreement. Nothing herein shall preclude the Warrant Agent from acting in any other capacity for the Company or for any other legal entity.

(l) The Warrant Agent may execute and exercise any of the rights or powers hereby vested in it or perform any duty hereunder either itself or by or through its attorney or agents, and the Warrant Agent shall not be answerable or accountable for any act, default, neglect or misconduct of any such attorney or agents or for any loss to the Company resulting from any such act, default, neglect or misconduct, absent gross negligence, bad faith or willful misconduct (each as determined by a final judgment of a court of competent jurisdiction) in the selection and continued employment thereof.

(m) The Warrant Agent shall not be liable or responsible for any failure of the Company to comply with any of its obligations relating to any registration statement filed with the Securities and Exchange Commission or this Agreement, including without limitation obligations under applicable regulation or law.

(n) The Warrant Agent shall not be accountable or under any duty or responsibility for the use by the Company of any Warrants authenticated by the Warrant Agent and delivered by it to the Company pursuant to this Agreement or for the application by the Company of the proceeds of the issue and sale, or exercise, of the Warrants.

(o) The Warrant Agent shall act hereunder solely as agent for the Company, and its duties shall be determined solely by the express provisions hereof (and no duties or obligations shall be inferred or implied). The Warrant Agent shall not assume any obligations or relationship of agency or trust with any of the owners or Holders of the Warrants.

(p) The Warrant Agent may rely on and be fully authorized and protected in acting or failing to act upon (a) any guaranty of signature by an "eligible guarantor institution" that is a member or participant in the Securities Transfer Agents Medallion Program or other comparable "signature guarantee program" or insurance program in addition to, or in substitution for, the foregoing; or (b) any law, act, regulation or any interpretation of the same even though such law, act, or regulation may thereafter have been altered, changed, amended or repealed.

(q) In the event the Warrant Agent believes any ambiguity or uncertainty exists hereunder or in any notice, instruction, direction, request or other communication, paper or document received by the Warrant Agent hereunder, the Warrant Agent, may, in its sole discretion, refrain from taking any action so long as the Warrant Agent promptly notifies the Company of such ambiguity or uncertainty, and shall be fully protected and shall not be liable in any way to the Company, the Holder of any Warrant or any other person or entity for refraining from taking such action, unless the Warrant Agent receives written instructions signed by the Company which eliminates such ambiguity or uncertainty to the satisfaction of the Warrant Agent.

Section 16. Change of Warrant Agent. The Warrant Agent may resign and be discharged from its duties under this Agreement upon 30 days' notice in writing mailed to the Company and, in the event that the Warrant Agent or one of its affiliates is not also the transfer agent for the Company, to each transfer agent of the Common Stock in accordance with Section 18. In the event the transfer agency relationship in effect between the Company and the Warrant Agent terminates, the Warrant Agent will be deemed to have resigned automatically and be discharged from its duties under this Agreement as of the effective date of such termination, and the Company will be responsible for sending any required notice(s). The Company may remove the Warrant Agent or any successor warrant agent upon 30 days' notice in writing, mailed to the Warrant Agent or successor warrant agent, as the case may be, and to each transfer agent of the Common Stock by registered or certified mail, and to the Holders of the Warrants by first- class mail. If the Warrant Agent shall resign or be removed or shall otherwise become incapable of acting, the Company shall appoint a successor to the Warrant Agent. If the Company shall fail to make such appointment within a period of 30 days after such removal or after it has been notified in writing of such resignation or incapacity by the resigning or incapacitated Warrant Agent or by the Holder of a Warrant, then the Holder of any Warrant may apply to any court of competent jurisdiction for the appointment of a new warrant agent. Any successor warrant agent, whether appointed by the Company or by such a court, shall be a Person organized and doing business under the laws of the United States or of a state thereof, in good standing and which is authorized under such laws to exercise corporate trust or stock transfer powers. After appointment, the successor warrant agent shall be vested with the same powers, rights, duties and responsibilities as if it had been originally named as warrant agent without further act or deed; but the predecessor warrant agent shall deliver and transfer to the successor warrant agent any property at the time held by it hereunder, and execute and deliver any further assurance, conveyance, act or deed necessary for the purpose. Not later than the effective date of any such appointment, the Company shall file notice thereof in writing with the predecessor warrant agent and each transfer agent of the Common Stock, and mail a notice thereof in writing to the Holders of the Warrants. However, failure to give any notice provided for in this Section 16, or any defect therein, shall not affect the legality or validity of the resignation or removal of the Warrant Agent or the appointment of the successor warrant agent, as the case may be.

Section 17. Warrant Exercise Solicitation. From time to time, the Company may engage one or more registered broker-dealer(s) to act as the Company's agent for the solicitation of the exercise of the Warrants. If so engaged, the Company will provide the Warrant Agent with written notice of the engagement and the Warrant Agent agrees that it will reasonably cooperate with such solicitation activities.

Section 18. Notices. Subject to the provisions of Section 16, any notice, statement or demands authorized by this Agreement to be given or made by (i) the Company or by the Holder of any Warrant to or on the Warrant Agent, or (ii) the Warrant Agent or by the Holder of any Warrant to or on the Company, must be in writing and sufficiently given or made when sent by overnight delivery service or first-class mail, postage prepaid addressed as follows (or at such other address for a party as shall be specified by like notice):

If to the Warrant Agent, to:

American Stock Transfer & Trust Company, LLC
6201 15th Avenue
Brooklyn, NY 11219
Attention: Compliance Dept.

If to the Company, to:

Invitae Corporation
1400 16th Street
San Francisco, CA 94103
Attention: Chief Financial Officer

Any notice, statement or demand authorized by this Agreement to be given or made by the Company or the Warrant Agent to the Holder of any Warrant, must be in writing and sufficiently given or made when sent by email, facsimile, first-class mail, postage prepaid, to the address of such Holder as shown on the registry books of the Company. Any notice required to be delivered by the Company to the Holder of any Warrant may be given by the Warrant Agent on behalf of the Company.

Section 19. Supplements and Amendments.

(a) The Company and the Warrant Agent may from time to time supplement or amend this Agreement without the approval of any Holders of Warrant Certificates in order to cure any ambiguity, to correct or supplement any provision contained herein which may be defective or inconsistent with any other provisions herein, or to make any other provisions with regard to matters or questions arising hereunder which the Company and the Warrant Agent may deem necessary or desirable and which shall not adversely affect the interests of the Holders of Warrants.

(b) In addition to the foregoing, in accordance with the Terms and Conditions, the Company and the Warrant Agent may modify this Agreement for the purpose of adding any provisions to or changing in any manner or eliminating any of the provisions of this Agreement or modifying in any manner the rights of the Holders of the Warrants. As a condition precedent to the Warrant Agent's execution of any such amendment that amends the rights of the Holders of the Warrants, the Company shall deliver to the Warrant Agent a certificate from a duly authorized officer of the Company that states that the Terms and Conditions have been duly amended pursuant to the terms thereof and that the proposed amendment to this Agreement is compliant with this Section 19 and Terms and Conditions, as amended; provided, however, that the Warrant Agent shall not be obligated to execute any supplement or amendment that adversely affect its rights, duties or obligations or immunities hereunder.

Section 20. Successors. All covenants and provisions of this Agreement by or for the benefit of the Company or the Warrant Agent shall bind and inure to the benefit of their respective successors and assigns hereunder.

Section 21. Benefits of this Agreement. Nothing in this Agreement shall be construed to give any Person other than the Company and the Warrant Agent any legal or equitable right, remedy or claim under this Agreement; but this Agreement shall be for the sole and exclusive benefit of the Company, the Warrant Agent and the Holders of the Warrants.

Section 22. Governing Law. This Agreement and each Warrant issued hereunder shall be governed by, and construed in accordance with, the laws of the State of New York without giving effect to the conflicts of law principles thereof. The Company and each Holder of Warrants hereby irrevocably submits to the exclusive jurisdiction of the courts of the State of New York or the United States District Court for the Southern District of New York, over any suit, action or proceeding arising out of or relating to this Agreement. The Company and each Holder of Warrants acknowledge that the forum designated by this Section 22 has a reasonable relation to this Agreement and to such Persons' relationship with one another. The Company and each Holder of Warrants hereby waive, to the fullest extent permitted by applicable law, any objection which they now or hereafter have to personal jurisdiction or to the laying of venue of any such suit, action or proceeding brought in any court referred to in this Section 22. The Company and each Holder of Warrants undertake not to commence any action subject to this Agreement in any forum other than the forum described in this Section 22. The Company and each Holder of Warrants agree that, to the fullest extent permitted by applicable law, a final and non-appealable judgment in any such suit, action or proceeding brought in any such court will be conclusive and binding upon such Persons.

Section 23. Confidentiality. The Warrant Agent and the Company agree that all books, records, information and data pertaining to the business of the other party, including inter alia, personal, non-public warrant holder information, which are exchanged or received pursuant to the negotiation or the carrying out of this Agreement including the fees for services set forth in the attached schedule shall remain confidential, and shall not be voluntarily disclosed to any other person, except as may be required by law, including, without limitation, pursuant to subpoenas from state or federal government authorities (e.g., in divorce and criminal actions).

Section 24. Counterparts. This Agreement may be executed in any number of counterparts and each of such counterparts shall for all purposes be deemed to be an original, and all such counterparts shall together constitute but one and the same instrument. A signature to this Agreement executed and/or transmitted electronically shall have the same authority, effect, and enforceability as an original signature

Section 25. Captions. The captions of the sections of this Agreement have been inserted for convenience only and shall not control or affect the meaning or construction of any of the provisions hereof.

Section 26. Customer Identification Program. The Company acknowledges that the Warrant Agent is subject to the customer identification program ("Customer Identification Program") requirements under the USA PATRIOT Act and its implementing regulations, and that the Warrant Agent must obtain, verify and record information that allows the Warrant Agent to identify the Company. Accordingly, prior to accepting an appointment hereunder, the Warrant Agent may request information from the Company that will help the Warrant Agent to identify the Company, including without limitation the Company's physical address, tax identification number, organizational documents, certificate of good standing, license to do business, or any other information that the Warrant Agent deems necessary. The Company agrees that the Warrant Agent cannot accept an appointment hereunder unless and until the Warrant Agent verifies the Company's identity in accordance with the Customer Identification Program requirements.

Section 27. Force Majeure. Notwithstanding anything to the contrary contained herein, neither the Warrant Agent nor the Company shall be liable for, or considered to be in breach of or default under this Agreement (including Section 13) on account of any delay or failure to perform its obligations hereunder due to causes beyond such party's reasonable control including, without limitation, acts of God, terrorist acts, shortage of supply, breakdowns or malfunctions, interruptions or malfunction of computer facilities, or loss of data due to power failures or mechanical difficulties with information storage or retrieval systems, labor difficulties, war, or civil unrest.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed as of the day and year first above written.

INVITAE CORPORATION

By: _____
Name: Shelly Guyer
Title: Chief Financial Officer

**AMERICAN STOCK TRANSFER & TRUST COMPANY,
LLC**

By: _____
Name:
Title:

[Signature page to Warrant Agent Agreement (Series F Warrants)]

EXHIBIT A

WIRE INSTRUCTIONS

Santander Bank NA.
601 Penn Street
Reading, PA 19601

ABA # 231372691

SWIFT CODE: SVRNUS33

For further credit to: American Stock Transfer & Trust, LLC

6201 15TH Avenue

Brooklyn, NY 11219

Account # 3036002123

Reference: CombiMatrix Corporation

Attn: Accounts Receivable

EXHIBIT B

FORM OF WARRANT

See attached .

COMMON STOCK PURCHASE WARRANT

INVITAE CORPORATION

Warrant Shares:
Warrant No. WF-

Initial Exercise Date: , 2017
Issue Date: , 2017

THIS COMMON STOCK PURCHASE WARRANT (the “Warrant”) certifies that, for value received, or its assigns (the “Holder”) is entitled, upon the terms and subject to the limitations on exercise and the conditions hereinafter set forth, at any time on or after the date hereof (the “Initial Exercise Date”) and on or prior to the close of business on March 24, 2021 (the “Termination Date”) but not thereafter, to subscribe for and purchase from Invitae Corporation, a Delaware corporation (the “Company”), up to the above referenced number of shares (as subject to adjustment and certain limitations hereunder, the “Warrant Shares”) of Common Stock (as defined below). The purchase price of one share of Common Stock under this Warrant shall be equal to the Exercise Price, as defined in Section 2(b).

Section 1. Definitions. In addition to the terms defined elsewhere in this Agreement, for all purposes of this Agreement, the following terms have the meanings set forth in this Section 1:

“Affiliate” means any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a Person as such terms are used in and construed under Rule 405 under the Securities Act of 1933, as amended (the “Securities Act”).

“Business Day” means any day except any Saturday, any Sunday, any day which is a federal legal holiday in the United States or any day on which banking institutions in the State of New York are authorized or required by law or other governmental action to close.

“Common Stock” means the common stock of the Company, par value \$0.0001 per share, and any other class of securities into which such securities may hereafter be reclassified or changed.

“Common Stock Equivalents” means any securities of the Company or its subsidiaries which would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock.

“Person” means an individual or corporation, partnership, trust, incorporated or unincorporated association, joint venture, limited liability company, joint stock company, government (or an agency or subdivision thereof) or other entity of any kind.

“Trading Day” means a day on which the principal Trading Market is open for trading.

“Trading Market” means any of the following markets or exchanges on which the Common Stock is listed or quoted for trading on the date in question: the NYSE MKT, the Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market, the New York Stock Exchange or the OTC Bulletin Board (or any successors to any of the foregoing).

“Transfer Agent” means American Stock Transfer & Trust Company, LLC, the current transfer agent of the Company with a mailing address of 6201 15th Avenue, Brooklyn, New York 11219 and a phone number of (718) 921-8200, and any successor transfer agent of the Company.

“VWAP” means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg L.P. (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if the OTC Bulletin Board is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the OTC Bulletin Board, (c) if the Common Stock is not then listed or quoted for trading on the OTC Bulletin Board and if prices for the Common Stock are then reported in the “Pink Sheets” published by Pink OTC Markets, Inc. (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of the Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Holders of Warrants representing not less than a majority of the Common Stock obtainable upon exercise of all such Warrants then outstanding, and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

“Warrants” means the substantially identical warrants initially issued by the Company on or about the date first written above and having the same exercise price as this Warrant.

Section 2. Exercise.

(a) Exercise of Warrant. Exercise of the purchase rights represented by this Warrant may be made, in whole or in part, at any time or times on or after the Initial Exercise Date and on or before the Termination Date by delivery to the Company (or such other office or agency of the Company as it may designate by notice in writing to the registered Holder at the address of the Holder appearing on the books of the Company) of a duly executed facsimile copy (or e-mail attachment) of the Notice of Exercise in the form annexed hereto and, within three (3) Trading Days of the date said Notice of Exercise is delivered to the Company, payment of the aggregate Exercise Price of the shares thereby purchased by wire transfer or cashier’s check drawn on a United States bank or, if available, pursuant to the cashless exercise procedure specified in Section 2(c) below is specified in the applicable Notice of Exercise. No ink-original Notice of Exercise shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Exercise form be required. Notwithstanding anything

herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in full, in which case, the Holder shall surrender this Warrant to the Company for cancellation within three (3) Trading Days of the date the final Notice of Exercise is delivered to the Company. Partial exercises of this Warrant resulting in purchases of a portion of the total number of Warrant Shares available hereunder shall have the effect of lowering the outstanding number of Warrant Shares purchasable hereunder in an amount equal to the applicable number of Warrant Shares purchased. The Holder and the Company shall maintain records showing the number of Warrant Shares purchased and the date of such purchases. The Company shall deliver any objection to any Notice of Exercise within one (1) Business Day of receipt of such notice. **The Holder and any assignee, by acceptance of this Warrant, acknowledge and agree that, by reason of the provisions of this paragraph, following the purchase of a portion of the Warrant Shares hereunder, the number of Warrant Shares available for purchase hereunder at any given time may be less than the amount stated on the face hereof.**

(b) Exercise Price. The exercise price per share of the Common Stock under this Warrant shall be \$ _____, subject to adjustment hereunder (the “Exercise Price”).

(c) Cashless Exercise. If at the time of exercise hereof there is no effective registration statement registering, or the prospectus contained therein is not available for the issuance of the Warrant Shares to the Holder, then this Warrant may also be exercised, in whole or in part, at such time by means of a “cashless exercise” in which the Holder shall be entitled to receive a number of Warrant Shares equal to the quotient obtained by dividing [(A-B) (X)] by (A), where:

- (A) = the last VWAP immediately preceding the time of delivery of the Notice of Exercise giving rise to the applicable “cashless exercise,” as set forth in the applicable Notice of Exercise (to clarify, the “last VWAP” will be the last VWAP as calculated over an entire Trading Day such that, in the event that this Warrant is exercised at a time that the Trading Market is open, the prior Trading Day’s VWAP shall be used in this calculation);
- (B) = the Exercise Price of this Warrant, as adjusted hereunder; and
- (X) = the number of Warrant Shares that would be issuable upon exercise of this Warrant (or portion thereof if a partial exercise) in accordance with the terms of this Warrant if such exercise were by means of a cash exercise rather than a cashless exercise.

If Warrant Shares are issued in such a cashless exercise, the parties acknowledge and agree that in accordance with Section 3(a)(9) of the Securities Act, the Warrant Shares shall take on the registered characteristics of the Warrants being exercised. The Company agrees not to take any position contrary to this Section 2(c).

(d) Mechanics of Exercise.

(i) Delivery of Warrant Shares Upon Exercise. The Company shall cause the Warrant Shares purchased hereunder to be transmitted by the Transfer Agent to the Holder by crediting the account of the Holder's or its designee's balance account with The Depository Trust Company through its Deposit or Withdrawal at Custodian system ("DWAC") if the Company is then a participant in such system and either (A) there is an effective registration statement permitting the issuance of the Warrant Shares to or resale of the Warrant Shares by the Holder or (B) this Warrant is being exercised via cashless exercise, and otherwise by physical delivery of a certificate, registered in the Company's share register in the name of the Holder or its designee, for the number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the address specified by the Holder in the Notice of Exercise by the date that is three (3) Trading Days after the delivery to the Company of the Notice of Exercise (such date, the "Warrant Share Delivery Date"), provided that the Company shall not be obligated to deliver Warrant Shares hereunder unless the Company has received the aggregate Exercise Price on or before the Warrant Share Delivery Date. Upon delivery of the Notice of Exercise the Holder shall be deemed for all corporate purposes to have become the holder of record of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date of delivery of the Warrant Shares; provided payment of the aggregate Exercise Price (other than in the case of a Cashless Exercise) is received within three (3) Trading Days of delivery of the Notice of Exercise. If the Company fails for any reason (other than a delay in delivery of the aggregate Exercise Price) to deliver to the Holder the Warrant Shares subject to a Notice of Exercise by the Warrant Share Delivery Date, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each \$1,000 of Warrant Shares subject to such exercise (based on the VWAP of the Common Stock on the date of the applicable Notice of Exercise), \$10 per Trading Day (increasing to \$20 per Trading Day on the fifth Trading Day after such liquidated damages begin to accrue) for each Trading Day after such Warrant Share Delivery Date until such Warrant Shares are delivered or the Holder rescinds such exercise. The Company agrees to maintain a transfer agent that is a participant in the FAST program so long as this Warrant remains outstanding and exercisable.

(ii) Delivery of New Warrants Upon Exercise. If this Warrant shall have been exercised in part, the Company shall, at the request of the Holder and upon surrender of this Warrant certificate, at the time of delivery of the Warrant Shares, deliver to the Holder a new Warrant evidencing the rights of the Holder to purchase the unpurchased Warrant Shares called for by this Warrant, which new Warrant shall in all other respects be identical with this Warrant.

(iii) Rescission Rights. If the Company fails to cause the Transfer Agent to transmit to the Holder the Warrant Shares pursuant to Section 2(d) (i) by the Warrant Share Delivery Date, then the Holder will have the right to rescind such exercise.

(iv) Compensation for Buy-In on Failure to Timely Deliver Warrant Shares Upon Exercise. In addition to any other rights available to the Holder, if the Company fails to cause the Transfer Agent to transmit to the Holder the Warrant Shares pursuant to an exercise by the Warrant Share Delivery Date, and if after such date the Holder is required by its broker to purchase (in an open market transaction or otherwise) or the Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a "Buy-In"), then the Company shall (A) pay in cash to the Holder the amount, if any, by which (x) the Holder's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (y) the amount obtained by multiplying (1) the number of Warrant Shares that the Company was required to deliver to the Holder in connection with the exercise at issue and that were sold times (2) the price at which the sell order giving rise to such purchase obligation was executed, and (B) at the option of the Holder, either reinstate the portion of the Warrant and equivalent number of Warrant Shares for which such exercise was not honored (in which case such exercise shall be deemed rescinded) or deliver to the Holder the number of shares of Common Stock that would have been issued had the Company timely complied with its exercise and delivery obligations hereunder. For example, if the Holder purchases Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted exercise of shares of Common Stock with an aggregate sale price giving rise to such purchase obligation of \$10,000, under clause (A) of the immediately preceding sentence the Company shall be required to pay the Holder \$1,000. The Holder shall provide the Company written notice indicating the amounts payable to the Holder in respect of the Buy-In and, upon request of the Company, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

(v) No Fractional Shares or Scrip. No fractional shares or scrip representing fractional shares shall be issued upon the exercise of this Warrant. As to any fraction of a share which the Holder would otherwise be entitled to purchase upon such exercise, the Company shall, at its election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Exercise Price or round up to the next whole share. For the avoidance of doubt, the calculations of the number of Warrant Shares issuable upon exercise of this Warrant shall be aggregated with the number of shares issuable upon the concurrent exercise of any other Warrants, to determine the number of whole shares and fractional shares issuable to the Holder.

(vi) Charges, Taxes and Expenses. Issuance of Warrant Shares shall be made without charge to the Holder for any issue or transfer tax or other incidental expense in respect of the issuance of Warrant Shares, all of which taxes and expenses shall be paid by the Company, and such Warrant Shares shall be issued in the name of the Holder or in such name or names as may be directed by the Holder in compliance with applicable securities laws; provided, however, that in the event that Warrant Shares are to be issued in a name other than the name of the Holder, this Warrant when surrendered for exercise shall be accompanied by the Assignment Form attached hereto duly executed by the Holder and the Company may require, as a condition thereto, the payment of a sum sufficient to reimburse it for any transfer tax incidental thereto. The Company shall pay all Transfer Agent fees required for same-day processing of any Notice of Exercise and all fees to the Depository Trust Company (or another established clearing corporation performing similar functions) required for same-day electronic delivery of the Warrant Shares (it being understood that the foregoing does not obligate the Company to process Notices of Exercise same-day).

(vii) Closing of Books. The Company will not close its stockholder books or records in any manner which prevents the timely exercise of this Warrant, pursuant to the terms hereof.

(e) Holder's Exercise Limitations. The Company shall not effect any exercise of this Warrant, and the Holder shall not have the right to exercise any portion of this Warrant, pursuant to Section 2 or otherwise, to the extent that after giving effect to such issuance after exercise as set forth on the applicable Notice of Exercise, the Holder (together with the Holder's Affiliates, and any other Persons acting as a group together with the Holder or any of the Holder's Affiliates (such Persons, "Attribution Parties")), would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of the foregoing sentence, the number of shares of Common Stock beneficially owned by the Holder and its Affiliates and Attribution Parties shall include the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (i) exercise of the remaining, nonexercised portion of this Warrant beneficially owned by the Holder or any of its Affiliates or Attribution Parties and (ii) exercise or conversion of the unexercised or nonconverted portion of any other securities of the Company (including, without limitation, any other Common Stock Equivalents) subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the Holder or any of its Affiliates or Attribution Parties. Except as set forth in the preceding sentence, for purposes of this Section 2(e), beneficial ownership shall be calculated in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") and the rules and regulations promulgated thereunder, it being acknowledged by the Holder that the Company is not representing to the Holder that such calculation is in compliance with Section 13(d) of the Exchange Act and the Holder is solely responsible for any schedules required to be filed in accordance therewith. To the extent that the limitation contained in this Section 2(e) applies, the determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable shall be in the sole discretion of the Holder, and the submission of a Notice of Exercise shall be deemed to be the Holder's determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable, in each case subject to the Beneficial Ownership Limitation, and

the Company shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Section 2(e), in determining the number of outstanding shares of Common Stock, the Holder may rely on the number of outstanding shares of Common Stock as reflected in (A) the Company's most recent periodic or annual report filed with the Securities and Exchange Commission (the "Commission"), as the case may be, (B) a more recent public announcement by the Company or (C) a more recent written notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request of the Holder, the Company shall within two (2) Trading Days confirm orally and in writing to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder or its Affiliates or Attribution Parties since the date as of which such number of outstanding shares of Common Stock was reported. The "Beneficial Ownership Limitation" shall be 4.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock issuable upon exercise of this Warrant. The Holder, upon notice to the Company, may increase or decrease the Beneficial Ownership Limitation provisions of this Section 2(e), provided that the Beneficial Ownership Limitation in no event exceeds 9.99% of the number of shares of the Common Stock outstanding immediately after giving effect to the issuance of shares of Common Stock upon exercise of this Warrant held by the Holder and the provisions of this Section 2(e) shall continue to apply. Any increase in the Beneficial Ownership Limitation will not be effective until the 61st day after such notice is delivered to the Company. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 2(e) to correct this paragraph (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation herein contained or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph shall apply to a successor holder of this Warrant.

Section 3. Certain Adjustments.

(a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding: (i) pays a stock dividend or otherwise makes a stock distribution or distributions on shares of its Common Stock or any other equity or equity equivalent securities payable in shares of Common Stock (which, for avoidance of doubt, shall not include any shares of Common Stock issued by the Company upon exercise of this Warrant), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of reverse stock split) outstanding shares of Common Stock into a smaller number of shares or (iv) issues by reclassification of shares of the Common Stock any shares of capital stock of the Company, then in each case the Exercise Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding treasury shares, if any) outstanding immediately before such event and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event, and the number of shares issuable upon exercise of this Warrant shall be proportionately adjusted such that the aggregate Exercise Price of this Warrant shall remain unchanged. Any adjustment made pursuant to this Section 3(a) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision, combination or re-classification.

(b) Subsequent Rights Offerings. In addition to any adjustments pursuant to the other subsections of this Section 3, if at any time the Company grants, issues or sells any Common Stock Equivalents or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares of Common Stock (the “Purchase Rights”), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (provided, however, to the extent that the Holder’s right to participate in any such Purchase Right would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Purchase Right to such extent (or beneficial ownership of such shares of Common Stock as a result of such Purchase Right to such extent) and such Purchase Right to such extent shall be held in abeyance for the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

(c) Pro Rata Distributions. During such time as this Warrant is outstanding, if the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a “Distribution”), at any time after the issuance of this Warrant, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, however, to the extent that the Holder’s right to participate in any such Distribution would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Distribution to such extent (or in the beneficial ownership of any shares of Common Stock as a result of such Distribution to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation). To the extent that this Warrant has not been partially or completely exercised at the time of such Distribution, such portion of the Distribution shall be held in abeyance for the benefit of the Holder until the Holder has exercised this Warrant.

(d) Fundamental Transaction. If, at any time while this Warrant is outstanding, (i) the Company, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Company with or into another Person, (ii) the Company, directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of its assets in one or a series of related transactions, (iii) any, direct or indirect, purchase offer, tender offer or exchange offer (whether by the Company or another Person) is completed pursuant to which holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of the outstanding Common Stock, (iv) the Company, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property (other than a reclassification under Section 3(a)), or (v) the Company, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person or group of Persons whereby such other Person or group acquires more than 50% of the outstanding shares of Common Stock (not including any shares of Common Stock held by the other Person or other Persons making or party to, or associated or affiliated with the other Persons making or party to, such stock or share purchase agreement or other business combination) (each a “Fundamental Transaction”), then, upon any subsequent exercise of this Warrant, the Holder shall have the right to receive, for each Warrant Share that would have been issuable upon such exercise immediately prior to the occurrence of such Fundamental Transaction (without regard to any limitation in Section 2(e) on the exercise of this Warrant), the number of shares of Common Stock of the successor or acquiring corporation or of the Company, if it is the surviving corporation, and any additional consideration (the “Alternate Consideration”) receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which this Warrant is exercisable immediately prior to such Fundamental Transaction (without regard to any limitation in Section 2(e) on the exercise of this Warrant). For purposes of any such exercise, the determination of the Exercise Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one share of Common Stock in such Fundamental Transaction, and the Company shall apportion the Exercise Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the Holder shall be given the same choice as to the Alternate Consideration it receives upon any exercise of this Warrant following such Fundamental Transaction. Notwithstanding anything to the contrary, in the event of a Fundamental Transaction that is (1) an all cash transaction, (2) a “Rule 13e-3 transaction” as defined in Rule 13e-3 under the Exchange Act, or (3) a Fundamental Transaction involving a person or entity not traded on a national securities exchange, including, but not limited to, the Nasdaq Global Select Market, the Nasdaq Global Market, or the Nasdaq Capital Market, the Company or any Successor Entity (as defined below) shall, at the Holder’s option, exercisable at any time concurrently with, or within 30 days after, the consummation of the Fundamental Transaction, purchase this Warrant from the Holder by paying to the Holder an amount of cash equal to the Black Scholes Value of the remaining unexercised portion of this Warrant on the date of the consummation of such Fundamental Transaction. “Black Scholes Value” means the value of this Warrant based on the Black and Scholes Option Pricing Model obtained from the “OV” function on Bloomberg, L.P.

(“ Bloomberg ”) determined as of the day of consummation of the applicable Fundamental Transaction for pricing purposes and reflecting (A) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the time between the date of the public announcement of the applicable Fundamental Transaction and the Termination Date, (B) an expected volatility equal to the greater of 100% and the 100 day volatility obtained from the HVT function on Bloomberg as of the Trading Day immediately following the public announcement of the applicable Fundamental Transaction, (C) the underlying price per share used in such calculation shall be the sum of the price per share being offered in cash, if any, plus the value of any non-cash consideration, if any, being offered in such Fundamental Transaction and (D) a remaining option time equal to the time between the date of the public announcement of the applicable Fundamental Transaction and the Termination Date. The Company shall cause any successor entity in a Fundamental Transaction in which the Company is not the survivor (the “ Successor Entity ”) to assume in writing all of the obligations of the Company under this Warrant in accordance with the provisions of this Section 3(d) pursuant to written agreements in form and substance reasonably satisfactory to the Holder and approved by the Holder (without unreasonable delay) prior to such Fundamental Transaction and shall, at the option of the Holder, deliver to the Holder in exchange for this Warrant a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Warrant which is exercisable for a corresponding number of shares of capital stock of such Successor Entity (or its parent entity) equivalent to the shares of Common Stock acquirable and receivable upon exercise of this Warrant (without regard to any limitations on the exercise of this Warrant) prior to such Fundamental Transaction, and with an exercise price which applies the Exercise Price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such number of shares of capital stock and such exercise price being for the purpose of protecting the economic value of this Warrant immediately prior to the consummation of such Fundamental Transaction), and which is reasonably satisfactory in form and substance to the Holder. Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Warrant referring to the “Company” shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant with the same effect as if such Successor Entity had been named as the Company herein.

(e) Calculations. All calculations under this Section 3 shall be made to the nearest cent or the nearest 1/100th of a share, as the case may be. For purposes of this Section 3, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding treasury shares, if any) issued and outstanding.

(f) Notice to Holder.

(i) Adjustment to Exercise Price. Whenever the Exercise Price is adjusted pursuant to any provision of this Section 3, the Company shall promptly deliver to the Holder a notice setting forth the Exercise Price after such adjustment and any resulting adjustment to the number of Warrant Shares and setting forth a brief statement of the facts requiring such adjustment.

(ii) Notice to Allow Exercise by Holder. If (A) the Company shall declare a dividend (or any other distribution in whatever form) on the Common Stock, (B) the Company shall declare a special nonrecurring cash dividend on or a redemption of the Common Stock, (C) the Company shall authorize the granting to all holders of the Common Stock rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of the Company shall be required in connection with any reclassification of the Common Stock, any consolidation or merger to which the Company is a party, any sale or transfer of all or substantially all of the assets of the Company, or any compulsory share exchange whereby the Common Stock is converted into other securities, cash or property, or (E) the Company shall authorize the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Company, then, in each case, the Company shall cause to be delivered by facsimile or email to the Holder at its last facsimile number or email address as it shall appear upon the Warrant Register (as defined below) of the Company, at least 20 calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of the Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of which it is expected that holders of the Common Stock of record shall be entitled to exchange their shares of the Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange; provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice. To the extent that any notice provided in this Warrant constitutes, or contains, material, non-public information regarding the Company or any of its subsidiaries, the Company shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. The Holder shall remain entitled to exercise this Warrant during the period commencing on the date of such notice to the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

Section 4. Transfer of Warrant.

(a) Transferability. This Warrant and all rights hereunder (including, without limitation, any registration rights) are transferable, in whole or in part, upon surrender of this Warrant at the principal office of the Company or its designated agent, together with a written assignment of this Warrant substantially in the form attached hereto duly executed by the Holder or its agent or attorney and funds sufficient to pay any transfer taxes payable upon the making of such transfer. Upon such surrender and, if required, such payment, the Company shall execute and deliver a new Warrant or Warrants in the name of the assignee or assignees, as applicable, and in the denomination or denominations specified in such instrument of assignment, and shall issue to the assignor a new Warrant evidencing the portion of this Warrant not so assigned, and

this Warrant shall promptly be cancelled. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant, in the event that the Warrant is not in electronic form, to the Company unless the Holder has assigned this Warrant in full, in which case, the Holder shall surrender this Warrant to the Company within three (3) Trading Days of the date the Holder delivers an assignment form to the Company assigning this Warrant in full. The Warrant, if properly assigned in accordance herewith, may be exercised by a new holder for the purchase of Warrant Shares without having a new Warrant issued.

(b) New Warrants. This Warrant may be divided or combined with other Warrants upon presentation hereof at the aforesaid office of the Company, together with a written notice specifying the names and denominations in which new Warrants are to be issued, signed by the Holder or its agent or attorney. Subject to compliance with Section 4(a), as to any transfer which may be involved in such division or combination, the Company shall execute and deliver a new Warrant or Warrants in exchange for the Warrant or Warrants to be divided or combined in accordance with such notice. All Warrants issued on transfers or exchanges shall be dated the original Issue Date and shall be identical with this Warrant except as to the number of Warrant Shares issuable pursuant thereto.

(c) Warrant Register. The Company shall register this Warrant, upon records to be maintained by the Company for that purpose (the “Warrant Register”), in the name of the record Holder hereof from time to time. The Company may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, absent actual notice to the contrary.

Section 5. Miscellaneous.

(a) No Rights as Stockholder Until Exercise. This Warrant does not entitle the Holder to any voting rights, dividends or other rights as a stockholder of the Company prior to the exercise hereof as set forth in Section 2(d)(i), except as expressly set forth in Section 3.

(b) Loss, Theft, Destruction or Mutilation of Warrant. The Company covenants that upon receipt by the Company of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of this Warrant or any stock certificate relating to the Warrant Shares, and in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to it (which, in the case of the Warrant, shall not include the posting of any bond), and upon surrender and cancellation of such Warrant or stock certificate, if mutilated, the Company will make and deliver a new Warrant or stock certificate of like tenor and dated as of such cancellation, in lieu of such Warrant or stock certificate.

(c) Saturdays, Sundays, Holidays, etc. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall not be a Business Day, then such action may be taken or such right may be exercised on the next succeeding Business Day.

(d) Authorized Shares.

The Company covenants that, during the period the Warrant is outstanding, it will reserve from its authorized and unissued Common Stock a sufficient number of shares to provide for the issuance of the Warrant Shares upon the exercise of any purchase rights under this Warrant. The Company further covenants that its issuance of this Warrant shall constitute full authority to its officers who are charged with the duty of issuing the necessary Warrant Shares upon the exercise of the purchase rights under this Warrant. The Company will take all such reasonable action as may be necessary to assure that such Warrant Shares may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of the Trading Market upon which the Common Stock may be listed. The Company covenants that all Warrant Shares which may be issued upon the exercise of the purchase rights represented by this Warrant will, upon exercise of the purchase rights represented by this Warrant and payment for such Warrant Shares in accordance herewith, be duly authorized, validly issued, fully paid and nonassessable and free from all taxes, liens and charges created by the Company in respect of the issue thereof (other than taxes in respect of any transfer occurring contemporaneously with such issue).

Except and to the extent as waived or consented to by the Holder, the Company shall not by any action, including, without limitation, amending its certificate of incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of the Holder as set forth in this Warrant against impairment. Without limiting the generality of the foregoing, the Company will (i) not increase the par value of any Warrant Shares above the amount payable therefor upon such exercise immediately prior to such increase in par value, (ii) take all such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable Warrant Shares upon the exercise of this Warrant and (iii) use commercially reasonable efforts to obtain all such authorizations, exemptions or consents from any public regulatory body having jurisdiction thereof, as may be necessary to enable the Company to perform its obligations under this Warrant.

Before taking any action which would result in an adjustment in the number of Warrant Shares for which this Warrant is exercisable or in the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

(e) Governing Law. All questions concerning the construction, validity, enforcement and interpretation of this Warrant shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of law thereof. If either party shall commence an action, suit or proceeding to enforce any provisions of this Warrant, other than pursuant to federal securities laws, then the prevailing party in such action, suit or proceeding shall be reimbursed by the other party for its reasonable attorneys' fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding.

(f) Restrictions. The Holder acknowledges that the Warrant Shares acquired upon the exercise of this Warrant, if not registered and the Holder does not utilize cashless exercise, will have restrictions upon resale imposed by state and federal securities laws.

(g) Nonwaiver and Expenses. No course of dealing or any delay or failure to exercise any right hereunder on the part of the Holder shall operate as a waiver of such right or otherwise prejudice the Holder's rights, powers or remedies, notwithstanding the fact that all rights hereunder terminate on the Termination Date. If the Company willfully and knowingly fails to comply with any provision of this Warrant, which results in any material damages to the Holder, the Company shall pay to the Holder such amounts as shall be sufficient to cover any costs and expenses including, but not limited to, reasonable attorneys' fees, including those of appellate proceedings, incurred by the Holder in collecting any amounts due pursuant hereto or in otherwise enforcing any of its rights, powers or remedies hereunder.

(h) Notices. Any notice, request or other document required or permitted to be given or delivered to the Holder by the Company shall be in writing and shall be deemed given, delivered and effective on the earliest of: (a) the date of transmission, if such notice or communication is delivered via facsimile at the facsimile number set forth on the signature pages attached hereto at or prior to 5:30 p.m. (New York City time) on a Trading Day, (b) the next Trading Day after the date of transmission, if such notice or communication is delivered via facsimile at the facsimile number set forth on the signature pages attached hereto on a day that is not a Trading Day or later than 5:30 p.m. (New York City time) on any Trading Day, (c) the third (3rd) Trading Day following the date of mailing, if sent by U.S. nationally recognized overnight courier service or (d) upon actual receipt by the party to whom such notice is required to be given. The address for such notices and communications shall be as set forth on the signature pages attached hereto.

(i) Limitation of Liability. No provision hereof, in the absence of any affirmative action by the Holder to exercise this Warrant to purchase Warrant Shares, and no enumeration herein of the rights or privileges of the Holder, shall give rise to any liability of the Holder for the purchase price of any Common Stock or as a stockholder of the Company, whether such liability is asserted by the Company or by creditors of the Company.

(j) Remedies. The Holder, in addition to being entitled to exercise all rights granted by law, including recovery of damages, will be entitled to specific performance of its rights under this Warrant. The Company agrees that monetary damages would not be adequate compensation for any loss incurred by reason of a breach by it of the provisions of this Warrant and hereby agrees to waive and not to assert the defense in any action for specific performance that a remedy at law would be adequate.

(k) Successors and Assigns. Subject to applicable securities laws, this Warrant and the rights and obligations evidenced hereby shall inure to the benefit of and be binding upon the successors and permitted assigns of the Company and the successors and permitted assigns of the Holder. The provisions of this Warrant are intended to be for the benefit of any holder from time to time of this Warrant and shall be enforceable by the Holder or holder of Warrant Shares.

(l) Amendment. The provisions of this Warrant and all of the other Warrants may be amended and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company has obtained the written consent of the Persons holding Warrants representing not less than two-thirds of the Common

Stock obtainable upon exercise of all such Warrants then outstanding; provided, that the number of Warrant Shares subject to this Warrant, the Exercise Price, the Initial Exercise Date and the Termination Date may not be amended, and the right to exercise this Warrant may not be altered or waived, without the written consent of the Holder. Any such amendment shall apply to all Warrants and be binding upon all registered holders of such Warrants whether or not they have consented (except only for those amendments that, pursuant the preceding sentence, require the written consent of the Holder).

(m) Severability. Wherever possible, each provision of this Warrant shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Warrant shall be prohibited by or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provisions or the remaining provisions of this Warrant.

(n) Headings. The headings used in this Warrant are for the convenience of reference only and shall not, for any purpose, be deemed a part of this Warrant.

(Signature Page Follows)

IN WITNESS WHEREOF, the Company has caused this Warrant to be executed by its officer thereunto duly authorized as of the date first above indicated.

INVITAE CORPORATION

By: _____

Name:

Title:

Holder's Address: _____

NOTICE OF EXERCISE

TO: INVITAE CORPORATION

(1) The undersigned hereby elects to purchase _____ Warrant Shares of the Company pursuant to the terms of the attached Warrant (only if exercised in full), and tenders herewith payment of the Exercise Price in full, together with all applicable transfer taxes, if any.

(2) Payment shall take the form of (check applicable box):

in lawful money of the United States; or

if permitted, the cancellation of such number of Warrant Shares as is necessary, in accordance with the formula set forth in subsection 2(c), to exercise this Warrant with respect to the maximum number of Warrant Shares purchasable pursuant to the cashless exercise procedure set forth in subsection 2(c).

(3) Please issue said Warrant Shares in the name of the undersigned or in such other name as is specified below:

The Warrant Shares shall be delivered to the following DWAC Account Number:

(4) The undersigned represents and warrants to the Company that in giving effect to the exercise evidenced hereby, the undersigned will not own in excess of the number of shares of Common Stock permitted to be owned under Section 2(e) of this Warrant to which this notice relates.

[SIGNATURE OF HOLDER]

Name of Investing Entity:

Signature of Authorized Signatory of Investing Entity :

Name of Authorized Signatory:

Title of Authorized Signatory:

Date:



Pillsbury Winthrop Shaw Pittman LLP
12255 El Camino Real, Suite 300 | San Diego, CA 92130-4088 | tel 619.234.5000 | fax 858.509.4010

September 13, 2017

Invitae Corporation
1400 16th Street
San Francisco, CA 94103

Re: Registration Statement on Form S-4

Ladies and Gentlemen:

We are acting as counsel for Invitae Corporation, a Delaware corporation (the “Company”), in connection with the Registration Statement on Form S-4 (the “Registration Statement”) relating to the registration under the Securities Act of 1933 (the “Act”) of 5,287,335 shares (the “Shares”) of common stock, par value \$0.0001 per share, of the Company, to be issued in connection with the merger contemplated by the Agreement and Plan of Merger and Reorganization dated as of July 31, 2017, by and among the Company, Coronado Merger Sub, Inc. and CombiMatrix Corporation (the “Merger Agreement”), which Merger Agreement is described in such Registration Statement and filed as an exhibit thereto.

We have reviewed and are familiar with such corporate proceedings and other matters as we have considered relevant or necessary for the opinions expressed in this letter. Based upon the foregoing, we are of the opinion that the Shares have been duly authorized and, when issued in accordance with the Merger Agreement, will be validly issued, fully paid and nonassessable. The opinions set forth in this letter are limited to the General Corporation Law of the State of Delaware, as in effect on the date hereof.

We hereby consent to the filing of this opinion letter as Exhibit 5.1 to the Registration Statement and to the use of our name under the caption “Legal Matters” in the Registration Statement and in the Proxy Statement/Prospectus/Information Statement included therein. In giving this consent, we do not thereby admit that we are within the category of persons whose consent is required under Section 7 of the Act or the rules and regulations of the Securities and Exchange Commission promulgated thereunder.

Very truly yours,

/s/ Pillsbury Winthrop Shaw Pittman LLP



PILLSBURY WINTHROP SHAW PITTMAN LLP
2550 HANOVER STREET | PALO ALTO, CA 94304-1115 | TEL : 650-233-4500 | FAX : 650-233-4545

September 13, 2017

Invitae Corporation
1400 16th Street
San Francisco, CA 94103

Ladies and Gentlemen:

We have acted as counsel to Invitae Corporation, a Delaware corporation (“Invitae”), in connection with (i) Invitae’s offer to exchange (the “Exchange Offer”) shares of its common stock for outstanding Series F warrants to purchase shares of common stock of CombiMatrix Corporation, a Delaware corporation (“CombiMatrix”), and (ii) the proposed subsequent merger (the “Merger”) of Coronado Merger Sub, Inc., a wholly owned subsidiary of Invitae and a Delaware corporation (“Merger Sub”), with and into CombiMatrix, with CombiMatrix continuing as the surviving corporation and as a wholly owned subsidiary of Invitae, pursuant to the Agreement and Plan of Merger and Reorganization, dated as of July 31, 2017 (the “Agreement”), by and among Invitae, Merger Sub and CombiMatrix. In connection therewith, we have assisted in the preparation and filing by Invitae with the Securities and Exchange Commission of a Registration Statement on Form S-4 (the “Exchange Offer Registration Statement”) under the Securities Act of 1933, as amended (the “Securities Act”), with respect to the registration of shares of Invitae’s common stock to be issued pursuant to the Exchange Offer, and of a Registration Statement on Form S-4 (the “Merger Registration Statement” and, together with the Exchange Offer Registration Statement, the “Registration Statements”) under the Securities Act with respect to the registration of shares of Invitae’s common stock to be issued in the Merger.

We hereby confirm to you that the discussion set forth in the proxy statement/prospectus forming part of the Merger Registration Statement under the caption “Material U.S. Federal Income Tax Consequences of the Merger,” insofar as it relates to U.S. federal income tax law and legal conclusions with respect thereto, is our opinion, subject to the qualifications and limitations set forth therein and herein.

In rendering this opinion, we expressly assume (i) that the statements and facts concerning the Exchange Offer and the Merger set forth in the Registration Statements and in the Agreement are true and accurate in all respects, (ii) that the Exchange Offer and the Merger will be completed in accordance with the Registration Statements and the Agreement, (iii) that the representations and covenants contained in tax representation letters delivered to us by Invitae and Merger Sub and by CombiMatrix are true and

accurate, and (iv) that there is no change in applicable law between the date hereof and the effective time of the Merger.

The foregoing opinion is limited to the U.S. federal income tax matters addressed herein, and no other opinions are rendered with respect to other U.S. federal tax matters or to any issues arising under the tax laws of any other country, or any state or locality. This opinion is expressed as of the date hereof, and we disclaim any undertaking to advise you of subsequent changes relating to matters considered herein or of any subsequent changes in applicable law.

We hereby consent to the filing of this opinion as an exhibit to the Merger Registration Statement and to the use of our name therein. In giving such consent, we do not thereby admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act.

Very truly yours,

/s/Pillsbury Winthrop Shaw Pittman LLP

STRADLING YOCCA CARLSON & RAUTH, P.C.
660 NEWPORT CENTER DRIVE, SUITE 1600
NEWPORT BEACH, CA 92660-6422
SYCR.COM

CALIFORNIA
NEWPORT BEACH
SACRAMENTO
SAN DIEGO
SAN FRANCISCO
SANTA BARBARA
SANTA MONICA

COLORADO
DENVER

NEVADA
RENO

WASHINGTON
SEATTLE



September 13, 2017

CombiMatrix Corporation
310 Goddard, Suite 150
Irvine, CA 92618

Ladies and Gentlemen:

We have acted as counsel to CombiMatrix Corporation, a Delaware corporation (“CombiMatrix”), in connection with (i) an offer by Invitae Corporation, a Delaware corporation (“Invitae”), to exchange (the “Exchange Offer”) shares of its common stock for outstanding Series F warrants to purchase shares of common stock of CombiMatrix, and (ii) the proposed subsequent merger (the “Merger”) of Coronado Merger Sub, Inc., a wholly owned subsidiary of Invitae and a Delaware corporation (“Merger Sub”), with and into CombiMatrix, with CombiMatrix continuing as the surviving corporation and as a wholly owned subsidiary of Invitae, pursuant to the Agreement and Plan of Merger and Reorganization, dated as of July 31, 2017 (the “Agreement”), by and among Invitae, Merger Sub and CombiMatrix. In connection therewith, we have assisted in the preparation and filing by Invitae with the Securities and Exchange Commission of a Registration Statement on Form S-4 (the “Exchange Offer Registration Statement”) under the Securities Act of 1933, as amended (the “Securities Act”), with respect to the registration of shares of Invitae’s common stock to be issued pursuant to the Exchange Offer, and of a Registration Statement on Form S-4 (the “Merger Registration Statement” and, together with the Exchange Offer Registration Statement, the “Registration Statements”) under the Securities Act with respect to the registration of shares of Invitae’s common stock to be issued in the Merger.

We hereby confirm to you that the discussion set forth in the proxy statement/prospectus forming part of the Merger Registration Statement under the caption “Material U.S. Federal Income Tax Consequences of the Merger,” insofar as it relates to U.S. federal income tax law and legal conclusions with respect thereto, is our opinion, subject to the qualifications and limitations set forth therein and herein.

In rendering our opinion, we have assumed that (i) the statements and facts concerning the Exchange Offer and the Merger set forth in the Registration Statements are and will remain true, correct and complete, (ii) the Exchange Offer and the Merger will be completed in accordance with the Registration Statements and the Agreement, (iii) the factual representations made to us by Invitae and CombiMatrix in their respective representation letters to us of even date herewith (such letters, the "Representation Letters"), and delivered to us for purposes of this opinion are and will remain true, correct and complete and (iv) all obligations imposed on, or covenants agreed to, by the parties pursuant to any of the documents have been or will be performed or satisfied in accordance with their terms in all material respects.

The opinions expressed herein are based upon existing statutory, regulatory and judicial authority, any of which may be changed at any time with retroactive effect. Nevertheless, we undertake no responsibility to advise you of any new developments in the application or interpretation of the United States federal income tax laws. Our opinion is not binding upon the Internal Revenue Service or the courts, and there is no assurance that the Internal Revenue Service will not successfully assert a contrary position. In addition, our opinions are based solely on the documents that we have examined, the additional information that we have obtained, the statements contained in the Representation Letters, and the assumptions referred to above, all of which we have assumed (without independent verification) are and will be true, correct and complete as of the effective time of the Merger. Our opinions may be adversely affected and cannot be relied upon if any of the facts pertinent to the United States federal income tax treatment of the Merger stated in such documents or in such additional information is, or later becomes, inaccurate, or if any of the statements contained in the Representation Letters or the assumptions referred to above is, or later becomes, inaccurate. Finally, our opinions are limited to the tax matters specifically covered hereby, and we have not been asked to address, nor have we addressed, any other tax consequences of the Merger or any other transactions.

We are furnishing this opinion in connection with the filing of the Merger Registration Statement, and this opinion is not to be relied upon for any other purpose without our prior written consent. We hereby consent to the filing of this opinion as an exhibit to the Merger Registration Statement. In giving this consent, we do not hereby admit that we are within the category of persons, whose consent is required under Section 7 of the Securities Act of 1933, as amended, or the rules and regulations of the Securities and Exchange Commission thereunder.

Very truly yours,

/s/ STRADLING, YOCCA, CARLSON & RAUTH, PC

STRADLING, YOCCA, CARLSON & RAUTH, PC

TRANSACTION BONUS PAYOUT AGREEMENT
[Outside Directors]

This TRANSACTION BONUS PAYOUT AGREEMENT (this “*Agreement*”) is entered into as of July 31, 2017 by and among Invitae Corporation, a Delaware corporation (“*Invitae*”), CombiMatrix Corporation, a Delaware corporation (“*CombiMatrix*”), and [●] (the “*Recipient*”). For purposes of this Agreement, the “*Invitae Group*” refers to Invitae, CombiMatrix and their respective affiliates.

WHEREAS, on December 2, 2015, CombiMatrix adopted the CombiMatrix Transaction Bonus Plan (the “*Transaction Bonus Plan*”) pursuant to which certain employees of CombiMatrix may receive transaction bonuses on a Qualifying Transaction (as defined in the Transaction Bonus Plan); and

WHEREAS, the merger (the “*Merger*”) of Coronado Merger Sub, Inc., a Delaware corporation (“*Merger Sub*”), with and into CombiMatrix, with CombiMatrix continuing as the surviving corporation, pursuant to that Agreement and Plan of Merger, dated as of the date hereof (the “*Merger Agreement*”), by and among Invitae, CombiMatrix and Merger Sub, shall constitute a Qualifying Transaction under the Transaction Bonus Plan; and

WHEREAS, Invitae and CombiMatrix desire to set forth herein the terms and conditions pursuant to which the Recipient’s right to be paid a transaction bonus as defined in the Transaction Bonus Plan (the “*Transaction Bonus*”) shall be settled in connection with the Merger.

NOW, THEREFORE, in consideration of the covenants and premises described in this Agreement and other valuable consideration, the sufficiency of which the parties hereby acknowledge, the parties, intending to be legally bound, agree as follows:

1. Effective Date. This Agreement is effective as of the date on which the closing of the Merger occurs (such date, the “*Closing Date*”). In the event that the Merger Agreement is terminated in accordance with its terms, this Agreement shall automatically be deemed null and void and of no further force and effect.
2. Transaction Bonus. Subject to the terms and conditions of this Agreement and the Transaction Bonus Plan, Invitae shall grant the Recipient unrestricted shares of Invitae Common Stock (as defined in the Merger Agreement) on the Closing Date (or as soon as practicable thereafter). The number of shares of Invitae Common Stock shall be equal to the dollar amount of the transaction bonus awarded to the Recipient under the Transaction Bonus Plan *divided by* the Invitae Trailing Average Share Value (as defined in the Merger Agreement). The grant of the unrestricted shares of Invitae Common Stock in accordance with this Agreement shall constitute payment of the Transaction Bonus in full settlement of all of the Recipient’s rights under the Transaction Bonus Plan. To the extent such shares of Invitae Common Stock are not covered by a registration statement that is effective before the Closing Date under the Securities Act of 1933, as amended (the “*Act*”), Invitae will use commercially reasonable efforts to register the shares for resale as soon as reasonably practicable on a registration statement on Form S-3 or another appropriate form in accordance with the Act.

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3. Conditions to Receipt of Transaction Bonus. The Recipient's right to receive the Transaction Bonus is conditioned on the Recipient's execution of this Agreement and the Recipient's continued service with CombiMatrix until immediately prior to the Closing Date.
 4. [RESERVED]
 5. Miscellaneous.
 - (a) *Entire Agreement; Amendment*. This Agreement and the Transaction Bonus Plan embody the entire agreement and understanding of the parties in respect of its subject matter and supersede all prior agreements and understandings between the parties with respect to such subject matter (whether or not written). In the event of a conflict between the provisions of this Agreement and the Transaction Bonus Plan, the provisions of this Agreement shall control and the Transaction Bonus Plan shall be deemed amended with the consent of the Recipient accordingly. This Agreement may be amended or modified only by written agreement signed by the parties.
 - (b) *No Contract for Continuing Services*. This Agreement shall not be construed as creating any contract for continued services between the Invitae Group and the Recipient and nothing herein contained shall give the Recipient the right to be retained as an employee, consultant or director of the Invitae Group.
 - (c) *No Transfers*. The Recipient's rights in the Transaction Bonus may not be assigned or transferred other than to the Recipient's heirs by reason of the Recipient's death.
 - (d) *Governing Law*. This Agreement shall be construed in accordance with and governed by the laws of the State of Delaware, without regard to any principles of conflict of laws of such state that would require the application of the laws of any other jurisdiction.
 - (e) *Enforceability*. If any portion or provision of this Agreement shall to any extent be declared illegal or unenforceable by a court of competent jurisdiction, then the remainder of this Agreement, or the application of such portion or provision in circumstances other than those as to which it is so declared illegal or unenforceable, shall not be affected thereby, and each portion and provision of this Agreement shall be valid and enforceable to the fullest extent permitted by law.
 - (f) *Waiver*. No waiver of any provision hereof shall be effective unless made in writing and signed by the waiving party. The failure of any party to require the performance of any term or obligation of this Agreement, or the waiver by any party of any breach of this Agreement, shall not prevent any subsequent enforcement of such term or obligation or be deemed a waiver of any subsequent breach.

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- (g) *Successors; Assignability* . This Agreement shall inure to the benefit of and be binding upon the parties, their respective successors, executors, administrators, heirs and permitted assigns; nothing in this Agreement, express or implied, is intended to confer on any person or entity other than the parties and their respective successors and assigns any rights, remedies, obligations or liabilities under or by reason of this Agreement. The Recipient may not assign, delegate or otherwise transfer any of the Recipient's rights or obligations under this Agreement. Invitae or CombiMatrix may transfer or assign, in whole or from time to time in part, to one or more of its affiliates, or to any successor to one or more of its businesses, its rights or obligations under this Agreement without the prior written consent signed by the Recipient.
- (h) *Counterparts* . This Agreement may be executed in any number of counterparts, each of which shall be deemed an original but all of which together shall constitute one and the same instrument.
- (i) *Section 409A* . This Agreement is intended to comply with Section 409A of the Code and the regulations promulgated thereunder (“ *Section 409A* ”) or an exemption therefrom and shall be interpreted, construed and administered in accordance with Section 409A or such exemption. To the extent that any amounts payable hereunder are determined to constitute “nonqualified deferred compensation” within the meaning of Section 409A, such amounts shall be subject to such additional rules and requirements in order to comply with Section 409A and the settlement of any such amounts may not be accelerated or delayed except to the extent permitted by Section 409A. The Invitae Group makes no representation or warranty and shall have no liability to the Recipient or any other person if any payments under any provisions of this Agreement are determined to constitute deferred compensation under Section 409A that are subject to the 20% tax under Section 409A.
- (j) *Cooperation* . The parties shall cooperate reasonably with each other, at the request of any party, to modify the arrangements contemplated by this Agreement so long as any such modified arrangements do not leave any party in a worse position (in such party's sole discretion).

[*Signature page follows*]

IN WITNESS WHEREOF , the parties hereto have executed this Agreement on the date first written above.

COMBIMATRIX CORPORATION

By _____

Name:

Title:

INVITAE CORPORATION

By _____

Name:

Title:

RECIPIENT

Name:

[*Signature Page to Director Transaction Bonus Payout Agreement*]

TRANSACTION BONUS PAYOUT AGREEMENT
[Executives]

This TRANSACTION BONUS PAYOUT AGREEMENT (this “*Agreement*”) is entered into as of July 31, 2017 by and among Invitae Corporation, a Delaware corporation (“*Invitae*”), CombiMatrix Corporation, a Delaware corporation (“*CombiMatrix*”), and Mark McDonough (the “*Recipient*”). For purposes of this Agreement, the “*Invitae Group*” refers to Invitae, CombiMatrix and their respective affiliates.

WHEREAS, on December 2, 2015, CombiMatrix adopted the CombiMatrix Transaction Bonus Plan (the “*Transaction Bonus Plan*”) pursuant to which certain employees of CombiMatrix may receive transaction bonuses on a Qualifying Transaction (as defined in the Transaction Bonus Plan);

WHEREAS, the merger (the “*Merger*”) of Coronado Merger Sub, Inc., a Delaware corporation (“*Merger Sub*”), with and into CombiMatrix, with CombiMatrix continuing as the surviving corporation, pursuant to that Agreement and Plan of Merger, dated as of the date hereof (the “*Merger Agreement*”), by and among Invitae, CombiMatrix and Merger Sub, shall constitute a Qualifying Transaction under the Transaction Bonus Plan;

WHEREAS, one or more Recipients concurrently herewith have entered into Independent Contractor Agreements with Invitae to become effective as of the Closing Date (each an “*Independent Contractor Agreement*”); and

WHEREAS, Invitae and CombiMatrix desire to set forth herein the terms and conditions pursuant to which the Recipient’s right to be paid a transaction bonus as defined in the Transaction Bonus Plan (the “*Transaction Bonus*”) shall be settled in connection with the Merger.

NOW, THEREFORE, in consideration of the covenants and premises described in this Agreement and other valuable consideration, the sufficiency of which the parties hereby acknowledge, the parties, intending to be legally bound, agree as follows:

1. Effective Date. This Agreement is effective as of the date on which the closing of the Merger occurs (such date, the “*Closing Date*”). In the event that the Merger Agreement is terminated in accordance with its terms, this Agreement shall automatically be deemed null and void and of no further force and effect.
2. Transaction Bonus. Subject to the terms and conditions of this Agreement and the Transaction Bonus Plan as modified herein, Invitae shall grant the Recipient restricted stock units (“*RSUs*”) with respect to shares of Invitae Common Stock (as defined in the Merger Agreement) on the Closing Date (or as soon as practicable thereafter). The number of shares of Invitae Common Stock subject to such RSUs shall be equal to the dollar amount of the transaction bonus awarded to the Recipient under the Transaction Bonus Plan divided by the Invitae Trailing Average Share Value (as defined in the Merger Agreement). Such RSUs shall (a) be evidenced by, and subject to the terms of, an RSU award agreement in the form attached hereto as Exhibit A (the “*RSU Award*”).

Agreement"); (b) be settled in shares of Invitae Common Stock; and (c) vest upon the Closing Date and be settled in three equal monthly installments following the Closing Date in accordance with Section 5(j) of this Agreement, subject to acceleration of settlement upon a Change in Control (as defined in Invitae's 2015 Stock Incentive Plan); provided, however, that if the Recipient has an Independent Contractor Agreement in effect as of the Closing Date, then the shares shall vest as follows:

(i) On the Closing Date (or as soon thereafter as practical, subject to Section 5(j) of this Agreement), RSUs represented by (x) the dollar amount of the transaction bonus awarded to Recipient under the Transaction Bonus Plan minus \$817,834, divided by (y) the Invitae Trailing Average Share Value shall vest and be settled; and

(ii) On the eight-month anniversary of the Closing Date, RSUs represented by \$817,834 divided by the Invitae Trailing Average Share Value shall vest and be settled so long as the Recipient has rendered services as required by the Independent Contractor Agreement through the eight-month anniversary of the Closing Date except that, in the event of a Change in Control (as defined in Invitae's 2015 Stock Incentive Plan) or a termination pursuant to Section 9(a), 9(c) or 9(e) of the Independent Contractor Agreement, all unvested RSUs shall vest immediately and shall be settled within five days of the consummation of the Change in Control or termination of the Independent Contractor Agreement, as applicable.

The grant of RSUs in accordance with this Agreement shall constitute payment of the Transaction Bonus in full settlement of all of the Recipient's rights under the Transaction Bonus Plan, without regard to whether the Recipient ultimately earns or forfeits all or any portion of the RSUs subject to the grant. To the extent the shares of Invitae Common Stock underlying the RSUs are not covered by a registration statement that is effective before the Closing Date under the Securities Act of 1933, as amended (the "*Act*"), and if the Recipient has an Independent Contractor Agreement in effect as of the Closing Date, Invitae will use commercially reasonable efforts to file a registration statement on Form S-8 with the Securities and Exchange Commission for such shares within fifteen days after the Closing Date, and if the Recipient does not have an Independent Contractor Agreement in effect as of the Closing Date and Form S-8 is not otherwise available for such registration, Invitae will use commercially reasonable efforts to register the shares for resale as soon as reasonably practicable on a registration statement on Form S-3 or another appropriate form in accordance with the Act.

3. Conditions to Receipt of Transaction Bonus. The Recipient's right to receive RSUs is conditioned on the Recipient's execution of this Agreement and the Recipient's continued employment with CombiMatrix until immediately prior to the Closing Date.
4. Tax Withholding. Notwithstanding any provision herein to the contrary, prior to settlement of any RSUs the Recipient shall pay, or make arrangements satisfactory to Invitae to satisfy, all associated tax withholding and payment obligations in accordance with the terms of the RSU Award Agreement.

5. Miscellaneous.

- (a) *Entire Agreement; Amendment* . This Agreement and the Transaction Bonus Plan embody the entire agreement and understanding of the parties in respect of its subject matter and supersede all prior agreements and understandings between the parties with respect to such subject matter (whether or not written). In the event of a conflict between the provisions of this Agreement and the Transaction Bonus Plan, the provisions of this Agreement shall control and the Transaction Bonus Plan shall be deemed amended with the consent of the Recipient accordingly. This Agreement may be amended or modified only by written agreement signed by the parties.
- (b) *No Contract for Continuing Services* . This Agreement shall not be construed as creating any contract for continued services between the Invitae Group and the Recipient and nothing herein contained shall give the Recipient the right to be retained as an employee, consultant or director of the Invitae Group.
- (c) *No Transfers* . The Recipient's rights in the Transaction Bonus may not be assigned or transferred other than to the Recipient's heirs by reason of the Recipient's death.
- (d) *Governing Law* . This Agreement shall be construed in accordance with and governed by the laws of the State of Delaware, without regard to any principles of conflict of laws of such state that would require the application of the laws of any other jurisdiction.
- (e) *Enforceability* . If any portion or provision of this Agreement shall to any extent be declared illegal or unenforceable by a court of competent jurisdiction, then the remainder of this Agreement, or the application of such portion or provision in circumstances other than those as to which it is so declared illegal or unenforceable, shall not be affected thereby, and each portion and provision of this Agreement shall be valid and enforceable to the fullest extent permitted by law.
- (f) *Waiver* . No waiver of any provision hereof shall be effective unless made in writing and signed by the waiving party. The failure of any party to require the performance of any term or obligation of this Agreement, or the waiver by any party of any breach of this Agreement, shall not prevent any subsequent enforcement of such term or obligation or be deemed a waiver of any subsequent breach.
- (g) *Successors; Assignability* . This Agreement shall inure to the benefit of and be binding upon the parties, their respective successors, executors, administrators, heirs and permitted assigns; nothing in this Agreement, express or implied, is intended to confer on any person or entity other than the parties and their respective successors and assigns any rights, remedies, obligations or liabilities under or by reason of this Agreement. The Recipient may not assign, delegate or

otherwise transfer any of the Recipient's rights or obligations under this Agreement. Invitae or CombiMatrix may transfer or assign, in whole or from time to time in part, to one or more of its affiliates, or to any successor to one or more of its businesses, its rights or obligations under this Agreement without the prior written consent signed by the Recipient.

- (h) *Counterparts* . This Agreement may be executed in any number of counterparts, each of which shall be deemed an original but all of which together shall constitute one and the same instrument.
- (i) *Section 280G*. In the event that the payments and other benefits provided for in this Agreement or otherwise payable to the Recipient (i) constitute "parachute payments" within the meaning of Section 280G of the Internal Revenue Code of 1986, as amended, and the regulations issued thereunder (the "**Code**"), and (ii) would be subject to the excise tax imposed by Section 4999 of the Code, then the Recipient's payments and benefits under this Agreement or otherwise payable to the Recipient outside of this Agreement shall be either delivered in full (without CombiMatrix or Invitae paying any portion of such excise tax or any other additional amount), or delivered as to 2.99 times of the Recipient's base amount (within the meaning of Section 280G of the Code) so as to result in no portion of such payments and benefits being subject to such excise tax, whichever of the foregoing amounts, taking into account the applicable federal, state and local income taxes and such excise tax, results in the receipt by the Recipient on an after-tax basis of the greatest amount of payments and benefits.
- (j) *Section 409A* . This Agreement is intended to comply with Section 409A of the Code ("**Section 409A** ") or an exemption therefrom and shall be interpreted, construed and administered in accordance with Section 409A or such exemption. To the extent that any amounts payable hereunder are determined to constitute "nonqualified deferred compensation" within the meaning of Section 409A, such amounts shall be subject to such additional rules and requirements in order to comply with Section 409A and the settlement of any such amounts may not be accelerated or delayed except to the extent permitted by Section 409A. All vested payments shall be paid or settled by March 15 of the subsequent year and provided further that the Recipient shall have no discretion to designate the timing of such payments or settlements for purposes of Treasury Regulation Section 1.409A-3(b). The Invitae Group makes no representation or warranty and shall have no liability to the Recipient or any other person if any payments under any provisions of this Agreement are determined to constitute deferred compensation under Section 409A that are subject to the 20% tax under Section 409A.
- (k) *Cooperation*. The parties shall cooperate reasonably with each other, at the request of any party, to modify the arrangements contemplated by this Agreement so long as any such modified arrangements do not leave any party in a worse position (in such party's sole discretion).

[*Signature page follows*]

IN WITNESS WHEREOF , the parties hereto have executed this Agreement on the date first written above.

COMBIMATRIX CORPORATION

By /s/ Scott Burell

Name: Scott Burell

Title: CFO, Secretary, President

INVITAE CORPORATION

By /s/ Lee Bendekgey

Name: Lee Bendekgey

Title: Chief Operating Officer

RECIPIENT

/s/ Mark McDonough

Name: Mark McDonough

Attachment: Exhibit A – Form of RSU Award Agreement

[*Signature Page to Executive Officer Transaction Bonus Payout Agreement*]

EXHIBIT A

INVITAE CORPORATION

NOTICE OF RESTRICTED STOCK UNIT AWARD

You have been granted the following Restricted Stock Units representing shares of common stock (“Shares”) of Invitae Corporation (the “Company”).

<i>Name of Recipient:</i>	[NAME]
<i>Total Number of Restricted Stock Units Granted:</i>	[SHARES GRANTED]
<i>Grant Date:</i>	[EFFECTIVE DATE]
<i>Vesting Commencement Date:</i>	[EFFECTIVE DATE]
<i>Vesting Schedule:</i>	Vesting of this award (this “Award”) shall occur pursuant to the vesting schedule set forth in Section 2 of that certain Transaction Bonus Payout Agreement dated [], 2017, entered into between the Company and the Recipient (the “Transaction Bonus Payout Agreement”), a copy of which is attached hereto.

By your signature and the signature of the Company’s representative below, you and the Company agree that this Restricted Stock Unit Award is granted under and governed by the term and conditions of the attached Restricted Stock Unit Agreement (the “Agreement”) and Transaction Bonus Payout Agreement which are made a part of this document.

By signing this document you further agree that the Company may deliver by e-mail all documents relating to this Award (including without limitation, prospectuses required by the Securities and Exchange Commission) and all other documents that the Company is required to deliver to its security holders (including without limitation, annual reports and proxy statements). You also agree that the Company may deliver these documents by posting them on a website maintained by the Company or by a third party under contract with the Company. If the Company posts these documents on a website, it will notify you by e-mail.

Recipient

INVITAE CORPORATION

Name:

By: _____

Name: _____

Title: _____

I NVITAE C ORPORATION
N OTICE OF R Estricted S TOCK U NIT AWARD

INVITAE CORPORATION

RESTRICTED STOCK UNIT AGREEMENT

Payment for Restricted Stock Units	No cash payment is required for the Restricted Stock Units you receive. You are receiving the Restricted Stock Units pursuant to the Transaction Bonus Payout Agreement in consideration for services rendered by you.
Vesting	The Restricted Stock Units that you are receiving may vest in one or more installments as shown in the Notice of Restricted Stock Unit Award and the Transaction Bonus Payout Agreement referenced therein.
Nature of Restricted Stock Units	Your Restricted Stock Units are mere bookkeeping entries. They represent only the Company's unfunded and unsecured promise to issue Shares on a future date. As a holder of Restricted Stock Units, you have no rights other than the rights of a general creditor of the Company.
No Voting Rights or Dividends	Your Restricted Stock Units carry neither voting rights nor rights to dividends. You, or your estate or heirs, have no rights as a stockholder of the Company unless and until your Restricted Stock Units are settled by issuing Shares. No adjustments will be made for dividends or other rights if the applicable record date occurs before your Shares are issued.
Restricted Stock Units Nontransferable	You may not sell, transfer, assign, pledge or otherwise dispose of any Restricted Stock Units. For instance, you may not use your Restricted Stock Units as security for a loan. If you attempt to do any of these things, your Restricted Stock Units will immediately become invalid.
Settlement of Restricted Stock Units	<p>Each of your vested Restricted Stock Units will be settled as provided in the Transaction Bonus Payout Agreement; provided, however, that if a settlement date does not fall on a permissible trading day for the Shares, settlement shall be deferred to the first permissible trading day for the Shares, but in no event later than December 31 of the calendar year in which the Restricted Stock Units are no longer subject to a substantial risk of forfeiture for purposes of Section 409A (as defined below).</p> <p>For purposes of this Agreement, "permissible trading day" means a day that satisfies all of the following requirements: (a) the exchange on which the Shares are traded is open for trading on that day; (b) you are permitted to sell Shares on that day without incurring</p>

INVITAE CORPORATION
RESTRICTED STOCK UNIT AGREEMENT

liability under Section 16(b) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), (c) either (i) you are not in possession of material non-public information that would make it illegal for you to sell Shares on that day under Rule 10b-5 under the Exchange Act or (ii) Rule 10b5-1 under the Exchange Act would apply to the sale; (d) you are permitted to sell Shares on that day under such written insider trading policy as may have been adopted by the Company; and (e) you are not prohibited from selling Shares on that day by a written agreement between you and the Company or a third party.

At the time of settlement, you will receive one Share for each vested Restricted Stock Unit; provided, however, that no fractional Shares will be issued or delivered pursuant to this Agreement, and the Company will determine whether cash will be paid in lieu of any fractional Share or whether such fractional Share and any rights thereto will be canceled, terminated or otherwise eliminated.

In addition, Shares shall not be issued under this Agreement unless the issuance and delivery of such Shares complies with (or is exempt from) all applicable requirements of law, including (without limitation) the Securities Act of 1933, as amended, the rules and regulations promulgated thereunder, state securities laws and regulations and the regulations of any stock exchange on which the Company’s securities may then be listed, and the Company has obtained the approval or favorable ruling from any governmental agency which the Company determines is necessary or advisable. The Company shall not be liable to you or other persons as to (a) the non-issuance or sale of Shares as to which the Company has not obtained from any regulatory body having jurisdiction the authority deemed by the Company’s counsel to be necessary to the lawful issuance and sale of any Shares under this Agreement, and (b) any tax consequences expected, but not realized, by you or other person due to the receipt, vesting or settlement of this Award.

**Withholding Taxes and Stock
Withholding**

Regardless of any action the Company and/or the subsidiary or affiliate employing you or for which you are providing consulting services to takes with respect to any or all income tax, social insurance, payroll tax, payment on account or other tax-related withholding (“Tax-Related Items”), you acknowledge that the ultimate liability for all Tax-Related Items legally due by you is and remains your responsibility and that the Company and/or its subsidiary or affiliate (1) make no representations or undertakings regarding the treatment of any Tax-Related Items in connection with any aspect of this Award, including the settlement of the Restricted Stock Units, the subsequent sale of Shares acquired pursuant to such settlement and the receipt of any dividends; and (2) does not commit to structure the terms of this Award or any aspect of the Restricted Stock Units to reduce or eliminate your liability for Tax-Related Items.

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Prior to the settlement of your Restricted Stock Units, you shall pay or make adequate arrangements satisfactory to the Company and/or the subsidiary or affiliate to satisfy all withholding and payment on account obligations of the Company and/or the subsidiary or affiliate. In this regard, if such withholding is legally required, you authorize the Company and/or the subsidiary or affiliate to withhold any applicable Tax-Related Items legally payable by you from your wages or other cash compensation paid to you by the Company and/or the subsidiary or affiliate. With the Company's consent, these arrangements may also include, if permissible under local law, (a) withholding Shares that otherwise would be issued to you when your Restricted Stock Units are settled, provided that the Company only withholds the amount of Shares necessary to satisfy the minimum statutory withholding amount, (b) having the Company withhold taxes from the proceeds of the sale of the Shares, either through a voluntary sale or through a mandatory sale arranged by the Company (on your behalf pursuant to this authorization), or (c) any other arrangement approved by the Company. The fair market value of these Shares, determined as of the effective date when taxes otherwise would have been withheld in cash, will be applied as a credit against the withholding taxes. Finally, you shall pay to the Company or the subsidiary or affiliate any amount of Tax-Related Items that the Company or the subsidiary or affiliate may be required to withhold as a result of your acquisition of Shares that cannot be satisfied by the means previously described. The Company may refuse to deliver the Shares if you fail to comply with your obligations in connection with the Tax-Related Items as described in this section, and your rights to the Shares shall be forfeited if you do not comply with such obligations on or before December 31 of the calendar year in which the applicable settlement date for the Restricted Stock Units occurs.

No Retention Rights

Neither your Award nor this Agreement gives you the right to be employed or retained by the Company or any subsidiary or affiliate of the Company to provide services in any capacity. The Company and its subsidiaries and affiliates reserve the right to terminate your employment or service at any time, with or without cause.

Adjustments; Merger and Reorganization

The number of Restricted Stock Units covered by this Award shall be subject to adjustment in the event of a stock split, a stock dividend or a similar change in Company Shares. The restrictions described above will apply to all new, substitute or additional Restricted Stock Units or securities to which you are entitled by reason of this Award.

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In the event that the Company is a party to a merger or other reorganization, this Award shall, subject to the terms of the Transaction Bonus Payout Agreement, be subject to the agreement of merger or reorganization.

Successors and Assigns

Except as otherwise provided in this Agreement, every term of this Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, legatees, legal representatives, successors, transferees and assigns.

Notice

Any notice required or permitted under this Agreement shall be given in writing and shall be deemed effectively given upon the earliest of personal delivery, receipt or the third full day following mailing with postage and fees prepaid, addressed to the other party hereto at the address last known in the Company's records or at such other address as such party may designate by ten (10) days' advance written notice to the other party hereto.

Section 409A of the Code

To the extent this Agreement is subject to and not exempt from Section 409A of the Internal Revenue Code of 1986, as amended, and the regulations issued thereunder ("Section 409A"), this Agreement is intended to comply with Section 409A, and its provisions shall be interpreted in a manner consistent with such intent. You acknowledge and agree that changes may be made to this Agreement to avoid adverse tax consequences to you under Section 409A.

Applicable Law and Choice of Venue

This Agreement will be interpreted and enforced under the laws of the State of Delaware (without regard to their choice-of-law provisions). For purposes of litigating any dispute that arises directly or indirectly from the relationship of the parties evidenced by this Award or the Agreement, the parties hereby submit to and consent to the exclusive jurisdiction of the State of California and agree that such litigation shall be conducted only in the courts of Santa Clara County, California, or the federal courts for the United States for the Northern District of California, and no other courts, where this grant is made and/or to be performed.

Miscellaneous

You understand and acknowledge that (i) the grant of your Award does not in any way create any contractual or other right to receive additional grants of awards (or benefits in lieu of awards) at any time or in any amount and (ii) all determinations with respect to any additional grants, including (without limitation) the times when awards will be granted, the number of Shares subject to the awards, and the vesting schedule, will be at the sole discretion of the Company.

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The attached Notice, this Agreement and the Transaction Bonus Payout Agreement constitute the entire understanding between you and the Company regarding this Award. Any prior agreements, commitments or negotiations concerning this Award are superseded. This Agreement may be amended only by another written agreement, signed by you and the Company.

Except as otherwise provided in the Transaction Bonus Payout Agreement, the value of this Award shall be an extraordinary item of compensation outside the scope of your employment or consulting contract, if any, and shall not be considered a part of your normal or expected compensation for purposes of calculating severance, resignation, redundancy or end-of-service payments, bonuses, long-service awards, pension or retirement benefits or similar payments.

You hereby authorize the Company or any subsidiary or affiliate to disclose among and between themselves any information regarding your employment or consulting services and the nature and amount of your compensation, as the Company deems necessary or appropriate.

You consent to the collection, use and transfer of your personal data as described in this subsection. You understand and acknowledge that the Company and the Company's other Subsidiaries and affiliates hold certain personal information regarding you, including (without limitation) your name, home address, telephone number, date of birth, social insurance number of other government identification number, salary, nationality, job title, any Shares or directorships held in the Company and details of all awards or any other entitlements to Shares awarded, canceled, exercised, vested, unvested or outstanding in your favor (the "Data"). You further understand and acknowledge that the Company, its Subsidiaries and/or its affiliates will transfer Data among themselves as necessary and that the Company and/or any subsidiary may each further transfer Data to any third party assisting the Company. You understand and acknowledge that the recipients of Data may be located in the United States or elsewhere, and that the laws of a recipient's country of operation (e.g., the United States) may not have equivalent privacy protections as local laws where you reside or work. You authorize such recipients to receive, possess, use,

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retain and transfer Data, in electronic or other form, including a transfer to any broker or other third party with whom you elect to deposit Shares of such Data. You may, at any time, view the Data, require any necessary modifications of Data, make inquiries about the treatment of Data or withdraw the consents set forth in this subsection by contacting the Human Resources Department of the Company in writing.

**BY SIGNING THE ATTACHED NOTICE, YOU AGREE TO ALL OF THE TERMS
AND CONDITIONS DESCRIBED ABOVE.**

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TRANSACTION BONUS PAYOUT AGREEMENT
[Executives]

This TRANSACTION BONUS PAYOUT AGREEMENT (this “*Agreement*”) is entered into as of July 31, 2017 by and among Invitae Corporation, a Delaware corporation (“*Invitae*”), CombiMatrix Corporation, a Delaware corporation (“*CombiMatrix*”), and Scott R. Burell (the “*Recipient*”). For purposes of this Agreement, the “*Invitae Group*” refers to Invitae, CombiMatrix and their respective affiliates.

WHEREAS, on December 2, 2015, CombiMatrix adopted the CombiMatrix Transaction Bonus Plan (the “*Transaction Bonus Plan*”) pursuant to which certain employees of CombiMatrix may receive transaction bonuses on a Qualifying Transaction (as defined in the Transaction Bonus Plan);

WHEREAS, the merger (the “*Merger*”) of Coronado Merger Sub, Inc., a Delaware corporation (“*Merger Sub*”), with and into CombiMatrix, with CombiMatrix continuing as the surviving corporation, pursuant to that Agreement and Plan of Merger, dated as of the date hereof (the “*Merger Agreement*”), by and among Invitae, CombiMatrix and Merger Sub, shall constitute a Qualifying Transaction under the Transaction Bonus Plan;

WHEREAS, one or more Recipients concurrently herewith have entered into Independent Contractor Agreements with Invitae to become effective as of the Closing Date (each an “*Independent Contractor Agreement*”); and

WHEREAS, Invitae and CombiMatrix desire to set forth herein the terms and conditions pursuant to which the Recipient’s right to be paid a transaction bonus as defined in the Transaction Bonus Plan (the “*Transaction Bonus*”) shall be settled in connection with the Merger.

NOW, THEREFORE, in consideration of the covenants and premises described in this Agreement and other valuable consideration, the sufficiency of which the parties hereby acknowledge, the parties, intending to be legally bound, agree as follows:

1. Effective Date. This Agreement is effective as of the date on which the closing of the Merger occurs (such date, the “*Closing Date*”). In the event that the Merger Agreement is terminated in accordance with its terms, this Agreement shall automatically be deemed null and void and of no further force and effect.
2. Transaction Bonus. Subject to the terms and conditions of this Agreement and the Transaction Bonus Plan as modified herein, Invitae shall grant the Recipient restricted stock units (“*RSUs*”) with respect to shares of Invitae Common Stock (as defined in the Merger Agreement) on the Closing Date (or as soon as practicable thereafter). The number of shares of Invitae Common Stock subject to such RSUs shall be equal to the dollar amount of the transaction bonus awarded to the Recipient under the Transaction Bonus Plan divided by the Invitae Trailing Average Share Value (as defined in the Merger Agreement). Such RSUs shall (a) be evidenced by, and subject to the terms of, an RSU award agreement in the form attached hereto as Exhibit A (the “*RSU Award*”).

Agreement"); (b) be settled in shares of Invitae Common Stock; and (c) vest upon the Closing Date and be settled in three equal monthly installments following the Closing Date in accordance with Section 5(j) of this Agreement, subject to acceleration of settlement upon a Change in Control (as defined in Invitae's 2015 Stock Incentive Plan); provided, however, that if the Recipient has an Independent Contractor Agreement in effect as of the Closing Date, then the shares shall vest as follows:

(i) On the Closing Date (or as soon thereafter as practical, subject to Section 5(j) of this Agreement), RSUs represented by (x) the dollar amount of the transaction bonus awarded to Recipient under the Transaction Bonus Plan minus \$40,000, divided by (y) the Invitae Trailing Average Share Value shall vest and be settled; and

(ii) On the eight-month anniversary of the Closing Date, RSUs represented by \$40,000 divided by the Invitae Trailing Average Share Value shall vest and be settled so long as the Recipient has rendered services as required by the Independent Contractor Agreement through the eight-month anniversary of the Closing Date except that, in the event of a Change in Control (as defined in Invitae's 2015 Stock Incentive Plan) or a termination pursuant to Section 9(a), 9(c) or 9(e) of the Independent Contractor Agreement, all unvested RSUs shall vest immediately and shall be settled within five days of the consummation of the Change in Control or termination of the Independent Contractor Agreement, as applicable.

The grant of RSUs in accordance with this Agreement shall constitute payment of the Transaction Bonus in full settlement of all of the Recipient's rights under the Transaction Bonus Plan, without regard to whether the Recipient ultimately earns or forfeits all or any portion of the RSUs subject to the grant. To the extent the shares of Invitae Common Stock underlying the RSUs are not covered by a registration statement that is effective before the Closing Date under the Securities Act of 1933, as amended (the "*Act*"), and if the Recipient has an Independent Contractor Agreement in effect as of the Closing Date, Invitae will use commercially reasonable efforts to file a registration statement on Form S-8 with the Securities and Exchange Commission for such shares within fifteen days after the Closing Date, and if the Recipient does not have an Independent Contractor Agreement in effect as of the Closing Date and Form S-8 is not otherwise available for such registration, Invitae will use commercially reasonable efforts to register the shares for resale as soon as reasonably practicable on a registration statement on Form S-3 or another appropriate form in accordance with the Act.

3. Conditions to Receipt of Transaction Bonus. The Recipient's right to receive RSUs is conditioned on the Recipient's execution of this Agreement and the Recipient's continued employment with CombiMatrix until immediately prior to the Closing Date.
4. Tax Withholding. Notwithstanding any provision herein to the contrary, prior to settlement of any RSUs the Recipient shall pay, or make arrangements satisfactory to Invitae to satisfy, all associated tax withholding and payment obligations in accordance with the terms of the RSU Award Agreement.

5. Miscellaneous.

- (a) *Entire Agreement; Amendment* . This Agreement and the Transaction Bonus Plan embody the entire agreement and understanding of the parties in respect of its subject matter and supersede all prior agreements and understandings between the parties with respect to such subject matter (whether or not written). In the event of a conflict between the provisions of this Agreement and the Transaction Bonus Plan, the provisions of this Agreement shall control and the Transaction Bonus Plan shall be deemed amended with the consent of the Recipient accordingly. This Agreement may be amended or modified only by written agreement signed by the parties.
- (b) *No Contract for Continuing Services* . This Agreement shall not be construed as creating any contract for continued services between the Invitae Group and the Recipient and nothing herein contained shall give the Recipient the right to be retained as an employee, consultant or director of the Invitae Group.
- (c) *No Transfers* . The Recipient's rights in the Transaction Bonus may not be assigned or transferred other than to the Recipient's heirs by reason of the Recipient's death.
- (d) *Governing Law* . This Agreement shall be construed in accordance with and governed by the laws of the State of Delaware, without regard to any principles of conflict of laws of such state that would require the application of the laws of any other jurisdiction.
- (e) *Enforceability* . If any portion or provision of this Agreement shall to any extent be declared illegal or unenforceable by a court of competent jurisdiction, then the remainder of this Agreement, or the application of such portion or provision in circumstances other than those as to which it is so declared illegal or unenforceable, shall not be affected thereby, and each portion and provision of this Agreement shall be valid and enforceable to the fullest extent permitted by law.
- (f) *Waiver* . No waiver of any provision hereof shall be effective unless made in writing and signed by the waiving party. The failure of any party to require the performance of any term or obligation of this Agreement, or the waiver by any party of any breach of this Agreement, shall not prevent any subsequent enforcement of such term or obligation or be deemed a waiver of any subsequent breach.
- (g) *Successors; Assignability* . This Agreement shall inure to the benefit of and be binding upon the parties, their respective successors, executors, administrators, heirs and permitted assigns; nothing in this Agreement, express or implied, is intended to confer on any person or entity other than the parties and their respective successors and assigns any rights, remedies, obligations or liabilities under or by reason of this Agreement. The Recipient may not assign, delegate or

otherwise transfer any of the Recipient's rights or obligations under this Agreement. Invitae or CombiMatrix may transfer or assign, in whole or from time to time in part, to one or more of its affiliates, or to any successor to one or more of its businesses, its rights or obligations under this Agreement without the prior written consent signed by the Recipient.

- (h) *Counterparts* . This Agreement may be executed in any number of counterparts, each of which shall be deemed an original but all of which together shall constitute one and the same instrument.
- (i) *Section 280G*. In the event that the payments and other benefits provided for in this Agreement or otherwise payable to the Recipient (i) constitute "parachute payments" within the meaning of Section 280G of the Internal Revenue Code of 1986, as amended, and the regulations issued thereunder (the "**Code**"), and (ii) would be subject to the excise tax imposed by Section 4999 of the Code, then the Recipient's payments and benefits under this Agreement or otherwise payable to the Recipient outside of this Agreement shall be either delivered in full (without CombiMatrix or Invitae paying any portion of such excise tax or any other additional amount), or delivered as to 2.99 times of the Recipient's base amount (within the meaning of Section 280G of the Code) so as to result in no portion of such payments and benefits being subject to such excise tax, whichever of the foregoing amounts, taking into account the applicable federal, state and local income taxes and such excise tax, results in the receipt by the Recipient on an after-tax basis of the greatest amount of payments and benefits.
- (j) *Section 409A* . This Agreement is intended to comply with Section 409A of the Code ("**Section 409A** ") or an exemption therefrom and shall be interpreted, construed and administered in accordance with Section 409A or such exemption. To the extent that any amounts payable hereunder are determined to constitute "nonqualified deferred compensation" within the meaning of Section 409A, such amounts shall be subject to such additional rules and requirements in order to comply with Section 409A and the settlement of any such amounts may not be accelerated or delayed except to the extent permitted by Section 409A. All vested payments shall be paid or settled by March 15 of the subsequent year and provided further that the Recipient shall have no discretion to designate the timing of such payments or settlements for purposes of Treasury Regulation Section 1.409A-3(b). The Invitae Group makes no representation or warranty and shall have no liability to the Recipient or any other person if any payments under any provisions of this Agreement are determined to constitute deferred compensation under Section 409A that are subject to the 20% tax under Section 409A.
- (k) *Cooperation*. The parties shall cooperate reasonably with each other, at the request of any party, to modify the arrangements contemplated by this Agreement so long as any such modified arrangements do not leave any party in a worse position (in such party's sole discretion).

[*Signature page follows*]

IN WITNESS WHEREOF , the parties hereto have executed this Agreement on the date first written above.

COMBIMATRIX CORPORATION

By /s/ Mark McDonough

Name: Mark McDonough

Title: President and CEO

INVITAE CORPORATION

By /s/ Lee Bendekgey

Name: Lee Bendekgey

Title: Chief Operating Officer

RECIPIENT

/s/ Scott Burell

Name: Scott Burell

Attachment: Exhibit A – Form of RSU Award Agreement

[*Signature Page to Executive Officer Transaction Bonus Payout Agreement*]

EXHIBIT A

INVITAE CORPORATION

NOTICE OF RESTRICTED STOCK UNIT AWARD

You have been granted the following Restricted Stock Units representing shares of common stock (“Shares”) of Invitae Corporation (the “Company”).

<i>Name of Recipient:</i>	[NAME]
<i>Total Number of Restricted Stock Units Granted:</i>	[SHARES GRANTED]
<i>Grant Date:</i>	[EFFECTIVE DATE]
<i>Vesting Commencement Date:</i>	[EFFECTIVE DATE]
<i>Vesting Schedule:</i>	Vesting of this award (this “Award”) shall occur pursuant to the vesting schedule set forth in Section 2 of that certain Transaction Bonus Payout Agreement dated [], 2017, entered into between the Company and the Recipient (the “Transaction Bonus Payout Agreement”), a copy of which is attached hereto.

By your signature and the signature of the Company’s representative below, you and the Company agree that this Restricted Stock Unit Award is granted under and governed by the term and conditions of the attached Restricted Stock Unit Agreement (the “Agreement”) and Transaction Bonus Payout Agreement which are made a part of this document.

By signing this document you further agree that the Company may deliver by e-mail all documents relating to this Award (including without limitation, prospectuses required by the Securities and Exchange Commission) and all other documents that the Company is required to deliver to its security holders (including without limitation, annual reports and proxy statements). You also agree that the Company may deliver these documents by posting them on a website maintained by the Company or by a third party under contract with the Company. If the Company posts these documents on a website, it will notify you by e-mail.

Recipient

INVITAE CORPORATION

Name:

By: _____

Name: _____

Title: _____

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N OTICE OF R Estricted S TOCK U NIT AWARD

INVITAE CORPORATION

RESTRICTED STOCK UNIT AGREEMENT

Payment for Restricted Stock Units	No cash payment is required for the Restricted Stock Units you receive. You are receiving the Restricted Stock Units pursuant to the Transaction Bonus Payout Agreement in consideration for services rendered by you.
Vesting	The Restricted Stock Units that you are receiving may vest in one or more installments as shown in the Notice of Restricted Stock Unit Award and the Transaction Bonus Payout Agreement referenced therein.
Nature of Restricted Stock Units	Your Restricted Stock Units are mere bookkeeping entries. They represent only the Company's unfunded and unsecured promise to issue Shares on a future date. As a holder of Restricted Stock Units, you have no rights other than the rights of a general creditor of the Company.
No Voting Rights or Dividends	Your Restricted Stock Units carry neither voting rights nor rights to dividends. You, or your estate or heirs, have no rights as a stockholder of the Company unless and until your Restricted Stock Units are settled by issuing Shares. No adjustments will be made for dividends or other rights if the applicable record date occurs before your Shares are issued.
Restricted Stock Units Nontransferable	You may not sell, transfer, assign, pledge or otherwise dispose of any Restricted Stock Units. For instance, you may not use your Restricted Stock Units as security for a loan. If you attempt to do any of these things, your Restricted Stock Units will immediately become invalid.
Settlement of Restricted Stock Units	<p>Each of your vested Restricted Stock Units will be settled as provided in the Transaction Bonus Payout Agreement; provided, however, that if a settlement date does not fall on a permissible trading day for the Shares, settlement shall be deferred to the first permissible trading day for the Shares, but in no event later than December 31 of the calendar year in which the Restricted Stock Units are no longer subject to a substantial risk of forfeiture for purposes of Section 409A (as defined below).</p> <p>For purposes of this Agreement, "permissible trading day" means a day that satisfies all of the following requirements: (a) the exchange on which the Shares are traded is open for trading on that day; (b) you are permitted to sell Shares on that day without incurring</p>

INVITAE CORPORATION
RESTRICTED STOCK UNIT AGREEMENT

liability under Section 16(b) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), (c) either (i) you are not in possession of material non-public information that would make it illegal for you to sell Shares on that day under Rule 10b-5 under the Exchange Act or (ii) Rule 10b5-1 under the Exchange Act would apply to the sale; (d) you are permitted to sell Shares on that day under such written insider trading policy as may have been adopted by the Company; and (e) you are not prohibited from selling Shares on that day by a written agreement between you and the Company or a third party.

At the time of settlement, you will receive one Share for each vested Restricted Stock Unit; provided, however, that no fractional Shares will be issued or delivered pursuant to this Agreement, and the Company will determine whether cash will be paid in lieu of any fractional Share or whether such fractional Share and any rights thereto will be canceled, terminated or otherwise eliminated.

In addition, Shares shall not be issued under this Agreement unless the issuance and delivery of such Shares complies with (or is exempt from) all applicable requirements of law, including (without limitation) the Securities Act of 1933, as amended, the rules and regulations promulgated thereunder, state securities laws and regulations and the regulations of any stock exchange on which the Company’s securities may then be listed, and the Company has obtained the approval or favorable ruling from any governmental agency which the Company determines is necessary or advisable. The Company shall not be liable to you or other persons as to (a) the non-issuance or sale of Shares as to which the Company has not obtained from any regulatory body having jurisdiction the authority deemed by the Company’s counsel to be necessary to the lawful issuance and sale of any Shares under this Agreement, and (b) any tax consequences expected, but not realized, by you or other person due to the receipt, vesting or settlement of this Award.

**Withholding Taxes and Stock
Withholding**

Regardless of any action the Company and/or the subsidiary or affiliate employing you or for which you are providing consulting services to takes with respect to any or all income tax, social insurance, payroll tax, payment on account or other tax-related withholding (“Tax-Related Items”), you acknowledge that the ultimate liability for all Tax-Related Items legally due by you is and remains your responsibility and that the Company and/or its subsidiary or affiliate (1) make no representations or undertakings regarding the treatment of any Tax-Related Items in connection with any aspect of this Award, including the settlement of the Restricted Stock Units, the subsequent sale of Shares acquired pursuant to such settlement and the receipt of any dividends; and (2) does not commit to structure the terms of this Award or any aspect of the Restricted Stock Units to reduce or eliminate your liability for Tax-Related Items.

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Prior to the settlement of your Restricted Stock Units, you shall pay or make adequate arrangements satisfactory to the Company and/or the subsidiary or affiliate to satisfy all withholding and payment on account obligations of the Company and/or the subsidiary or affiliate. In this regard, if such withholding is legally required, you authorize the Company and/or the subsidiary or affiliate to withhold any applicable Tax-Related Items legally payable by you from your wages or other cash compensation paid to you by the Company and/or the subsidiary or affiliate. With the Company's consent, these arrangements may also include, if permissible under local law, (a) withholding Shares that otherwise would be issued to you when your Restricted Stock Units are settled, provided that the Company only withholds the amount of Shares necessary to satisfy the minimum statutory withholding amount, (b) having the Company withhold taxes from the proceeds of the sale of the Shares, either through a voluntary sale or through a mandatory sale arranged by the Company (on your behalf pursuant to this authorization), or (c) any other arrangement approved by the Company. The fair market value of these Shares, determined as of the effective date when taxes otherwise would have been withheld in cash, will be applied as a credit against the withholding taxes. Finally, you shall pay to the Company or the subsidiary or affiliate any amount of Tax-Related Items that the Company or the subsidiary or affiliate may be required to withhold as a result of your acquisition of Shares that cannot be satisfied by the means previously described. The Company may refuse to deliver the Shares if you fail to comply with your obligations in connection with the Tax-Related Items as described in this section, and your rights to the Shares shall be forfeited if you do not comply with such obligations on or before December 31 of the calendar year in which the applicable settlement date for the Restricted Stock Units occurs.

No Retention Rights

Neither your Award nor this Agreement gives you the right to be employed or retained by the Company or any subsidiary or affiliate of the Company to provide services in any capacity. The Company and its subsidiaries and affiliates reserve the right to terminate your employment or service at any time, with or without cause.

Adjustments; Merger and Reorganization

The number of Restricted Stock Units covered by this Award shall be subject to adjustment in the event of a stock split, a stock dividend or a similar change in Company Shares. The restrictions described above will apply to all new, substitute or additional Restricted Stock Units or securities to which you are entitled by reason of this Award.

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In the event that the Company is a party to a merger or other reorganization, this Award shall, subject to the terms of the Transaction Bonus Payout Agreement, be subject to the agreement of merger or reorganization.

Successors and Assigns

Except as otherwise provided in this Agreement, every term of this Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective heirs, legatees, legal representatives, successors, transferees and assigns.

Notice

Any notice required or permitted under this Agreement shall be given in writing and shall be deemed effectively given upon the earliest of personal delivery, receipt or the third full day following mailing with postage and fees prepaid, addressed to the other party hereto at the address last known in the Company's records or at such other address as such party may designate by ten (10) days' advance written notice to the other party hereto.

Section 409A of the Code

To the extent this Agreement is subject to and not exempt from Section 409A of the Internal Revenue Code of 1986, as amended, and the regulations issued thereunder ("Section 409A"), this Agreement is intended to comply with Section 409A, and its provisions shall be interpreted in a manner consistent with such intent. You acknowledge and agree that changes may be made to this Agreement to avoid adverse tax consequences to you under Section 409A.

Applicable Law and Choice of Venue

This Agreement will be interpreted and enforced under the laws of the State of Delaware (without regard to their choice-of-law provisions). For purposes of litigating any dispute that arises directly or indirectly from the relationship of the parties evidenced by this Award or the Agreement, the parties hereby submit to and consent to the exclusive jurisdiction of the State of California and agree that such litigation shall be conducted only in the courts of Santa Clara County, California, or the federal courts for the United States for the Northern District of California, and no other courts, where this grant is made and/or to be performed.

Miscellaneous

You understand and acknowledge that (i) the grant of your Award does not in any way create any contractual or other right to receive additional grants of awards (or benefits in lieu of awards) at any time or in any amount and (ii) all determinations with respect to any additional grants, including (without limitation) the times when awards will be granted, the number of Shares subject to the awards, and the vesting schedule, will be at the sole discretion of the Company.

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The attached Notice, this Agreement and the Transaction Bonus Payout Agreement constitute the entire understanding between you and the Company regarding this Award. Any prior agreements, commitments or negotiations concerning this Award are superseded. This Agreement may be amended only by another written agreement, signed by you and the Company.

Except as otherwise provided in the Transaction Bonus Payout Agreement, the value of this Award shall be an extraordinary item of compensation outside the scope of your employment or consulting contract, if any, and shall not be considered a part of your normal or expected compensation for purposes of calculating severance, resignation, redundancy or end-of-service payments, bonuses, long-service awards, pension or retirement benefits or similar payments.

You hereby authorize the Company or any subsidiary or affiliate to disclose among and between themselves any information regarding your employment or consulting services and the nature and amount of your compensation, as the Company deems necessary or appropriate.

You consent to the collection, use and transfer of your personal data as described in this subsection. You understand and acknowledge that the Company and the Company's other Subsidiaries and affiliates hold certain personal information regarding you, including (without limitation) your name, home address, telephone number, date of birth, social insurance number of other government identification number, salary, nationality, job title, any Shares or directorships held in the Company and details of all awards or any other entitlements to Shares awarded, canceled, exercised, vested, unvested or outstanding in your favor (the "Data"). You further understand and acknowledge that the Company, its Subsidiaries and/or its affiliates will transfer Data among themselves as necessary and that the Company and/or any subsidiary may each further transfer Data to any third party assisting the Company. You understand and acknowledge that the recipients of Data may be located in the United States or elsewhere, and that the laws of a recipient's country of operation (e.g., the United States) may not have equivalent privacy protections as local laws where you reside or work. You authorize such recipients to receive, possess, use,

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retain and transfer Data, in electronic or other form, including a transfer to any broker or other third party with whom you elect to deposit Shares of such Data. You may, at any time, view the Data, require any necessary modifications of Data, make inquiries about the treatment of Data or withdraw the consents set forth in this subsection by contacting the Human Resources Department of the Company in writing.

**BY SIGNING THE ATTACHED NOTICE, YOU AGREE TO ALL OF THE TERMS
AND CONDITIONS DESCRIBED ABOVE.**

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INDEPENDENT CONTRACTOR AGREEMENT

This is to confirm the agreement between Mark McDonough (“Contractor”), and Invitae Corporation (the “Company”) for contract services (the “Agreement”). The terms and conditions of the arrangements between Contractor and the Company are as follows:

1. Term of Agreement. This Agreement is effective (the “Effective Date”) as of the Closing Date as that term is defined in that certain Agreement and Plan of Merger and Reorganization dated July 31, 2017 by and among Invitae Corporation, Coronado Merger Sub, Inc. and CombiMatrix Corporation (“CombiMatrix”), so long as Contractor shall have been employed by CombiMatrix continuously from July 31, 2017 until immediately prior to the Closing Date, and shall continue in effect until the earlier of (a) the eight (8) month anniversary of the Effective Date or (b) such time as this Agreement is terminated as provided in Section 9 below (such effective period of this Agreement, including any extensions to the initial term, the “Term”).

2. Services To Be Performed by Contractor. Contractor agrees to provide strategic management and leadership services of CombiMatrix as the operations of CombiMatrix integrate into the Company as and when requested by the Company (the “Project”).

3. Compensation. The Company will compensate Contractor according to the following fee schedule on a monthly basis during the Term (and, if longer, through the date which is eight (8) months following the Effective Date if a termination has occurred pursuant to Sections 9(c) or 9(e) below), within ten (10) days following receipt of Contractor’s invoice delivered to the Company:

- \$30,333.33 per month; plus
- If and to the extent that Contractor elects during the Term to continue the health insurance coverage for Contractor and Contractor’s dependents (as in effect immediately prior to the Closing Date) under COBRA, reimbursement for the monthly premium.

In addition, the Company will pay Contractor the following bonuses and perks, but only to the extent, on the dates of such payments, that (i) Contractor would have been entitled to such payments (including, without limitation, because any related milestones were achieved) had he been employed by CombiMatrix (in the instance of the first bullet below) and, (ii) unless a termination has occurred pursuant to Sections 9(a), 9(c) or 9(e) below prior to the date which is eight (8) months following the Effective Date, Contractor has continuously performed services for the Company pursuant to this Agreement from and after the Effective Date and through such dates of payment:

- Within 75 days after December 31, 2017, and assuming that no portion of any such bonus amount has been previously paid to Contractor, the Company will pay Contractor any applicable annual bonus amount for actual achievement of second half and year-end targets under that certain CombiMatrix Amended and Restated 2017 Executive Performance Bonus Plan; and

- Reimbursement of all reasonable and otherwise unreimbursed transportation and hotel expenses for Contractor and Contractor's spouse for the CombiMatrix 2017 President's Club.

4. Work Location. Contractor shall determine the location for performance of Contractor's services, consistent with the needs of the Project.

5. Billable Expenses. Out-of-pocket expenses (including, without limitation, local travel and local telephone calls) that Contractor incurs in connection with the Project shall be paid by Contractor. With prior approval by the Company, the Company shall reimburse Contractor for out-of-area travel and any general, applicable expenses related to the Project. Reimbursement shall be made within ten (10) days following receipt of Contractor's invoice, provided that expenses shall be invoiced no more often than on a monthly basis.

6. Independent Contractor Relationship. Contractor and the Company agree that no employment relationship is created by this Agreement. The Company is interested only in the results to be achieved by Contractor. Contractor is an independent contractor and is not considered an agent or common law employee of the Company for any purpose.

7. Contractor ' s Tax Obligations. Except with respect to any portion of the compensation payable pursuant to Section 3 above as to which Contractor is treated as a W-2 employee of CombiMatrix and CombiMatrix effects the applicable withholding and deductions with respect thereto, (a) Contractor shall be solely responsible for and shall make proper and timely payment of any taxes due on payments made (i) to Contractor pursuant to this Agreement (including, but not limited to, Contractor's estimated state and federal income taxes and self-employment taxes) and (ii) to other persons who provide services to Contractor in connection with this Agreement, and (b) Contractor hereby agrees to indemnify the Company against any and all claims, liabilities or expenses (including, without limitation, reasonable attorneys' fees and costs) the Company incurs as a result of Contractor's breach of any of Contractor's obligations under this Section 7.

8. Confidential Information, Invention Assignment and Arbitration Agreement. Prior to any effectiveness of this Agreement, Contractor shall execute and deliver to the Company a copy of the Confidential Information, Invention Assignment and Arbitration Agreement in the form attached hereto as Exhibit A (the "Proprietary Agreement").

9. Termination. If earlier than the eight (8) month anniversary of the Effective Date (when this Agreement otherwise terminates), this Agreement shall terminate automatically on the occurrence of any of the following events:

- (a) Death or permanent disability of Contractor;
- (b) Assignment of this Agreement by Contractor without the Company's consent;

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- (c) Ten (10) days' notice to Contractor by the Company without Cause (as defined below);
 - (d) Written notice to Contractor by the Company, effective immediately, with Cause (as defined below);
 - (e) Ten (10) days' notice to the Company by Contractor with Good Reason (as defined below);
 - (f) Ten (10) days' notice to the Company by Contractor without Good Reason (as defined below); or
 - (g) At such time as Contractor may become an employee of the Company.

For purposes of this Agreement, "Cause" shall mean any of the following: (i) continued failure by Contractor to substantially perform his obligations to the Company under this Agreement (other than as a result of Contractor's incapacity due to any medically determinable physical or mental impairment), (ii) any act of fraud or intentional misconduct by Contractor in connection with Contractor's responsibilities to the Company under this Agreement that is materially injurious to the Company; or (iii) Contractor's conviction of a felony.

For purposes of this Agreement, "Good Reason" shall mean the occurrence of any of the following events or conditions without Contractor's written consent: (i) any material diminution of Contractor's compensation under this Agreement; or (ii) a material change in the geographic location at which Contractor must perform Contractor's duties under this Agreement, except for reasonably required travel by the Company; provided that the Contractor has given the Company written notice of his intent to resign for Good Reason no later than ninety (90) days after the time at which the event or condition giving rise to Good Reason first occurs or arises, and the Company shall not have cured such Good Reason event within thirty (30) days following receipt of such notice from the Contractor.

For purposes of this Agreement, "permanent disability" shall mean Contractor is unable to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death or can be expected to last for a continuous period of not less than 12 months.

10. Modifications . No modification of this Agreement shall be valid unless made in writing and signed by the parties hereto.

11. Governing Law . This Agreement shall be governed by and construed in accordance with the laws of California, exclusive of its choice of law provisions.

12. Arbitration Clause . Any controversy or claim arising out of or relating to this Agreement or breach thereof shall be settled promptly by arbitration with one (1) arbitrator in San Francisco County, California, in accordance with the then existing rules of JAMS, Inc.; provided, however, that the arbitrator shall have no authority to add to, modify, change or disregard any lawful terms of this Agreement. The decision of the arbitrator shall be final and binding, and judgment on the arbitration award may be entered in any court having jurisdiction over the subject matter of the controversy. Arbitration shall be the exclusive final remedy for any dispute between the parties; provided, however, that this provision shall not prevent either party from seeking injunctive relief for any violation of the Proprietary Agreement.

13. Entire Agreement. This Agreement (including the documents referred to herein) constitutes the entire agreement among the parties and supersedes any prior understandings, agreements or representations by or among the parties, written or oral, to the extent they relate in any way to the subject matter hereof.

14. Acknowledgment. Contractor certifies and acknowledges that Contractor has carefully read all of the provisions of this Agreement and the Proprietary Agreement and Contractor understands and will fully and faithfully comply with such provisions. Contractor agrees that this Agreement, together with the Proprietary Agreement, supersedes and cancels any and all previous agreements of whatever nature between the Company and Contractor with respect to the matters covered herein and in the Proprietary Agreement. This Agreement, together with the Proprietary Agreement, constitutes the full, complete and exclusive agreement between Contractor and the Company with respect to the subject matters herein and in the Proprietary Agreement.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the Effective Date.

INVITAE CORPORATION

By: /s/ Lee Bendekgey

Name: Lee Bendekgey

Title: COO

CONTRACTOR:

/s/ Mark McDonough

Name: Mark McDonough

EXHIBIT A

Confidential Information, Invention Assignment and Arbitration Agreement

[attached hereto]

INVITAE CORPORATION
CONFIDENTIAL INFORMATION,
INVENTION ASSIGNMENT AND ARBITRATION AGREEMENT

In connection with my performance of services for Invitae Corporation (the “**Company**”) pursuant to the Independent Contractor Agreement (“**Contractor Agreement**”) to which this Agreement is attached, I agree to the following provisions of this Invitae Corporation Confidential Information, Invention Assignment and Arbitration Agreement (this “**Agreement**”):

1. CONFIDENTIALITY

A. *Definition of Confidential Information* . “Services” means those services I am providing pursuant to the Contractor Agreement. I understand that “**Company Confidential Information**” means information that the Company has or will develop, acquire, create, compile, discover or own, that has value in or to the Company’s business which is not generally known and which the Company takes reasonable steps to maintain as confidential. Company Confidential Information includes both information disclosed by the Company to me, and information developed or learned by me during the course of my performance of Services with the Company (referred to herein as my “engagement”). Company Confidential Information also includes all information of which the unauthorized disclosure could be detrimental to the interests of Company, whether or not such information is identified as Company Confidential Information. By example, and without limitation, Company Confidential Information includes any and all non-public information that relates to the actual or anticipated business and/or products, research or development of the Company, or to the Company’s technical data, trade secrets, or know-how, including, but not limited to, research, product plans, or other information regarding the Company’s products or services and markets therefor, customer lists and customers (including, but not limited to, customers of the Company on which I called or with which I may become acquainted during the term of my engagement), software, developments, inventions, processes, formulas, technology, designs, drawings, engineering, hardware configuration information, marketing, finances, and other business information disclosed by the Company either directly or indirectly in writing, orally or by drawings or inspection of premises, parts, equipment, or other Company property. Notwithstanding the foregoing, Company Confidential Information shall not include any such information which I can establish (i) was publicly known or made generally available prior to the time of disclosure by Company to me; (ii) becomes publicly known or made generally available after disclosure by Company to me through no wrongful action or omission by me; or (iii) is in my rightful possession, without confidentiality obligations, at the time of disclosure by Company as shown by my then-contemporaneous written records.

B. *Nonuse and Nondisclosure* . I agree that during and after my engagement with the Company, I will hold in the strictest confidence, and take all reasonable precautions to prevent any unauthorized use or disclosure of Company Confidential Information, and I will not (i) use the Company Confidential Information for any purpose whatsoever other than for the benefit of the Company in the course of my engagement, or (ii) disclose the Company Confidential Information to any third party without the prior written authorization of the President, CEO, or the Board of Directors of the Company. Prior to disclosure when compelled by applicable law; I shall provide prior written notice to the President, CEO, and General Counsel of Invitae, Inc. (as applicable). I agree that I obtain no title to any Company

Confidential Information, and that as between Company and myself, Invitae, Inc. retains all Confidential Information as the sole property of Invitae, Inc. I understand that my unauthorized use or disclosure of Company Confidential Information during my engagement may lead to disciplinary action, up to and including immediate termination and legal action by the Company. I understand that my obligations under this **Section 1.B** shall continue after termination of my engagement.

C. Former Employer Confidential Information . I agree that during my engagement with the Company, I will not improperly use, disclose, or induce the Company to use any proprietary information or trade secrets of any former employer or other person or entity with which I have an obligation to keep in confidence. I further agree that I will not bring onto the Company's premises or transfer onto the Company's technology systems any unpublished document, proprietary information, or trade secrets belonging to any such third party unless disclosure to, and use by, the Company has been consented to in writing by such third party.

D. Third Party Information . I recognize that the Company has received and in the future will receive from third parties associated with the Company, e.g., the Company's customers, suppliers, licensors, licensees, partners, or collaborators (" **Associated Third Parties** "), their confidential or proprietary information (" **Associated Third Party Confidential Information** ") subject to a duty on the Company's part to maintain the confidentiality of such Associated Third Party Confidential Information and to use it only for certain limited purposes. By way of example, Associated Third Party Confidential Information may include the habits or practices of Associated Third Parties, the technology of Associated Third Parties, requirements of Associated Third Parties, and information related to the business conducted between the Company and such Associated Third Parties. I agree at all times during my engagement with the Company and thereafter, that I owe the Company and its Associated Third Parties a duty to hold all such Associated Third Party Confidential Information in the strictest confidence, and not to use it or to disclose it to any person, firm, corporation, or other third party except as necessary in carrying out my work for the Company consistent with the Company's agreement with such Associated Third Parties. I further agree to comply with any and all Company policies and guidelines that may be adopted from time to time regarding Associated Third Parties and Associated Third Party Confidential Information. I understand that my unauthorized use or disclosure of Associated Third Party Confidential Information or violation of any Company policies during my engagement may lead to disciplinary action, up to and including immediate termination and legal action by the Company.

2. OWNERSHIP

A. Assignment of Inventions . As between Company and myself, I agree that, subject to Section 2(G), all right, title, and interest in and to any and all copyrightable material, notes, records, drawings, designs, inventions, improvements, developments, discoveries and trade secrets conceived, discovered, authored, invented, developed or reduced to practice by me, solely or in collaboration with others, during my engagement with the Company and while performing Services, (collectively, " **Inventions** "), are the sole property of the Company. I also agree to promptly make full written disclosure to Invitae, Inc. of any Inventions, and to deliver and assign and hereby irrevocably assign fully to Invitae, Inc. all of my right, title and interest in

and to Inventions. I agree that this assignment includes a present conveyance to Invitae, Inc. of ownership of Inventions that are not yet in existence. I further acknowledge that all original works of authorship that are made by me (solely or jointly with others) within the scope of and during the period of my engagement with the Company and that are protectable by copyright are “works made for hire,” as that term is defined in the United States Copyright Act to the maximum extent permitted by applicable law. I understand and agree that the decision whether or not to commercialize or market any Inventions is within the Company’s sole discretion and for the Company’s sole benefit, and that no royalty or other consideration will be due to me as a result of the Company’s efforts to commercialize or market any such Inventions.

B. *Pre-Existing Materials* . I have attached hereto as Exhibit A , a list describing all inventions, discoveries, original works of authorship, developments, improvements, trade secrets and other proprietary information or intellectual property rights owned by me or in which I have an interest prior to, or separate from, my engagement with the Company and which relate to the Company’s proposed business, products, or research and development (“ **Prior Inventions** ”); or, if no such list is attached, I represent and warrant that there are no such Prior Inventions. Furthermore, I represent and warrant that if any Prior Inventions are included on Exhibit A , they will not materially affect my ability to perform all obligations under this Agreement. Nothing in this Agreement transfers or assigns any ownership of any rights in Prior Inventions to the Company and the parties acknowledge that I retain all of my right, title and interest in Prior Inventions. I will inform Invitae, Inc. in writing before incorporating such Prior Inventions into any Invention or otherwise utilizing such Prior Invention in the course of my engagement with the Company. I will not incorporate any invention, improvement, development, concept, discovery, work of authorship or other proprietary information owned by any third party into any Invention without Invitae, Inc.’s prior written permission.

C. *Moral Rights* . Any assignment to Invitae, Inc. of Inventions includes all rights of attribution, paternity, integrity, modification, disclosure and withdrawal, and any other rights throughout the world that may be known as or referred to as “moral rights,” “artist’s rights,” “droit moral,” or the like (collectively, “ **Moral Rights** ”) that I may have in Inventions. To the extent that Moral Rights cannot be assigned under applicable law, I hereby waive and agree not to enforce any and all Moral Rights, including, without limitation, any limitation on subsequent modification, to the extent permitted under applicable law.

D. *Maintenance of Records* . I agree to keep and maintain adequate, current, accurate, and authentic written records of all Inventions made by me (solely or jointly with others) during the term of my engagement with the Company. The records will be in the form of notes, sketches, drawings, electronic files, reports, or any other format that may be specified by the Company. As between Company and myself, the records are and will be available to and remain the sole property of Invitae, Inc. at all times.

E. *Further Assurances* . I agree to assist the Company, or its designee, at the Company’s expense, in every proper way to secure the Company’s rights in the Inventions in any and all countries, including the disclosure to the Company of all pertinent information and data with respect thereto, the execution of all applications, specifications, oaths, assignments, and all other instruments that the Company shall deem proper or necessary in order to apply for, register, obtain, maintain, defend, and enforce such rights, and in order to deliver, assign and

convey to the Company, its successors, assigns, and nominees the sole and exclusive rights, title, and interest in and to all Inventions, and testifying in a suit or other proceeding relating to such Inventions. I further agree that my obligations under this **Section 2.E** shall continue after the termination of this Agreement.

F. *Attorney-in-Fact* . I agree that, if the Company is unable because of my unavailability, mental or physical incapacity, or for any other reason to secure my signature with respect to any Inventions, including, without limitation, for the purpose of applying for or pursuing any application for any United States or foreign patents or mask work or copyright registrations covering the Inventions assigned to Invitae, Inc. in **Section 2.A**, then I hereby irrevocably designate and appoint the Company and its duly authorized officers and agents as my agent and attorney-in-fact, to act for and on my behalf to execute and file any papers and oaths, and to do all other lawfully permitted acts with respect to such Inventions to further the prosecution and issuance of patents, copyright and mask work registrations with the same legal force and effect as if executed by me. This power of attorney shall be deemed coupled with an interest, and shall be irrevocable.

G. *Exception to Assignments* . I UNDERSTAND THAT THE PROVISIONS OF THIS AGREEMENT REQUIRING ASSIGNMENT OF INVENTIONS TO THE COMPANY DO NOT APPLY TO ANY INVENTION THAT WAS DEVELOPED ENTIRELY ON MY OWN TIME WITHOUT USING COMPANY'S EQUIPMENT, SUPPLIES, FACILITIES, OR TRADE SECRET INFORMATION EXCEPT FOR THOSE INVENTIONS THAT EITHER: (1) RELATE AT THE TIME OF CONCEPTION OR REDUCTION TO PRACTICE OF THE INVENTION TO THE COMPANY'S BUSINESS, OR ACTUAL OR DEMONSTRABLY ANTICIPATED RESEARCH OR DEVELOPMENT OF THE COMPANY; OR (2) RESULT FROM ANY WORK PERFORMED BY ME FOR THE COMPANY.

3. C ONFLICTING O BLIGATIONS

A. *Current Obligations*. I agree that during the term of my engagement with the Company, I will not engage in any other activities that conflict with my obligations to the Company.

B. *Prior Relationships* . Without limiting **Section 3.A** , I represent and warrant that I have no other agreements, relationships, or commitments to any other person or entity that require me to take any actions that conflict with my obligations to the Company under this Agreement, or negatively affect my ability to perform the services pursuant to this Agreement. I further agree that if I have signed a confidentiality agreement or similar type of agreement with any former employer or other entity, I will comply with the terms of any such agreement to the extent that its terms are lawful under applicable law. I represent and warrant that after undertaking a careful search (including searches of my computers, cell phones, electronic devices, and documents), I have returned all property and confidential information belonging to all prior employers (and/or other third parties I have performed services for in accordance with the terms of my applicable agreement). Moreover, I agree to fully indemnify the Company, its directors, officers, agents, employees, investors, shareholders, administrators, affiliates, divisions, subsidiaries, predecessor and successor corporations, and assigns for all verdicts,

judgments, settlements, and other losses incurred by any of them resulting from my breach of my obligations under any agreement with a third party to which I am a party or obligation to which I am bound, as well as any reasonable attorneys' fees and costs if the plaintiff is the prevailing party in such an action, except as prohibited by law.

4. RETURN OF COMPANY MATERIALS

Upon separation from engagement with the Company, on Company's earlier request during my engagement, or at any time subsequent to my engagement upon demand from the Company, I will immediately deliver to Invitae, Inc., and will not keep in my possession, recreate, or deliver to anyone else, any and all Company property, including, but not limited to, Company Confidential Information, Associated Third Party Confidential Information, all devices and equipment belonging to the Company (including computers, handheld electronic devices, telephone equipment, and other electronic devices), all tangible embodiments of the Inventions, all electronically stored information and passwords to access such property, Company credit cards, records, data, notes, notebooks, reports, files, proposals, lists, correspondence, specifications, drawings, blueprints, sketches, materials, photographs, charts, any other documents and property, and reproductions of any of the foregoing items, including, without limitation, those records maintained pursuant to **Section 2.D**. I also consent to an exit interview to confirm my compliance with this **Article 4**.

5. TERMINATION CERTIFICATION

Upon separation from engagement with the Company, I agree to immediately sign and deliver to the Company the "Termination Certification" attached hereto as Exhibit C. I also agree to keep the Company advised of my home and business address for a period of three (3) years after termination of my engagement with the Company, so that the Company can contact me regarding my continuing obligations provided by this Agreement.

6. SOLICITATION OF EMPLOYEES

To the fullest extent permitted under applicable law, I agree that during my engagement and for a period of twelve (12) months immediately following the termination of my relationship with the Company for any reason, whether voluntary or involuntary, with or without cause, I will not directly or indirectly solicit any of the Company's employees to leave their employment at the Company. I agree that nothing in this **Article 6** shall affect my continuing obligations under this Agreement during and after this twelve (12) month period, including, without limitation, my obligations under **Article 1**.

7. CONFLICT OF INTEREST GUIDELINES

I agree to diligently adhere to the Company's Insider Trading and Communications Policy and Conflict of Interest Guidelines. A copy of the Company's current Insider Trading and Communications Policy and Conflict of Interest Guidelines are attached as Exhibits D and E hereto, but I understand that these Conflict of Interest Guidelines and the Insider Trading and Communications Policy may be revised from time to time during my engagement.

8. REPRESENTATIONS

Without limiting my obligations under **Section 2.E** above, I agree to execute any proper oath or verify any proper document required to carry out my obligations under the terms of this Agreement. I represent and warrant that my performance of all the terms of this Agreement will not breach any agreement to keep in confidence information acquired by me in confidence or in trust prior to my engagement by the Company. I hereby represent and warrant that I have not entered into, and I will not enter into, any oral or written agreement in conflict herewith.

9. AUDIT

I acknowledge that I have no reasonable expectation of privacy in any of the Company's computer, technology system, email, handheld device, telephone, voicemail, or documents that are used to conduct the business of the Company. All information, data, and messages created, received, sent, or stored in these systems are, at all times, the property of the Company. As such, the Company has the right to audit and search all such items and systems, without further notice to me, to ensure that the Company is licensed to use the software on the Company's devices in compliance with the Company's software licensing policies, to ensure compliance with the Company's policies, and for any other business-related purposes in the Company's sole discretion. I understand that I am not permitted to add any unlicensed, unauthorized, or non-compliant applications to the Company's technology systems, including, without limitation, open source or free software not authorized by the Company, and that I shall refrain from copying unlicensed software onto the Company's technology systems or using non-licensed software or websites. I understand that it is my responsibility to comply with the Company's policies governing use of the Company's documents and the internet, email, telephone, and technology systems to which I will have access in connection with my engagement.

I am aware that the Company has or may acquire software and systems that are capable of monitoring and recording all network traffic to and from any Company computer I may use. The Company reserves the right to access, review, copy, and delete any of the information, data, or messages accessed through these systems with or without notice to me and/or in my absence. This includes, but is not limited to, all e-mail messages sent or received, all website visits, all chat sessions, all news group activity (including groups visited, messages read, and postings by me), and all file transfers into and out of the Company's internal networks. The Company further reserves the right to retrieve previously deleted messages from e-mail or voicemail and monitor usage of the Internet, including websites visited and any information I have downloaded while using any Company computers. In addition, the Company may review Internet and technology systems activity for Company computers I may use and analyze usage patterns, and may choose to publicize this data to assure that technology systems are devoted to legitimate business purposes.

10. ARBITRATION AND EQUITABLE RELIEF

A. Arbitration. IN CONSIDERATION OF MY ENGAGEMENT WITH THE COMPANY, ITS PROMISE TO ARBITRATE ALL DISPUTES, AND MY RECEIPT OF THE COMPENSATION, PAY RAISES, AND OTHER BENEFITS PAID TO ME BY THE COMPANY, AT PRESENT AND IN THE FUTURE, I AGREE THAT, SUBJECT TO THE EXCEPTIONS LISTED BELOW, ANY AND ALL CONTROVERSIES, CLAIMS, OR DISPUTES WITH ANYONE (INCLUDING THE COMPANY AND ANY EMPLOYEE, OFFICER, DIRECTOR, SHAREHOLDER, OR BENEFIT PLAN OF THE COMPANY, IN THEIR CAPACITY AS SUCH OR OTHERWISE), ARISING OUT OF, RELATING TO, OR RESULTING FROM MY ENGAGEMENT WITH THE COMPANY OR THE TERMINATION OF MY ENGAGEMENT WITH THE COMPANY, INCLUDING ANY

BREACH OF THIS AGREEMENT, SHALL BE SUBJECT TO BINDING ARBITRATION UNDER THE ARBITRATION RULES SET FORTH IN CALIFORNIA CODE OF CIVIL PROCEDURE SECTION 1280 THROUGH 1294.2, INCLUDING SECTION 1281.8 (THE “ ACT ”), AND PURSUANT TO CALIFORNIA LAW. THE FEDERAL ARBITRATION ACT SHALL CONTINUE TO APPLY WITH FULL FORCE AND EFFECT NOTWITHSTANDING THE APPLICATION OF PROCEDURAL RULES SET FORTH IN THE ACT. THE COMPANY AGREES THAT, NOTWITHSTANDING ANYTHING IN THIS AGREEMENT TO THE CONTRARY, I MAY BRING ACTIONS OR CLAIMS IN ANY COURT OF COMPETENT JURISDICTION FOR ANY CLAIMS I MAY HAVE RELATED TO INTELLECTUAL PROPERTY OWNERSHIP OR INFRINGEMENT.

B. *Procedure* . I AGREE THAT ANY ARBITRATION WILL BE ADMINISTERED BY JAMS, INC. (“ JAMS ”), PURSUANT TO ITS COMPREHENSIVE ARBITRATION RULES & PROCEDURES (THE “ JAMS RULES ”). I AGREE THAT THE ARBITRATOR SHALL HAVE THE POWER TO DECIDE ANY MOTIONS BROUGHT BY ANY PARTY TO THE ARBITRATION, INCLUDING MOTIONS FOR SUMMARY JUDGMENT AND/OR ADJUDICATION, AND MOTIONS TO DISMISS AND DEMURRERS, PRIOR TO ANY ARBITRATION HEARING. I AGREE THAT THE ARBITRATOR SHALL ISSUE A WRITTEN DECISION ON THE MERITS. I ALSO AGREE THAT THE ARBITRATOR SHALL HAVE THE POWER TO AWARD ANY REMEDIES AVAILABLE UNDER APPLICABLE LAW, AND THAT THE ARBITRATOR SHALL AWARD ATTORNEYS’ FEES AND COSTS TO THE PREVAILING PARTY, EXCEPT AS PROHIBITED BY LAW. I AGREE THAT THE DECREE OR AWARD RENDERED BY THE ARBITRATOR MAY BE ENTERED AS A FINAL AND BINDING JUDGMENT IN ANY COURT HAVING JURISDICTION THEREOF. I UNDERSTAND THAT THE COMPANY WILL PAY FOR ANY ADMINISTRATIVE OR HEARING FEES CHARGED BY THE ARBITRATOR OR JAMS EXCEPT THAT I SHALL PAY ANY FILING FEES ASSOCIATED WITH ANY ARBITRATION THAT I INITIATE, BUT ONLY SO MUCH OF THE FILING FEES AS I WOULD HAVE INSTEAD PAID HAD I FILED A COMPLAINT IN A COURT OF LAW. I AGREE THAT THE ARBITRATOR SHALL ADMINISTER AND CONDUCT ANY ARBITRATION IN ACCORDANCE WITH CALIFORNIA LAW, INCLUDING THE CALIFORNIA CODE OF CIVIL PROCEDURE, AND THAT THE ARBITRATOR SHALL APPLY SUBSTANTIVE AND PROCEDURAL CALIFORNIA LAW TO ANY DISPUTE OR CLAIM, WITHOUT REFERENCE TO RULES OF CONFLICT OF LAW. TO THE EXTENT THAT THE JAMS RULES CONFLICT WITH CALIFORNIA LAW, CALIFORNIA LAW SHALL TAKE PRECEDENCE. I AGREE THAT ANY ARBITRATION UNDER THIS AGREEMENT SHALL BE CONDUCTED IN SAN FRANCISCO COUNTY, CALIFORNIA.

C. *Remedy* . EXCEPT FOR THE EXCEPTIONS AS PROVIDED BY THE ACT AND THIS AGREEMENT, ARBITRATION SHALL BE THE SOLE, EXCLUSIVE, AND FINAL REMEDY FOR ANY DISPUTE BETWEEN ME AND THE COMPANY. ACCORDINGLY, EXCEPT AS PROVIDED FOR BY THE ACT AND THIS AGREEMENT, NEITHER I NOR THE COMPANY WILL BE PERMITTED TO PURSUE COURT ACTION REGARDING CLAIMS THAT ARE SUBJECT TO ARBITRATION.

D. *Administrative Relief* . PURPOSELY BLANK.

E. *Voluntary Nature of Agreement* . I ACKNOWLEDGE AND AGREE THAT I AM EXECUTING THIS AGREEMENT VOLUNTARILY AND WITHOUT ANY DURESS OR UNDUE INFLUENCE BY THE COMPANY OR ANYONE ELSE. I FURTHER ACKNOWLEDGE AND AGREE THAT I HAVE CAREFULLY READ THIS AGREEMENT AND THAT I HAVE ASKED ANY QUESTIONS NEEDED FOR ME TO UNDERSTAND THE TERMS, CONSEQUENCES, AND BINDING EFFECT OF THIS AGREEMENT AND FULLY UNDERSTAND IT, INCLUDING THAT TO THE EXTENT PERMITTED BY LAW, ***I AM WAIVING MY RIGHT TO A JURY TRIAL*** . FINALLY, I AGREE THAT I HAVE BEEN PROVIDED AN OPPORTUNITY TO SEEK THE ADVICE OF AN ATTORNEY OF MY CHOICE BEFORE SIGNING THIS AGREEMENT.

11. MISCELLANEOUS

A. *Governing Law; Consent to Personal Jurisdiction* . This Agreement will be governed by the laws of the State of California without regard to California's conflicts of law rules that may result in the application of the laws of any jurisdiction other than California. To the extent that any lawsuit is permitted under this Agreement, I hereby expressly consent to the personal and exclusive jurisdiction and venue of the state and federal courts located in California for any lawsuit filed against me by the Company.

B. *Assignability* . This Agreement will be binding upon my heirs, executors, assigns, administrators, and other legal representatives, and will be for the benefit of the Company, its successors, and its assigns. There are no intended third-party beneficiaries to this Agreement, except as may be expressly otherwise stated. Notwithstanding anything to the contrary herein, Invitae, Inc. may assign this Agreement and its rights and obligations under this Agreement to any successor to all or substantially all of Invitae, Inc.'s relevant assets, whether by merger, consolidation, reorganization, reincorporation, sale of assets or stock, or otherwise.

C. *Entire Agreement* . This Agreement, together with the Exhibits herein and any executed written offer letter between me and the Company, to the extent such materials are not in conflict with this Agreement, sets forth the entire agreement and understanding between the Company and me with respect to the subject matter herein and supersedes all prior written and oral agreements, discussions, or representations between us, including, but not limited to, any representations made during my interview(s) or relocation negotiations. I represent and warrant that I am not relying on any statement or representation not contained in this Agreement. Any subsequent change or changes in my duties, salary, or compensation will not affect the validity or scope of this Agreement.

D. *Headings* . Headings are used in this Agreement for reference only and shall not be considered when interpreting this Agreement.

E. *Severability* . If a court or other body of competent jurisdiction finds, or the Parties mutually believe, any provision of this Agreement, or portion thereof, to be invalid or unenforceable, such provision will be enforced to the maximum extent permissible so as to effect the intent of the Parties, and the remainder of this Agreement will continue in full force and effect.

F. *Modification, Waiver.* No modification of or amendment to this Agreement, nor any waiver of any rights under this Agreement, will be effective unless in a writing signed by the President or CEO of the Company and me. Waiver by the Company of a breach of any provision of this Agreement will not operate as a waiver of any other or subsequent breach.

G. *Survivorship.* The rights and obligations of the parties under this Agreement will survive termination of my engagement with the Company.

Date: _____

Signature

(typed or printed)

Witness:

Signature

Name (typed or printed)

EXHIBIT A

**LIST OF PRIOR INVENTIONS
AND ORIGINAL WORKS OF AUTHORSHIP**

Title	Date	Identifying Number or Brief Description
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No inventions or improvements
 Additional Sheets Attached

Date: _____

Signature

Name (typed or printed)

EXHIBIT B

PURPOSELY BLANK

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EXHIBIT C

INVITAE CORPORATION TERMINATION CERTIFICATION

This is to certify that I do not have in my possession, nor have I failed to return, any devices, records, data, notes, reports, proposals, lists, correspondence, specifications, drawings, blueprints, sketches, materials, equipment, any other documents or property, or reproductions of any and all aforementioned items belonging to Invitae, Inc., its subsidiaries, affiliates, successors or assigns (together, the “ **Company** ”).

I further certify that I have complied with all the terms of the Company’s Confidential Information, Invention Assignment, and Arbitration Agreement signed by me, including the reporting of any inventions and original works of authorship (as defined therein) conceived or made by me (solely or jointly with others), as covered by that agreement.

I further agree that, in compliance with the Confidential Information, Invention Assignment, and Arbitration Agreement, I will preserve as confidential all Company Confidential Information and Associated Third Party Confidential Information, including trade secrets, confidential knowledge, data, or other proprietary information relating to products, processes, know-how, designs, formulas, developmental or experimental work, computer programs, databases, other original works of authorship, customer lists, business plans, financial information, or other subject matter pertaining to any business of the Company or any of its employees, clients, consultants, or licensees.

I also agree that for twelve (12) months from this date, I will not directly or indirectly solicit any of the Company’s employees to leave their employment at the Company. I agree that nothing in this paragraph shall affect my continuing obligations under the Confidential Information, Invention Assignment, and Arbitration Agreement during and after this twelve (12) month period, including, without limitation, my obligations under **Article 1** (Confidentiality) thereof.

Date: _____

Signature

Name (typed or printed)

Address for Notifications:

EXHIBIT D

INVITAE CORPORATION CONFLICT OF INTEREST GUIDELINES

It is the policy of Invitae, Inc. to conduct its affairs in strict compliance with the letter and spirit of the law and to adhere to the highest principles of business ethics. Accordingly, all officers, employees, and independent contractors must avoid activities that are in conflict, or give the appearance of being in conflict, with these principles and with the interests of the Company. The following are potentially compromising situations that must be avoided:

1. Revealing confidential information to outsiders or misusing confidential information. Unauthorized divulging of information is a violation of this policy whether or not for personal gain and whether or not harm to the Company is intended. (The Confidential Information, Invention Assignment, and Arbitration Agreement elaborates on this principle and is a binding agreement.)
2. Accepting or offering substantial gifts, excessive entertainment, favors, or payments that may be deemed to constitute undue influence or otherwise be improper or embarrassing to the Company.
3. Participating in civic or professional organizations that might involve divulging confidential information of the Company.
4. Initiating or approving personnel actions affecting reward or punishment of employees or applicants where there is a family relationship or is or appears to be a personal or social involvement.
5. Initiating or approving any form of personal or social harassment of employees.
6. Investing or holding outside directorship in suppliers, customers, or competing companies, including financial speculations, where such investment or directorship might influence in any manner a decision or course of action of the Company.
7. Borrowing from or lending to employees, customers, or suppliers.
8. Acquiring real estate of interest to the Company.
9. Improperly using or disclosing to the Company any proprietary information or trade secrets of any former or concurrent employer or other person or entity with whom obligations of confidentiality exist.
10. Unlawfully discussing prices, costs, customers, sales, or markets with competing companies or their employees.
11. Making any unlawful agreement with distributors with respect to prices.
12. Improperly using or authorizing the use of any inventions that are the subject of patent claims of any other person or entity.
13. Engaging in any conduct that is not in the best interest of the Company.

Each officer, employee, and independent contractor must take every necessary action to ensure compliance with these guidelines and to bring problem areas to the attention of higher management for review. Violations of this conflict of interest policy may result in discharge without warning.

EXHIBIT E

INVITAE CORPORATION INSIDER TRADING AND COMMUNICATIONS POLICY

[ATTACHED]

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INVITAE CORPORATION

Insider Trading and Communications Policy

Policy as to Trades in the Company's Securities By Company Personnel and Treatment of Confidential Information

1. Purpose.

Both the Securities and Exchange Commission (the “*SEC*”) and Congress are very concerned about maintaining the fairness and integrity of the U.S. capital markets. The securities laws are continually reviewed and amended to prevent people from taking advantage of “inside information” and to increase the punishment for those who do. These laws require publicly-traded companies to have clear policies on insider trading. If companies like ours do not take active steps to adopt preventive policies and procedures covering securities trades by company personnel, the consequences could be severe.

We are adopting this Insider Trading and Communications Policy to avoid even the appearance of improper conduct on the part of anyone employed by or associated with our Company (not just so-called insiders). We have all worked hard to establish our reputation for integrity and ethical conduct. We cannot afford to damage this reputation.

2. Applicability.

This policy applies to all employees, members of the Board of Directors, consultants and contractors of the Company (the “*Individuals*”).

3. The Consequences.

The consequences of insider trading violations can be substantial:

For *Individuals* who trade on inside information (or tip information to others):

- A jail term of up to 20 years (30 years in certain circumstances);
- A civil penalty of up to three times the profit gained or loss avoided; and
- A criminal fine (no matter how small the profit) of up to \$5 million.

For a company (as well as possibly any supervisory person) that fails to take appropriate steps to prevent illegal trading:

- A civil penalty of the greater of \$1 million or three times the profit gained or loss avoided as a result of the Individual's violation; and
- A criminal penalty of up to \$25 million.

In addition, plaintiffs may claim that Individuals or the Company are also liable to contemporaneous traders.

Further, if the Company has a reasonable basis to conclude that an employee has violated the Company's insider trading and communications policy, whether or not knowingly, the Company may impose sanctions, including dismissal for cause. Needless to say, any of the above consequences, even an SEC investigation that does not result in prosecution, can tarnish one's reputation (as well as the Company's) and irreparably damage a career. Finally, the size of a transaction has no impact on potential insider trading liability. In the past, even relatively small trades (e.g., trades as small as \$400) have resulted in SEC investigations and lawsuits.

4. Our Policy.

No Trading When in Possession of Material Non-Public Information . If a member of the Board of Directors, officer, any employee, consultant or contractor of the Company or any subsidiary of the Company has possession of material non-public information (often referred to as "inside information") relating to our Company or any other securities as to which the person receives information not available to investors generally, it is our policy that neither that person nor any related person may buy or sell securities of the Company, make a gift of Company securities, or engage in any other action to take advantage of, or pass on to others, that information. This policy also applies to information relating to any other company, including our customers or partners, obtained in the course of you rendering services to the Company or any subsidiary of the Company.

Transactions that may be necessary or justifiable for independent reasons (such as the need to raise money for an emergency expenditure) are no exception. Even the appearance of an improper transaction must be avoided to preserve our reputation for adhering to the highest standards of conduct.

What is Material Information? "Material information" is any information that a reasonable investor would consider important in deciding whether to buy, hold or sell securities of the Company or any other securities as to which the person receives information not available to investors generally. In short, "material information" includes any information that reasonably could affect the price of our securities or any other securities. Either positive or negative information may be material. It can be information about the Company or about a company with which we do business.

Examples: Common examples of information that will frequently be regarded as material are:

- projections of future earnings, losses or other business activity;
- news of a possible merger, acquisition or tender offer;
- news of a possible license agreement, collaboration or partnership;
- significant new products or delays in new product introduction or development;

-
- plans to raise additional capital through stock sales or otherwise;
 - the gain or loss of a significant partner or customer;
 - discoveries, or grants or allowances or disallowances of patents;
 - changes in management;
 - news of a significant sale of assets;
 - impending bankruptcy or financial liquidity problems; and
 - changes in dividend policies or the declaration of a stock split.

20/20 Hindsight . Remember, if your securities transactions become the subject of scrutiny, they will be viewed after-the-fact with the benefit of hindsight. As a result, before engaging in any transaction you should carefully consider how regulators and others might view your transaction in hindsight.

Transactions by Family Members . The same restrictions apply to your immediate family members and others living in your household. You are responsible for the compliance of your immediate family and personal household.

Transactions of non-residents . The same restrictions apply regardless of whether a person is resident within the United States.

Do Not Pass Information to Others . Whether the information is proprietary information about our Company or information that could have an impact on our stock price, employees must not pass the information on to others. It is illegal to advise others to trade on the basis of undisclosed material information. Liability in these cases can extend to both the “tippee” — the person to whom the insider disclosed inside information — and you, as the “tipper,” and will apply whether or not you derive any benefit from another’s actions. You should not make recommendations to others concerning the purchase or sale of securities of the Company.

When Information is Public . As you can appreciate, it is also improper for any employee to enter a trade immediately after the Company has made a public announcement of material information, including earnings releases. We impose certain “trading blackouts” to ensure that the Company’s stockholders and the investing public will be afforded the time to receive the information and act upon it. These are discussed below under the heading “Trading Blackouts.” To avoid the appearance of impropriety, as a general rule, you should not engage in any transaction until at least one full trading day has passed following the release of the information. Thus, if an announcement were made after the market close on a Monday, Wednesday generally would be the first day on which you would be able to trade. If an announcement were made after the market close on a Friday, Tuesday generally would be the first eligible trading day.

Pre-Clearance of Trades of Company Stock . To provide assistance in preventing inadvertent violations and avoiding even the appearance of an improper transaction (which could result, for example, where an employee engages in a trade while unaware of a pending major

development), all members of the Board of Directors, officers and certain employees of the Company and its subsidiaries in a position to have access to material non-public information must obtain pre-clearance in writing from our Chief Financial Officer (or, in the case of our Chief Financial Officer, pre-clearance in writing from our Chief Executive Officer) of all transactions in Company securities (acquisitions, dispositions, transfers, gifts, etc.). You must submit a written request for pre-clearance of a transaction no later than three business days before the proposed date of execution of the transaction unless you obtain a waiver from the Audit Committee of the Board of Directors. You will be notified if you are one of the specified persons subject to this pre-clearance policy. Pre-clearance is subject to a five business day expiration and must be renewed by the applicant after five business days to be valid.

Pre-clearance does not relieve anyone of their responsibility under SEC rules. All Individuals, whether subject to pre-clearance or not, are responsible for adherence to this Insider Trading and Communications Policy, including, but not limited to: not trading on insider information; not trading during trading blackout periods; not trading for one full trading day after earnings announcements; and not trading in securities on a short-term basis. Individuals normally not subject to pre-clearance are still responsible for written pre-clearance for the sale of stock purchased in the open market and that has been owned less than six months. If any Individual is in doubt of whether or not pre-clearance is required, the Individual should inquire with our Chief Financial Officer or obtain pre-clearance as a cautionary measure.

Trading Blackouts . From time to time, the Company may require that members of the Board of Directors, officers, employees of the Company and subsidiaries of the Company and others to suspend trading because of developments known to the Company and not yet disclosed to the public. In that event, these persons are advised not to engage in any transaction involving the purchase or sale of the Company's securities during that period, and should not disclose to others the fact that they have been suspended from trading. The Company will also require the following mandatory trading blackout:

- **Earnings Trading Blackouts** – All members of the Board of Directors, officers, and employees of the Company or any subsidiary of the Company will be subject to a stock trading blackout period beginning two weeks prior to the end of a fiscal quarter until one full trading day has passed after earnings for that quarter are released.

Of course, no trading should be done at any time that a member of the Board of Directors, executive officer, employee, consultant or contractor is actually aware of a major undisclosed corporate development.

Options . Cash exercise of options may be done at any time. This policy also does not apply to the exercise of a tax withholding right pursuant to which you elect to have the Company withhold shares subject to an option to satisfy tax withholding requirements which occur as a result of certain option exercises. Same-day-sales and exercises of options are subject to trading windows, as are any other market sale of shares subject to the option for the purpose of generating the cash needed to pay the exercise price of an option (a "sell to cover").

Exception for Approved 10b5-1 Plans. Trades by members of the Board of Directors, officers or employees in the Company's securities that are executed pursuant to an approved 10b5-1 trading plan (a "**Trading Plan**") are not subject to the prohibition on trading on the basis of material non-public information contained in this Insider Trading and Communications Policy or to the restrictions set forth above relating to pre-clearance procedures and blackout periods.

SEC Rule 10b5-1 provides an affirmative defense from insider trading liability under the federal securities laws for trading plans that meet certain requirements. It does not prevent someone from bringing a lawsuit. This Insider Trading and Communications Policy permits Individuals to adopt Trading Plans with brokers that outline a pre-set plan for trading of the Company's securities, including the exercise of options. Trading Plans are to be implemented only during open windows and when the Individual is not aware of any material non-public information.

Any Trading Plan must comply with SEC Rule 10b5-1 and be approved in writing in advance by our Chief Financial Officer (or, in the case of our Chief Financial Officer, approved in writing in advance by our Chief Executive Officer) and the establishment of such a Trading Plan with respect to an Individual may be publicly announced by the Company.

Establishing a Trading Plan does not exempt Individuals from complying with the Section 16 six-month short swing profit rules or liability.

Revocation/Amendments to Trading Plans . An Individual may revoke his or her Trading Plan at any time, subject to the terms of the Individual's Trading Plan. However, if the Individual terminates the Trading Plan after the first option exercise or stock sale, then the Individual must cancel all outstanding Trading Plans and agree not to enter into another Trading Plan until six months after termination of the Trading Plan.

Under certain circumstances, a Trading Plan must be revoked. This includes circumstances such as the announcement of a merger or the occurrence of an event that would cause the transaction either to violate the law or to have an adverse effect on the Company. The Chief Financial Officer or his designee or any stock administrator of the Company is authorized to notify the broker in such circumstances, thereby insulating the insider in the event of revocation.

Amendments to Trading Plans will not be allowed once the Trading Plan is in place with the consent of the Board of Directors, unless such amendment becomes effective not less than six months after the Individual is bound by such amendment.

Post-Termination Transactions . This Insider Trading and Communications Policy continues to apply to your transactions in Company securities even after your employment, board service or consulting services terminate. If you are in possession of material nonpublic information when your service to the Company or a subsidiary of the Company terminates, you may not trade in Company securities until that information has become public or is no longer material.

5. Additional Prohibited Transactions.

We believe it is improper and inappropriate for any Individual to engage in short-term or speculative transactions involving Company securities. We believe that this trading can reflect badly on the Company and that Individuals should not engage in any types of transactions that are commonly viewed as a form of “betting” for or against the Company. Accordingly, it is the Company’s policy that members of the Board of Directors, officers, employees, consultants and contractors may not engage in any of the following activities with respect to securities of the Company, without prior written pre-clearance:

- **Director and officer cashless exercise** – In response to the restrictions set forth in the Sarbanes-Oxley Act of 2002, the Company will not arrange with brokers to administer cashless exercises on behalf of directors and officers of the Company. Directors and officers of the Company may only utilize the cashless exercise feature of their options if (i) the director or officer retains a broker independently of the Company, (ii) the Company’s involvement is limited to confirming that it will deliver the stock promptly upon payment of the exercise price and (iii) the director or officer uses a “T+3” cashless exercise arrangement, in which the Company agrees to deliver stock against the payment of the purchase price on the same day the sale of the stock underlying the option settles. Under a T+3 cashless exercise, a stock broker, the issuer, and the transfer agent of the issuer work together to make all transactions settle simultaneously. This approach is to avoid any inference that the Company has “extended credit” in the form of a personal loan to the director or executive officer. Any employee who has any questions about cashless exercises may obtain additional guidance from our Chief Financial Officer.
- **Director and officer trading during pension and 401(k) plan blackout periods** – If Company securities are available as an investment option or used as a Company match in the Company’s 401(k) plan, directors and officers of the Company are prohibited from trading Company securities during pension and 401(k) plan blackouts, if any, in response to the restrictions set forth in the Sarbanes-Oxley Act of 2002.
- **Purchases of Company securities on margin** — This means borrowing from a brokerage firm, bank or other entity in order to buy Company securities (other than in connection with a so-called “cashless” exercise of options under the Company’s stock plans).
- **Short sales of Company securities** — This involves selling Company securities that you do not own in the expectation that the price of the securities will fall, or as part of an arbitrage transaction.
- **Buying or selling puts or calls, or their equivalent positions, on Company securities** — This includes options and derivatives trading on any of the stock exchanges or futures exchanges, including cashless collars.

6. Confidential Information and Communications with the Media.

Unauthorized disclosure of internal information relating to the Company (including information regarding facilities, products or services or the Company's partners, suppliers or customers) could cause competitive harm to the Company and in some cases could result in liability for the Company.

Unauthorized Disclosure . Individuals should not disclose internal information about the Company to *anyone* outside the Company, except as required in the performance of regular duties for the Company. In this regard, Individuals are prohibited from posting internal information about the Company on a "bulletin board" or "blog" on the Internet, communicating about the Company and its business in Internet-based "chat" rooms or blogs or having a blog that discusses the Company and its business.

Communications with the Media, Securities Analysts and Investors . Communications on behalf of the Company with the media, securities analysts and investors must be made only by specifically designated representatives of the Company, as communications may be regulated by federal securities laws including but not limited to Regulation FD. Unless you have been expressly authorized to make such communications, if you receive any inquiry relating to the Company from the media, a securities analyst or an investor, you should refer the inquiry to our Chief Financial Officer.

Safeguarding Confidential Information . Care must be taken to safeguard the confidentiality of internal information. For example, sensitive documents should not be left lying on desks, and visitors should not be left unattended in offices containing internal company documents.

Rumors . Rumors concerning the business and affairs of the Company may circulate from time to time. Our general policy is not to comment upon those rumors. Individuals should also refrain from commenting upon or responding to rumors and should refer any requests for comments or responses to our Chief Financial Officer.

Analyst Reports . The Company views analyst reports as the proprietary information of the analyst's firm. The Company will not provide such reports on our corporate or other websites or through any other means to persons outside of the Company. The Company should avoid directing anyone outside the Company to an analyst report, in part to avoid the appearance of endorsing such a report.

7. Company Assistance.

Any person who has any questions about specific transactions may obtain additional guidance from our Chief Financial Officer.

Remember, however, you are ultimately responsible for adhering to this Insider Trading and Communications Policy and avoiding improper transactions. In this regard, it is imperative that you use your best judgment.

Section 16 Filings . While the Company expects to assist each officer, director and other employee subject to Section 16 reporting requirements (including immediate family members and others in their household) (collectively, "**Section 16 Reporting Persons**") with such Section 16 filings, and expects such assistance to include form preparation for all Section 16 Reporting Persons other than those who do not require such assistance, the obligation to file Section 16

reports (Forms 3, 4 and 5) is a personal obligation of each such person, and the Company is not responsible for any failure to file accurate and timely Section 16 reports. Each Section 16 Reporting Person must ensure that his or her broker provides the Company with detailed information (trade date, number of shares, exact price) regarding every transaction involving the securities of the Company, including gifts, transfers, pledges and all Rule 10b5-1 transactions, both in connection with mandatory pre-clearance requirements for such Section 16 Reporting Persons and immediately following execution.

8. Modifications.

This Insider Trading and Communications Policy has been approved by the Company's Board of Directors. Officers of the Company may, from time to time, make non-substantive modifications to this Insider Trading and Communications Policy (including, without limitation, substitution of the names of the appropriate contact persons within the Company) with subsequent notice to the Company's Board of Directors or the Nominating and Governance Committee of the Board of Directors.

9. Acknowledgements.

All directors, officers and employees of the Company and its subsidiaries will be required to acknowledge, electronically or in writing, their understanding of, and intent to comply with, this Insider Trading and Communications Policy. This agreement will constitute each such person's consent for the Company to issue any necessary stop-transfer orders to the Company's transfer agent to enforce compliance with this policy. As a condition of continued employment or engagement all employees, contractors and consultants must periodically acknowledge, electronically or in writing, that they have read and agree to abide by this policy.

ACKNOWLEDGMENT

I have received and read a copy of the Invitae Corporation Insider Trading and Communications Policy and I understand and agree to comply with the specific requirements of the policy. I agree that I will be subject to sanctions imposed by the Company, in its discretion, for violation of the Company's policy, including dismissal for cause, and that the Company may give stop-transfer and other instructions to the Company's transfer agent against transfer of Company securities by me in a transaction that the Company considers to be in contravention of this policy.

Signed: _____

Printed Name: _____

Date: _____

INDEPENDENT CONTRACTOR AGREEMENT

This is to confirm the agreement between Scott R. Burell (“Contractor”), and Invitae Corporation (the “Company”) for contract services (the “Agreement”). The terms and conditions of the arrangements between Contractor and the Company are as follows:

1. Term of Agreement. This Agreement is effective (the “Effective Date”) as of the Closing Date as that term is defined in that certain Agreement and Plan of Merger and Reorganization dated July 31, 2017 by and among Invitae Corporation, Coronado Merger Sub, Inc. and CombiMatrix Corporation (“CombiMatrix”), so long as Contractor shall have been employed by CombiMatrix continuously from July 31, 2017 until immediately prior to the Closing Date, and shall continue in effect until the earlier of (a) the eight (8) month anniversary of the Effective Date or (b) such time as this Agreement is terminated as provided in Section 9 below (such effective period of this Agreement, including any extensions to the initial term, the “Term”).

2. Services To Be Performed by Contractor. Contractor agrees to provide strategic management and leadership services of CombiMatrix as the operations of CombiMatrix integrate into the Company as and when requested by the Company (the “Project”).

3. Compensation. The Company will compensate Contractor according to the following fee schedule on a monthly basis during the Term (and, if longer, through the date which is eight (8) months following the Effective Date if a termination has occurred pursuant to Sections 9(c) or 9(e) below), within ten (10) days following receipt of Contractor’s invoice delivered to the Company:

- \$22,150.00 per month; plus
- If and to the extent that Contractor elects during the Term to continue the health insurance coverage for Contractor and Contractor’s dependents (as in effect immediately prior to the Closing Date) under COBRA, reimbursement for the monthly premium.

In addition, the Company will pay Contractor the following bonuses and perks, but only to the extent, on the dates of such payments, that (i) Contractor would have been entitled to such payments (including, without limitation, because any related milestones were achieved) had he been employed by CombiMatrix (in the instance of the first bullet below) and, (ii) unless a termination has occurred pursuant to Sections 9(a), 9(c) or 9(e) below prior to the date which is eight (8) months following the Effective Date, Contractor has continuously performed services for the Company pursuant to this Agreement from and after the Effective Date and through such dates of payment:

- Within 75 days after December 31, 2017, and assuming that no portion of any such bonus amount has been previously paid to Contractor, the Company will pay Contractor any applicable annual bonus amount for actual achievement of second half and year-end targets under that certain CombiMatrix Amended and Restated 2017 Executive Performance Bonus Plan; and

-
- Reimbursement of all reasonable and otherwise unreimbursed transportation and hotel expenses for Contractor and Contractor's spouse for the CombiMatrix 2017 President's Club.

4. Work Location. Contractor shall determine the location for performance of Contractor's services, consistent with the needs of the Project.

5. Billable Expenses. Out-of-pocket expenses (including, without limitation, local travel and local telephone calls) that Contractor incurs in connection with the Project shall be paid by Contractor. With prior approval by the Company, the Company shall reimburse Contractor for out-of-area travel and any general, applicable expenses related to the Project. Reimbursement shall be made within ten (10) days following receipt of Contractor's invoice, provided that expenses shall be invoiced no more often than on a monthly basis.

6. Independent Contractor Relationship. Contractor and the Company agree that no employment relationship is created by this Agreement. The Company is interested only in the results to be achieved by Contractor. Contractor is an independent contractor and is not considered an agent or common law employee of the Company for any purpose.

7. Contractor ' s Tax Obligations. Except with respect to any portion of the compensation payable pursuant to Section 3 above as to which Contractor is treated as a W-2 employee of CombiMatrix and CombiMatrix effects the applicable withholding and deductions with respect thereto, (a) Contractor shall be solely responsible for and shall make proper and timely payment of any taxes due on payments made (i) to Contractor pursuant to this Agreement (including, but not limited to, Contractor's estimated state and federal income taxes and self-employment taxes) and (ii) to other persons who provide services to Contractor in connection with this Agreement, and (b) Contractor hereby agrees to indemnify the Company against any and all claims, liabilities or expenses (including, without limitation, reasonable attorneys' fees and costs) the Company incurs as a result of Contractor's breach of any of Contractor's obligations under this Section 7.

8. Confidential Information, Invention Assignment and Arbitration Agreement. Prior to any effectiveness of this Agreement, Contractor shall execute and deliver to the Company a copy of the Confidential Information, Invention Assignment and Arbitration Agreement in the form attached hereto as Exhibit A (the "Proprietary Agreement").

9. Termination. If earlier than the eight (8) month anniversary of the Effective Date (when this Agreement otherwise terminates), this Agreement shall terminate automatically on the occurrence of any of the following events:

- (a) Death or permanent disability of Contractor;
- (b) Assignment of this Agreement by Contractor without the Company's consent;

-
- (c) Ten (10) days' notice to Contractor by the Company without Cause (as defined below);
 - (d) Written notice to Contractor by the Company, effective immediately, with Cause (as defined below);
 - (e) Ten (10) days' notice to the Company by Contractor with Good Reason (as defined below);
 - (f) Ten (10) days' notice to the Company by Contractor without Good Reason (as defined below); or
 - (g) At such time as Contractor may become an employee of the Company.

For purposes of this Agreement, "Cause" shall mean any of the following: (i) continued failure by Contractor to substantially perform his obligations to the Company under this Agreement (other than as a result of Contractor's incapacity due to any medically determinable physical or mental impairment), (ii) any act of fraud or intentional misconduct by Contractor in connection with Contractor's responsibilities to the Company under this Agreement that is materially injurious to the Company; or (iii) Contractor's conviction of a felony.

For purposes of this Agreement, "Good Reason" shall mean the occurrence of any of the following events or conditions without Contractor's written consent: (i) any material diminution of Contractor's compensation under this Agreement; or (ii) a material change in the geographic location at which Contractor must perform Contractor's duties under this Agreement, except for reasonably required travel by the Company; provided that the Contractor has given the Company written notice of his intent to resign for Good Reason no later than ninety (90) days after the time at which the event or condition giving rise to Good Reason first occurs or arises, and the Company shall not have cured such Good Reason event within thirty (30) days following receipt of such notice from the Contractor.

For purposes of this Agreement, "permanent disability" shall mean Contractor is unable to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death or can be expected to last for a continuous period of not less than 12 months.

10. Modifications . No modification of this Agreement shall be valid unless made in writing and signed by the parties hereto.

11. Governing Law . This Agreement shall be governed by and construed in accordance with the laws of California, exclusive of its choice of law provisions.

12. Arbitration Clause . Any controversy or claim arising out of or relating to this Agreement or breach thereof shall be settled promptly by arbitration with one (1) arbitrator in San Francisco County, California, in accordance with the then existing rules of JAMS, Inc.; provided, however, that the arbitrator shall have no authority to add to, modify, change or disregard any lawful terms of this Agreement. The decision of the arbitrator shall be final and binding, and judgment on the arbitration award may be entered in any court having jurisdiction over the subject matter of the controversy. Arbitration shall be the exclusive final remedy for any dispute between the parties; provided, however, that this provision shall not prevent either party from seeking injunctive relief for any violation of the Proprietary Agreement.

13. Entire Agreement. This Agreement (including the documents referred to herein) constitutes the entire agreement among the parties and supersedes any prior understandings, agreements or representations by or among the parties, written or oral, to the extent they relate in any way to the subject matter hereof.

14. Acknowledgment. Contractor certifies and acknowledges that Contractor has carefully read all of the provisions of this Agreement and the Proprietary Agreement and Contractor understands and will fully and faithfully comply with such provisions. Contractor agrees that this Agreement, together with the Proprietary Agreement, supersedes and cancels any and all previous agreements of whatever nature between the Company and Contractor with respect to the matters covered herein and in the Proprietary Agreement. This Agreement, together with the Proprietary Agreement, constitutes the full, complete and exclusive agreement between Contractor and the Company with respect to the subject matters herein and in the Proprietary Agreement.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the Effective Date.

INVITAE CORPORATION

By: /s/ Lee Bendekgey

Name: Lee Bendekgey

Title: COO

CONTRACTOR:

/s/ Scott R. Burell

Name: Scott R. Burell

EXHIBIT A

Confidential Information, Invention Assignment and Arbitration Agreement

[attached hereto]

INVITAE CORPORATION
CONFIDENTIAL INFORMATION,
INVENTION ASSIGNMENT AND ARBITRATION AGREEMENT

In connection with my performance of services for Invitae Corporation (the “**Company**”) pursuant to the Independent Contractor Agreement (“**Contractor Agreement**”) to which this Agreement is attached, I agree to the following provisions of this Invitae Corporation Confidential Information, Invention Assignment and Arbitration Agreement (this “**Agreement**”):

1. CONFIDENTIALITY

A. *Definition of Confidential Information* . “Services” means those services I am providing pursuant to the Contractor Agreement. I understand that “**Company Confidential Information**” means information that the Company has or will develop, acquire, create, compile, discover or own, that has value in or to the Company’s business which is not generally known and which the Company takes reasonable steps to maintain as confidential. Company Confidential Information includes both information disclosed by the Company to me, and information developed or learned by me during the course of my performance of Services with the Company (referred to herein as my “engagement”). Company Confidential Information also includes all information of which the unauthorized disclosure could be detrimental to the interests of Company, whether or not such information is identified as Company Confidential Information. By example, and without limitation, Company Confidential Information includes any and all non-public information that relates to the actual or anticipated business and/or products, research or development of the Company, or to the Company’s technical data, trade secrets, or know-how, including, but not limited to, research, product plans, or other information regarding the Company’s products or services and markets therefor, customer lists and customers (including, but not limited to, customers of the Company on which I called or with which I may become acquainted during the term of my engagement), software, developments, inventions, processes, formulas, technology, designs, drawings, engineering, hardware configuration information, marketing, finances, and other business information disclosed by the Company either directly or indirectly in writing, orally or by drawings or inspection of premises, parts, equipment, or other Company property. Notwithstanding the foregoing, Company Confidential Information shall not include any such information which I can establish (i) was publicly known or made generally available prior to the time of disclosure by Company to me; (ii) becomes publicly known or made generally available after disclosure by Company to me through no wrongful action or omission by me; or (iii) is in my rightful possession, without confidentiality obligations, at the time of disclosure by Company as shown by my then-contemporaneous written records.

B. *Nonuse and Nondisclosure* . I agree that during and after my engagement with the Company, I will hold in the strictest confidence, and take all reasonable precautions to prevent any unauthorized use or disclosure of Company Confidential Information, and I will not (i) use the Company Confidential Information for any purpose whatsoever other than for the benefit of the Company in the course of my engagement, or (ii) disclose the Company Confidential Information to any third party without the prior written authorization of the President, CEO, or the Board of Directors of the Company. Prior to disclosure when compelled by applicable law; I shall provide prior written notice to the President, CEO, and General Counsel of Invitae, Inc. (as applicable). I agree that I obtain no title to any Company

Confidential Information, and that as between Company and myself, Invitae, Inc. retains all Confidential Information as the sole property of Invitae, Inc. I understand that my unauthorized use or disclosure of Company Confidential Information during my engagement may lead to disciplinary action, up to and including immediate termination and legal action by the Company. I understand that my obligations under this **Section 1.B** shall continue after termination of my engagement.

C. *Former Employer Confidential Information* . I agree that during my engagement with the Company, I will not improperly use, disclose, or induce the Company to use any proprietary information or trade secrets of any former employer or other person or entity with which I have an obligation to keep in confidence. I further agree that I will not bring onto the Company's premises or transfer onto the Company's technology systems any unpublished document, proprietary information, or trade secrets belonging to any such third party unless disclosure to, and use by, the Company has been consented to in writing by such third party.

D. *Third Party Information* . I recognize that the Company has received and in the future will receive from third parties associated with the Company, e.g., the Company's customers, suppliers, licensors, licensees, partners, or collaborators (" **Associated Third Parties** "), their confidential or proprietary information (" **Associated Third Party Confidential Information** ") subject to a duty on the Company's part to maintain the confidentiality of such Associated Third Party Confidential Information and to use it only for certain limited purposes. By way of example, Associated Third Party Confidential Information may include the habits or practices of Associated Third Parties, the technology of Associated Third Parties, requirements of Associated Third Parties, and information related to the business conducted between the Company and such Associated Third Parties. I agree at all times during my engagement with the Company and thereafter, that I owe the Company and its Associated Third Parties a duty to hold all such Associated Third Party Confidential Information in the strictest confidence, and not to use it or to disclose it to any person, firm, corporation, or other third party except as necessary in carrying out my work for the Company consistent with the Company's agreement with such Associated Third Parties. I further agree to comply with any and all Company policies and guidelines that may be adopted from time to time regarding Associated Third Parties and Associated Third Party Confidential Information. I understand that my unauthorized use or disclosure of Associated Third Party Confidential Information or violation of any Company policies during my engagement may lead to disciplinary action, up to and including immediate termination and legal action by the Company.

2. OWNERSHIP

A. *Assignment of Inventions* . As between Company and myself, I agree that, subject to Section 2(G), all right, title, and interest in and to any and all copyrightable material, notes, records, drawings, designs, inventions, improvements, developments, discoveries and trade secrets conceived, discovered, authored, invented, developed or reduced to practice by me, solely or in collaboration with others, during my engagement with the Company and while performing Services, (collectively, " **Inventions** "), are the sole property of the Company. I also agree to promptly make full written disclosure to Invitae, Inc. of any Inventions, and to deliver and assign and hereby irrevocably assign fully to Invitae, Inc. all of my right, title and interest in

and to Inventions. I agree that this assignment includes a present conveyance to Invitae, Inc. of ownership of Inventions that are not yet in existence. I further acknowledge that all original works of authorship that are made by me (solely or jointly with others) within the scope of and during the period of my engagement with the Company and that are protectable by copyright are “works made for hire,” as that term is defined in the United States Copyright Act to the maximum extent permitted by applicable law. I understand and agree that the decision whether or not to commercialize or market any Inventions is within the Company’s sole discretion and for the Company’s sole benefit, and that no royalty or other consideration will be due to me as a result of the Company’s efforts to commercialize or market any such Inventions.

B. *Pre-Existing Materials* . I have attached hereto as Exhibit A , a list describing all inventions, discoveries, original works of authorship, developments, improvements, trade secrets and other proprietary information or intellectual property rights owned by me or in which I have an interest prior to, or separate from, my engagement with the Company and which relate to the Company’s proposed business, products, or research and development (“ **Prior Inventions** ”); or, if no such list is attached, I represent and warrant that there are no such Prior Inventions. Furthermore, I represent and warrant that if any Prior Inventions are included on Exhibit A , they will not materially affect my ability to perform all obligations under this Agreement. Nothing in this Agreement transfers or assigns any ownership of any rights in Prior Inventions to the Company and the parties acknowledge that I retain all of my right, title and interest in Prior Inventions. I will inform Invitae, Inc. in writing before incorporating such Prior Inventions into any Invention or otherwise utilizing such Prior Invention in the course of my engagement with the Company. I will not incorporate any invention, improvement, development, concept, discovery, work of authorship or other proprietary information owned by any third party into any Invention without Invitae, Inc.’s prior written permission.

C. *Moral Rights* . Any assignment to Invitae, Inc. of Inventions includes all rights of attribution, paternity, integrity, modification, disclosure and withdrawal, and any other rights throughout the world that may be known as or referred to as “moral rights,” “artist’s rights,” “droit moral,” or the like (collectively, “ **Moral Rights** ”) that I may have in Inventions. To the extent that Moral Rights cannot be assigned under applicable law, I hereby waive and agree not to enforce any and all Moral Rights, including, without limitation, any limitation on subsequent modification, to the extent permitted under applicable law.

D. *Maintenance of Records* . I agree to keep and maintain adequate, current, accurate, and authentic written records of all Inventions made by me (solely or jointly with others) during the term of my engagement with the Company. The records will be in the form of notes, sketches, drawings, electronic files, reports, or any other format that may be specified by the Company. As between Company and myself, the records are and will be available to and remain the sole property of Invitae, Inc. at all times.

E. *Further Assurances* . I agree to assist the Company, or its designee, at the Company’s expense, in every proper way to secure the Company’s rights in the Inventions in any and all countries, including the disclosure to the Company of all pertinent information and data with respect thereto, the execution of all applications, specifications, oaths, assignments, and all other instruments that the Company shall deem proper or necessary in order to apply for, register, obtain, maintain, defend, and enforce such rights, and in order to deliver, assign and

convey to the Company, its successors, assigns, and nominees the sole and exclusive rights, title, and interest in and to all Inventions, and testifying in a suit or other proceeding relating to such Inventions. I further agree that my obligations under this **Section 2.E** shall continue after the termination of this Agreement.

F. *Attorney-in-Fact* . I agree that, if the Company is unable because of my unavailability, mental or physical incapacity, or for any other reason to secure my signature with respect to any Inventions, including, without limitation, for the purpose of applying for or pursuing any application for any United States or foreign patents or mask work or copyright registrations covering the Inventions assigned to Invitae, Inc. in **Section 2.A**, then I hereby irrevocably designate and appoint the Company and its duly authorized officers and agents as my agent and attorney-in-fact, to act for and on my behalf to execute and file any papers and oaths, and to do all other lawfully permitted acts with respect to such Inventions to further the prosecution and issuance of patents, copyright and mask work registrations with the same legal force and effect as if executed by me. This power of attorney shall be deemed coupled with an interest, and shall be irrevocable.

G. *Exception to Assignments* . I UNDERSTAND THAT THE PROVISIONS OF THIS AGREEMENT REQUIRING ASSIGNMENT OF INVENTIONS TO THE COMPANY DO NOT APPLY TO ANY INVENTION THAT WAS DEVELOPED ENTIRELY ON MY OWN TIME WITHOUT USING COMPANY'S EQUIPMENT, SUPPLIES, FACILITIES, OR TRADE SECRET INFORMATION EXCEPT FOR THOSE INVENTIONS THAT EITHER: (1) RELATE AT THE TIME OF CONCEPTION OR REDUCTION TO PRACTICE OF THE INVENTION TO THE COMPANY'S BUSINESS, OR ACTUAL OR DEMONSTRABLY ANTICIPATED RESEARCH OR DEVELOPMENT OF THE COMPANY; OR (2) RESULT FROM ANY WORK PERFORMED BY ME FOR THE COMPANY.

3. C ONFLICTING O BLIGATIONS

A. *Current Obligations*. I agree that during the term of my engagement with the Company, I will not engage in any other activities that conflict with my obligations to the Company.

B. *Prior Relationships* . Without limiting **Section 3.A** , I represent and warrant that I have no other agreements, relationships, or commitments to any other person or entity that require me to take any actions that conflict with my obligations to the Company under this Agreement, or negatively affect my ability to perform the services pursuant to this Agreement. I further agree that if I have signed a confidentiality agreement or similar type of agreement with any former employer or other entity, I will comply with the terms of any such agreement to the extent that its terms are lawful under applicable law. I represent and warrant that after undertaking a careful search (including searches of my computers, cell phones, electronic devices, and documents), I have returned all property and confidential information belonging to all prior employers (and/or other third parties I have performed services for in accordance with the terms of my applicable agreement). Moreover, I agree to fully indemnify the Company, its directors, officers, agents, employees, investors, shareholders, administrators, affiliates, divisions, subsidiaries, predecessor and successor corporations, and assigns for all verdicts,

judgments, settlements, and other losses incurred by any of them resulting from my breach of my obligations under any agreement with a third party to which I am a party or obligation to which I am bound, as well as any reasonable attorneys' fees and costs if the plaintiff is the prevailing party in such an action, except as prohibited by law.

4. RETURN OF COMPANY MATERIALS

Upon separation from engagement with the Company, on Company's earlier request during my engagement, or at any time subsequent to my engagement upon demand from the Company, I will immediately deliver to Invitae, Inc., and will not keep in my possession, recreate, or deliver to anyone else, any and all Company property, including, but not limited to, Company Confidential Information, Associated Third Party Confidential Information, all devices and equipment belonging to the Company (including computers, handheld electronic devices, telephone equipment, and other electronic devices), all tangible embodiments of the Inventions, all electronically stored information and passwords to access such property, Company credit cards, records, data, notes, notebooks, reports, files, proposals, lists, correspondence, specifications, drawings, blueprints, sketches, materials, photographs, charts, any other documents and property, and reproductions of any of the foregoing items, including, without limitation, those records maintained pursuant to **Section 2.D**. I also consent to an exit interview to confirm my compliance with this **Article 4**.

5. TERMINATION CERTIFICATION

Upon separation from engagement with the Company, I agree to immediately sign and deliver to the Company the "Termination Certification" attached hereto as Exhibit C. I also agree to keep the Company advised of my home and business address for a period of three (3) years after termination of my engagement with the Company, so that the Company can contact me regarding my continuing obligations provided by this Agreement.

6. SOLICITATION OF EMPLOYEES

To the fullest extent permitted under applicable law, I agree that during my engagement and for a period of twelve (12) months immediately following the termination of my relationship with the Company for any reason, whether voluntary or involuntary, with or without cause, I will not directly or indirectly solicit any of the Company's employees to leave their employment at the Company. I agree that nothing in this **Article 6** shall affect my continuing obligations under this Agreement during and after this twelve (12) month period, including, without limitation, my obligations under **Article 1**.

7. CONFLICT OF INTEREST GUIDELINES

I agree to diligently adhere to the Company's Insider Trading and Communications Policy and Conflict of Interest Guidelines. A copy of the Company's current Insider Trading and Communications Policy and Conflict of Interest Guidelines are attached as Exhibits D and E hereto, but I understand that these Conflict of Interest Guidelines and the Insider Trading and Communications Policy may be revised from time to time during my engagement.

8. REPRESENTATIONS

Without limiting my obligations under **Section 2.E** above, I agree to execute any proper oath or verify any proper document required to carry out my obligations under the terms of this Agreement. I represent and warrant that my performance of all the terms of this Agreement will not breach any agreement to keep in confidence information acquired by me in confidence or in trust prior to my engagement by the Company. I hereby represent and warrant that I have not entered into, and I will not enter into, any oral or written agreement in conflict herewith.

9. AUDIT

I acknowledge that I have no reasonable expectation of privacy in any of the Company's computer, technology system, email, handheld device, telephone, voicemail, or documents that are used to conduct the business of the Company. All information, data, and messages created, received, sent, or stored in these systems are, at all times, the property of the Company. As such, the Company has the right to audit and search all such items and systems, without further notice to me, to ensure that the Company is licensed to use the software on the Company's devices in compliance with the Company's software licensing policies, to ensure compliance with the Company's policies, and for any other business-related purposes in the Company's sole discretion. I understand that I am not permitted to add any unlicensed, unauthorized, or non-compliant applications to the Company's technology systems, including, without limitation, open source or free software not authorized by the Company, and that I shall refrain from copying unlicensed software onto the Company's technology systems or using non-licensed software or websites. I understand that it is my responsibility to comply with the Company's policies governing use of the Company's documents and the internet, email, telephone, and technology systems to which I will have access in connection with my engagement.

I am aware that the Company has or may acquire software and systems that are capable of monitoring and recording all network traffic to and from any Company computer I may use. The Company reserves the right to access, review, copy, and delete any of the information, data, or messages accessed through these systems with or without notice to me and/or in my absence. This includes, but is not limited to, all e-mail messages sent or received, all website visits, all chat sessions, all news group activity (including groups visited, messages read, and postings by me), and all file transfers into and out of the Company's internal networks. The Company further reserves the right to retrieve previously deleted messages from e-mail or voicemail and monitor usage of the Internet, including websites visited and any information I have downloaded while using any Company computers. In addition, the Company may review Internet and technology systems activity for Company computers I may use and analyze usage patterns, and may choose to publicize this data to assure that technology systems are devoted to legitimate business purposes.

10. ARBITRATION AND EQUITABLE RELIEF

A. *Arbitration*. IN CONSIDERATION OF MY ENGAGEMENT WITH THE COMPANY, ITS PROMISE TO ARBITRATE ALL DISPUTES, AND MY RECEIPT OF THE COMPENSATION, PAY RAISES, AND OTHER BENEFITS PAID TO ME BY THE COMPANY, AT PRESENT AND IN THE FUTURE, I AGREE THAT, SUBJECT TO THE EXCEPTIONS LISTED BELOW, ANY AND ALL CONTROVERSIES, CLAIMS, OR DISPUTES WITH ANYONE (INCLUDING THE COMPANY AND ANY EMPLOYEE, OFFICER, DIRECTOR, SHAREHOLDER, OR BENEFIT PLAN OF THE COMPANY, IN THEIR CAPACITY AS SUCH OR OTHERWISE), ARISING OUT OF, RELATING TO, OR RESULTING FROM MY ENGAGEMENT WITH THE COMPANY OR THE TERMINATION OF MY ENGAGEMENT WITH THE COMPANY, INCLUDING ANY

BREACH OF THIS AGREEMENT, SHALL BE SUBJECT TO BINDING ARBITRATION UNDER THE ARBITRATION RULES SET FORTH IN CALIFORNIA CODE OF CIVIL PROCEDURE SECTION 1280 THROUGH 1294.2, INCLUDING SECTION 1281.8 (THE “ ACT ”), AND PURSUANT TO CALIFORNIA LAW. THE FEDERAL ARBITRATION ACT SHALL CONTINUE TO APPLY WITH FULL FORCE AND EFFECT NOTWITHSTANDING THE APPLICATION OF PROCEDURAL RULES SET FORTH IN THE ACT. THE COMPANY AGREES THAT, NOTWITHSTANDING ANYTHING IN THIS AGREEMENT TO THE CONTRARY, I MAY BRING ACTIONS OR CLAIMS IN ANY COURT OF COMPETENT JURISDICTION FOR ANY CLAIMS I MAY HAVE RELATED TO INTELLECTUAL PROPERTY OWNERSHIP OR INFRINGEMENT.

B. *Procedure* . I AGREE THAT ANY ARBITRATION WILL BE ADMINISTERED BY JAMS, INC. (“ JAMS ”), PURSUANT TO ITS COMPREHENSIVE ARBITRATION RULES & PROCEDURES (THE “ JAMS RULES ”). I AGREE THAT THE ARBITRATOR SHALL HAVE THE POWER TO DECIDE ANY MOTIONS BROUGHT BY ANY PARTY TO THE ARBITRATION, INCLUDING MOTIONS FOR SUMMARY JUDGMENT AND/OR ADJUDICATION, AND MOTIONS TO DISMISS AND DEMURRERS, PRIOR TO ANY ARBITRATION HEARING. I AGREE THAT THE ARBITRATOR SHALL ISSUE A WRITTEN DECISION ON THE MERITS. I ALSO AGREE THAT THE ARBITRATOR SHALL HAVE THE POWER TO AWARD ANY REMEDIES AVAILABLE UNDER APPLICABLE LAW, AND THAT THE ARBITRATOR SHALL AWARD ATTORNEYS’ FEES AND COSTS TO THE PREVAILING PARTY, EXCEPT AS PROHIBITED BY LAW. I AGREE THAT THE DECREE OR AWARD RENDERED BY THE ARBITRATOR MAY BE ENTERED AS A FINAL AND BINDING JUDGMENT IN ANY COURT HAVING JURISDICTION THEREOF. I UNDERSTAND THAT THE COMPANY WILL PAY FOR ANY ADMINISTRATIVE OR HEARING FEES CHARGED BY THE ARBITRATOR OR JAMS EXCEPT THAT I SHALL PAY ANY FILING FEES ASSOCIATED WITH ANY ARBITRATION THAT I INITIATE, BUT ONLY SO MUCH OF THE FILING FEES AS I WOULD HAVE INSTEAD PAID HAD I FILED A COMPLAINT IN A COURT OF LAW. I AGREE THAT THE ARBITRATOR SHALL ADMINISTER AND CONDUCT ANY ARBITRATION IN ACCORDANCE WITH CALIFORNIA LAW, INCLUDING THE CALIFORNIA CODE OF CIVIL PROCEDURE, AND THAT THE ARBITRATOR SHALL APPLY SUBSTANTIVE AND PROCEDURAL CALIFORNIA LAW TO ANY DISPUTE OR CLAIM, WITHOUT REFERENCE TO RULES OF CONFLICT OF LAW. TO THE EXTENT THAT THE JAMS RULES CONFLICT WITH CALIFORNIA LAW, CALIFORNIA LAW SHALL TAKE PRECEDENCE. I AGREE THAT ANY ARBITRATION UNDER THIS AGREEMENT SHALL BE CONDUCTED IN SAN FRANCISCO COUNTY, CALIFORNIA.

C. *Remedy* . EXCEPT FOR THE EXCEPTIONS AS PROVIDED BY THE ACT AND THIS AGREEMENT, ARBITRATION SHALL BE THE SOLE, EXCLUSIVE, AND FINAL REMEDY FOR ANY DISPUTE BETWEEN ME AND THE COMPANY. ACCORDINGLY, EXCEPT AS PROVIDED FOR BY THE ACT AND THIS AGREEMENT, NEITHER I NOR THE COMPANY WILL BE PERMITTED TO PURSUE COURT ACTION REGARDING CLAIMS THAT ARE SUBJECT TO ARBITRATION.

D. *Administrative Relief* . PURPOSELY BLANK.

E. *Voluntary Nature of Agreement* . I ACKNOWLEDGE AND AGREE THAT I AM EXECUTING THIS AGREEMENT VOLUNTARILY AND WITHOUT ANY DURESS OR UNDUE INFLUENCE BY THE COMPANY OR ANYONE ELSE. I FURTHER ACKNOWLEDGE AND AGREE THAT I HAVE CAREFULLY READ THIS AGREEMENT AND THAT I HAVE ASKED ANY QUESTIONS NEEDED FOR ME TO UNDERSTAND THE TERMS, CONSEQUENCES, AND BINDING EFFECT OF THIS AGREEMENT AND FULLY UNDERSTAND IT, INCLUDING THAT TO THE EXTENT PERMITTED BY LAW, ***I AM WAIVING MY RIGHT TO A JURY TRIAL*** . FINALLY, I AGREE THAT I HAVE BEEN PROVIDED AN OPPORTUNITY TO SEEK THE ADVICE OF AN ATTORNEY OF MY CHOICE BEFORE SIGNING THIS AGREEMENT.

11. MISCELLANEOUS

A. *Governing Law; Consent to Personal Jurisdiction* . This Agreement will be governed by the laws of the State of California without regard to California's conflicts of law rules that may result in the application of the laws of any jurisdiction other than California. To the extent that any lawsuit is permitted under this Agreement, I hereby expressly consent to the personal and exclusive jurisdiction and venue of the state and federal courts located in California for any lawsuit filed against me by the Company.

B. *Assignability* . This Agreement will be binding upon my heirs, executors, assigns, administrators, and other legal representatives, and will be for the benefit of the Company, its successors, and its assigns. There are no intended third-party beneficiaries to this Agreement, except as may be expressly otherwise stated. Notwithstanding anything to the contrary herein, Invitae, Inc. may assign this Agreement and its rights and obligations under this Agreement to any successor to all or substantially all of Invitae, Inc.'s relevant assets, whether by merger, consolidation, reorganization, reincorporation, sale of assets or stock, or otherwise.

C. *Entire Agreement* . This Agreement, together with the Exhibits herein and any executed written offer letter between me and the Company, to the extent such materials are not in conflict with this Agreement, sets forth the entire agreement and understanding between the Company and me with respect to the subject matter herein and supersedes all prior written and oral agreements, discussions, or representations between us, including, but not limited to, any representations made during my interview(s) or relocation negotiations. I represent and warrant that I am not relying on any statement or representation not contained in this Agreement. Any subsequent change or changes in my duties, salary, or compensation will not affect the validity or scope of this Agreement.

D. *Headings* . Headings are used in this Agreement for reference only and shall not be considered when interpreting this Agreement.

E. *Severability* . If a court or other body of competent jurisdiction finds, or the Parties mutually believe, any provision of this Agreement, or portion thereof, to be invalid or unenforceable, such provision will be enforced to the maximum extent permissible so as to effect the intent of the Parties, and the remainder of this Agreement will continue in full force and effect.

F. *Modification, Waiver.* No modification of or amendment to this Agreement, nor any waiver of any rights under this Agreement, will be effective unless in a writing signed by the President or CEO of the Company and me. Waiver by the Company of a breach of any provision of this Agreement will not operate as a waiver of any other or subsequent breach.

G. *Survivorship.* The rights and obligations of the parties under this Agreement will survive termination of my engagement with the Company.

Date: _____

Signature

(typed or printed)

Witness:

Signature

Name (typed or printed)

EXHIBIT A

**LIST OF PRIOR INVENTIONS
AND ORIGINAL WORKS OF AUTHORSHIP**

Title	Date	Identifying Number or Brief Description
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No inventions or improvements

Additional Sheets Attached

Date: _____

Signature

Name (typed or printed)

EXHIBIT B

PURPOSELY BLANK

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EXHIBIT C

INVITAE CORPORATION TERMINATION CERTIFICATION

This is to certify that I do not have in my possession, nor have I failed to return, any devices, records, data, notes, reports, proposals, lists, correspondence, specifications, drawings, blueprints, sketches, materials, equipment, any other documents or property, or reproductions of any and all aforementioned items belonging to Invitae, Inc., its subsidiaries, affiliates, successors or assigns (together, the “ **Company** ”).

I further certify that I have complied with all the terms of the Company’s Confidential Information, Invention Assignment, and Arbitration Agreement signed by me, including the reporting of any inventions and original works of authorship (as defined therein) conceived or made by me (solely or jointly with others), as covered by that agreement.

I further agree that, in compliance with the Confidential Information, Invention Assignment, and Arbitration Agreement, I will preserve as confidential all Company Confidential Information and Associated Third Party Confidential Information, including trade secrets, confidential knowledge, data, or other proprietary information relating to products, processes, know-how, designs, formulas, developmental or experimental work, computer programs, databases, other original works of authorship, customer lists, business plans, financial information, or other subject matter pertaining to any business of the Company or any of its employees, clients, consultants, or licensees.

I also agree that for twelve (12) months from this date, I will not directly or indirectly solicit any of the Company’s employees to leave their employment at the Company. I agree that nothing in this paragraph shall affect my continuing obligations under the Confidential Information, Invention Assignment, and Arbitration Agreement during and after this twelve (12) month period, including, without limitation, my obligations under **Article 1** (Confidentiality) thereof.

Date: _____

Signature

Name (typed or printed)

Address for Notifications:

EXHIBIT D

INVITAE CORPORATION CONFLICT OF INTEREST GUIDELINES

It is the policy of Invitae, Inc. to conduct its affairs in strict compliance with the letter and spirit of the law and to adhere to the highest principles of business ethics. Accordingly, all officers, employees, and independent contractors must avoid activities that are in conflict, or give the appearance of being in conflict, with these principles and with the interests of the Company. The following are potentially compromising situations that must be avoided:

1. Revealing confidential information to outsiders or misusing confidential information. Unauthorized divulging of information is a violation of this policy whether or not for personal gain and whether or not harm to the Company is intended. (The Confidential Information, Invention Assignment, and Arbitration Agreement elaborates on this principle and is a binding agreement.)
2. Accepting or offering substantial gifts, excessive entertainment, favors, or payments that may be deemed to constitute undue influence or otherwise be improper or embarrassing to the Company.
3. Participating in civic or professional organizations that might involve divulging confidential information of the Company.
4. Initiating or approving personnel actions affecting reward or punishment of employees or applicants where there is a family relationship or is or appears to be a personal or social involvement.
5. Initiating or approving any form of personal or social harassment of employees.
6. Investing or holding outside directorship in suppliers, customers, or competing companies, including financial speculations, where such investment or directorship might influence in any manner a decision or course of action of the Company.
7. Borrowing from or lending to employees, customers, or suppliers.
8. Acquiring real estate of interest to the Company.
9. Improperly using or disclosing to the Company any proprietary information or trade secrets of any former or concurrent employer or other person or entity with whom obligations of confidentiality exist.
10. Unlawfully discussing prices, costs, customers, sales, or markets with competing companies or their employees.
11. Making any unlawful agreement with distributors with respect to prices.
12. Improperly using or authorizing the use of any inventions that are the subject of patent claims of any other person or entity.
13. Engaging in any conduct that is not in the best interest of the Company.

Each officer, employee, and independent contractor must take every necessary action to ensure compliance with these guidelines and to bring problem areas to the attention of higher management for review. Violations of this conflict of interest policy may result in discharge without warning.

EXHIBIT E

INVITAE CORPORATION INSIDER TRADING AND COMMUNICATIONS POLICY

[ATTACHED]

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INVITAE CORPORATION

Insider Trading and Communications Policy

Policy as to Trades in the Company's Securities By Company Personnel and Treatment of Confidential Information

1. Purpose.

Both the Securities and Exchange Commission (the “*SEC*”) and Congress are very concerned about maintaining the fairness and integrity of the U.S. capital markets. The securities laws are continually reviewed and amended to prevent people from taking advantage of “inside information” and to increase the punishment for those who do. These laws require publicly-traded companies to have clear policies on insider trading. If companies like ours do not take active steps to adopt preventive policies and procedures covering securities trades by company personnel, the consequences could be severe.

We are adopting this Insider Trading and Communications Policy to avoid even the appearance of improper conduct on the part of anyone employed by or associated with our Company (not just so-called insiders). We have all worked hard to establish our reputation for integrity and ethical conduct. We cannot afford to damage this reputation.

2. Applicability.

This policy applies to all employees, members of the Board of Directors, consultants and contractors of the Company (the “*Individuals*”).

3. The Consequences.

The consequences of insider trading violations can be substantial:

For *Individuals* who trade on inside information (or tip information to others):

- A jail term of up to 20 years (30 years in certain circumstances);
- A civil penalty of up to three times the profit gained or loss avoided; and
- A criminal fine (no matter how small the profit) of up to \$5 million.

For a company (as well as possibly any supervisory person) that fails to take appropriate steps to prevent illegal trading:

- A civil penalty of the greater of \$1 million or three times the profit gained or loss avoided as a result of the Individual's violation; and
- A criminal penalty of up to \$25 million.

In addition, plaintiffs may claim that Individuals or the Company are also liable to contemporaneous traders.

Further, if the Company has a reasonable basis to conclude that an employee has violated the Company's insider trading and communications policy, whether or not knowingly, the Company may impose sanctions, including dismissal for cause. Needless to say, any of the above consequences, even an SEC investigation that does not result in prosecution, can tarnish one's reputation (as well as the Company's) and irreparably damage a career. Finally, the size of a transaction has no impact on potential insider trading liability. In the past, even relatively small trades (e.g., trades as small as \$400) have resulted in SEC investigations and lawsuits.

4. Our Policy.

No Trading When in Possession of Material Non-Public Information . If a member of the Board of Directors, officer, any employee, consultant or contractor of the Company or any subsidiary of the Company has possession of material non-public information (often referred to as "inside information") relating to our Company or any other securities as to which the person receives information not available to investors generally, it is our policy that neither that person nor any related person may buy or sell securities of the Company, make a gift of Company securities, or engage in any other action to take advantage of, or pass on to others, that information. This policy also applies to information relating to any other company, including our customers or partners, obtained in the course of you rendering services to the Company or any subsidiary of the Company.

Transactions that may be necessary or justifiable for independent reasons (such as the need to raise money for an emergency expenditure) are no exception. Even the appearance of an improper transaction must be avoided to preserve our reputation for adhering to the highest standards of conduct.

What is Material Information? "Material information" is any information that a reasonable investor would consider important in deciding whether to buy, hold or sell securities of the Company or any other securities as to which the person receives information not available to investors generally. In short, "material information" includes any information that reasonably could affect the price of our securities or any other securities. Either positive or negative information may be material. It can be information about the Company or about a company with which we do business.

Examples: Common examples of information that will frequently be regarded as material are:

- projections of future earnings, losses or other business activity;
- news of a possible merger, acquisition or tender offer;
- news of a possible license agreement, collaboration or partnership;
- significant new products or delays in new product introduction or development;

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- plans to raise additional capital through stock sales or otherwise;
 - the gain or loss of a significant partner or customer;
 - discoveries, or grants or allowances or disallowances of patents;
 - changes in management;
 - news of a significant sale of assets;
 - impending bankruptcy or financial liquidity problems; and
 - changes in dividend policies or the declaration of a stock split.

20/20 Hindsight . Remember, if your securities transactions become the subject of scrutiny, they will be viewed after-the-fact with the benefit of hindsight. As a result, before engaging in any transaction you should carefully consider how regulators and others might view your transaction in hindsight.

Transactions by Family Members . The same restrictions apply to your immediate family members and others living in your household. You are responsible for the compliance of your immediate family and personal household.

Transactions of non-residents . The same restrictions apply regardless of whether a person is resident within the United States.

Do Not Pass Information to Others . Whether the information is proprietary information about our Company or information that could have an impact on our stock price, employees must not pass the information on to others. It is illegal to advise others to trade on the basis of undisclosed material information. Liability in these cases can extend to both the “tippee” — the person to whom the insider disclosed inside information — and you, as the “tipper,” and will apply whether or not you derive any benefit from another’s actions. You should not make recommendations to others concerning the purchase or sale of securities of the Company.

When Information is Public . As you can appreciate, it is also improper for any employee to enter a trade immediately after the Company has made a public announcement of material information, including earnings releases. We impose certain “trading blackouts” to ensure that the Company’s stockholders and the investing public will be afforded the time to receive the information and act upon it. These are discussed below under the heading “Trading Blackouts.” To avoid the appearance of impropriety, as a general rule, you should not engage in any transaction until at least one full trading day has passed following the release of the information. Thus, if an announcement were made after the market close on a Monday, Wednesday generally would be the first day on which you would be able to trade. If an announcement were made after the market close on a Friday, Tuesday generally would be the first eligible trading day.

Pre-Clearance of Trades of Company Stock . To provide assistance in preventing inadvertent violations and avoiding even the appearance of an improper transaction (which could result, for example, where an employee engages in a trade while unaware of a pending major development), all members of the Board of Directors, officers and certain employees of the Company and its subsidiaries in a position to have access to material non-public information must obtain pre-clearance in writing from our Chief Financial Officer (or, in the case of our Chief Financial Officer, pre-clearance in writing from our Chief Executive Officer) of all transactions in Company securities (acquisitions, dispositions, transfers, gifts, etc.). You must submit a written request for pre-clearance of a transaction no later than three business days before the proposed date of execution of the transaction unless you obtain a waiver from the Audit Committee of the Board of Directors. You will be notified if you are one of the specified persons subject to this pre-clearance policy. Pre-clearance is subject to a five business day expiration and must be renewed by the applicant after five business days to be valid.

Pre-clearance does not relieve anyone of their responsibility under SEC rules. All Individuals, whether subject to pre-clearance or not, are responsible for adherence to this Insider Trading and Communications Policy, including, but not limited to: not trading on insider information; not trading during trading blackout periods; not trading for one full trading day after earnings announcements; and not trading in securities on a short-term basis. Individuals normally not subject to pre-clearance are still responsible for written pre-clearance for the sale of stock purchased in the open market and that has been owned less than six months. If any Individual is in doubt of whether or not pre-clearance is required, the Individual should inquire with our Chief Financial Officer or obtain pre-clearance as a cautionary measure.

Trading Blackouts . From time to time, the Company may require that members of the Board of Directors, officers, employees of the Company and subsidiaries of the Company and others to suspend trading because of developments known to the Company and not yet disclosed to the public. In that event, these persons are advised not to engage in any transaction involving the purchase or sale of the Company's securities during that period, and should not disclose to others the fact that they have been suspended from trading. The Company will also require the following mandatory trading blackout:

- **Earnings Trading Blackouts** – All members of the Board of Directors, officers, and employees of the Company or any subsidiary of the Company will be subject to a stock trading blackout period beginning two weeks prior to the end of a fiscal quarter until one full trading day has passed after earnings for that quarter are released.

Of course, no trading should be done at any time that a member of the Board of Directors, executive officer, employee, consultant or contractor is actually aware of a major undisclosed corporate development.

Options . Cash exercise of options may be done at any time. This policy also does not apply to the exercise of a tax withholding right pursuant to which you elect to have the Company withhold shares subject to an option to satisfy tax withholding requirements which occur as a result of certain option exercises. Same-day-sales and exercises of options are subject to trading windows, as are any other market sale of shares subject to the option for the purpose of generating the cash needed to pay the exercise price of an option (a "sell to cover").

Exception for Approved 10b5-1 Plans. Trades by members of the Board of Directors, officers or employees in the Company's securities that are executed pursuant to an approved 10b5-1 trading plan (a "*Trading Plan*") are not subject to the prohibition on trading on the basis of material non-public information contained in this Insider Trading and Communications Policy or to the restrictions set forth above relating to pre-clearance procedures and blackout periods.

SEC Rule 10b5-1 provides an affirmative defense from insider trading liability under the federal securities laws for trading plans that meet certain requirements. It does not prevent someone from bringing a lawsuit. This Insider Trading and Communications Policy permits Individuals to adopt Trading Plans with brokers that outline a pre-set plan for trading of the Company's securities, including the exercise of options. Trading Plans are to be implemented only during open windows and when the Individual is not aware of any material non-public information.

Any Trading Plan must comply with SEC Rule 10b5-1 and be approved in writing in advance by our Chief Financial Officer (or, in the case of our Chief Financial Officer, approved in writing in advance by our Chief Executive Officer) and the establishment of such a Trading Plan with respect to an Individual may be publicly announced by the Company.

Establishing a Trading Plan does not exempt Individuals from complying with the Section 16 six-month short swing profit rules or liability.

Revocation/Amendments to Trading Plans . An Individual may revoke his or her Trading Plan at any time, subject to the terms of the Individual's Trading Plan. However, if the Individual terminates the Trading Plan after the first option exercise or stock sale, then the Individual must cancel all outstanding Trading Plans and agree not to enter into another Trading Plan until six months after termination of the Trading Plan.

Under certain circumstances, a Trading Plan must be revoked. This includes circumstances such as the announcement of a merger or the occurrence of an event that would cause the transaction either to violate the law or to have an adverse effect on the Company. The Chief Financial Officer or his designee or any stock administrator of the Company is authorized to notify the broker in such circumstances, thereby insulating the insider in the event of revocation.

Amendments to Trading Plans will not be allowed once the Trading Plan is in place with the consent of the Board of Directors, unless such amendment becomes effective not less than six months after the Individual is bound by such amendment.

Post-Termination Transactions . This Insider Trading and Communications Policy continues to apply to your transactions in Company securities even after your employment, board service or consulting services terminate. If you are in possession of material nonpublic information when your service to the Company or a subsidiary of the Company terminates, you may not trade in Company securities until that information has become public or is no longer material.

5. Additional Prohibited Transactions.

We believe it is improper and inappropriate for any Individual to engage in short-term or speculative transactions involving Company securities. We believe that this trading can reflect badly on the Company and that Individuals should not engage in any types of transactions that are commonly viewed as a form of “betting” for or against the Company. Accordingly, it is the Company’s policy that members of the Board of Directors, officers, employees, consultants and contractors may not engage in any of the following activities with respect to securities of the Company, without prior written pre-clearance:

- **Director and officer cashless exercise** – In response to the restrictions set forth in the Sarbanes-Oxley Act of 2002, the Company will not arrange with brokers to administer cashless exercises on behalf of directors and officers of the Company. Directors and officers of the Company may only utilize the cashless exercise feature of their options if (i) the director or officer retains a broker independently of the Company, (ii) the Company’s involvement is limited to confirming that it will deliver the stock promptly upon payment of the exercise price and (iii) the director or officer uses a “T+3” cashless exercise arrangement, in which the Company agrees to deliver stock against the payment of the purchase price on the same day the sale of the stock underlying the option settles. Under a T+3 cashless exercise, a stock broker, the issuer, and the transfer agent of the issuer work together to make all transactions settle simultaneously. This approach is to avoid any inference that the Company has “extended credit” in the form of a personal loan to the director or executive officer. Any employee who has any questions about cashless exercises may obtain additional guidance from our Chief Financial Officer.
- **Director and officer trading during pension and 401(k) plan blackout periods** – If Company securities are available as an investment option or used as a Company match in the Company’s 401(k) plan, directors and officers of the Company are prohibited from trading Company securities during pension and 401(k) plan blackouts, if any, in response to the restrictions set forth in the Sarbanes-Oxley Act of 2002.
- **Purchases of Company securities on margin** — This means borrowing from a brokerage firm, bank or other entity in order to buy Company securities (other than in connection with a so-called “cashless” exercise of options under the Company’s stock plans).
- **Short sales of Company securities** — This involves selling Company securities that you do not own in the expectation that the price of the securities will fall, or as part of an arbitrage transaction.
- **Buying or selling puts or calls, or their equivalent positions, on Company securities** — This includes options and derivatives trading on any of the stock exchanges or futures exchanges, including cashless collars.

6. Confidential Information and Communications with the Media.

Unauthorized disclosure of internal information relating to the Company (including information regarding facilities, products or services or the Company's partners, suppliers or customers) could cause competitive harm to the Company and in some cases could result in liability for the Company.

Unauthorized Disclosure . Individuals should not disclose internal information about the Company to *anyone* outside the Company, except as required in the performance of regular duties for the Company. In this regard, Individuals are prohibited from posting internal information about the Company on a "bulletin board" or "blog" on the Internet, communicating about the Company and its business in Internet-based "chat" rooms or blogs or having a blog that discusses the Company and its business.

Communications with the Media, Securities Analysts and Investors . Communications on behalf of the Company with the media, securities analysts and investors must be made only by specifically designated representatives of the Company, as communications may be regulated by federal securities laws including but not limited to Regulation FD. Unless you have been expressly authorized to make such communications, if you receive any inquiry relating to the Company from the media, a securities analyst or an investor, you should refer the inquiry to our Chief Financial Officer.

Safeguarding Confidential Information . Care must be taken to safeguard the confidentiality of internal information. For example, sensitive documents should not be left lying on desks, and visitors should not be left unattended in offices containing internal company documents.

Rumors . Rumors concerning the business and affairs of the Company may circulate from time to time. Our general policy is not to comment upon those rumors. Individuals should also refrain from commenting upon or responding to rumors and should refer any requests for comments or responses to our Chief Financial Officer.

Analyst Reports . The Company views analyst reports as the proprietary information of the analyst's firm. The Company will not provide such reports on our corporate or other websites or through any other means to persons outside of the Company. The Company should avoid directing anyone outside the Company to an analyst report, in part to avoid the appearance of endorsing such a report.

7. Company Assistance.

Any person who has any questions about specific transactions may obtain additional guidance from our Chief Financial Officer.

Remember, however, you are ultimately responsible for adhering to this Insider Trading and Communications Policy and avoiding improper transactions. In this regard, it is imperative that you use your best judgment.

Section 16 Filings . While the Company expects to assist each officer, director and other employee subject to Section 16 reporting requirements (including immediate family members and others in their household) (collectively, "**Section 16 Reporting Persons**") with such Section 16 filings, and expects such assistance to include form preparation for all Section 16 Reporting Persons other than those who do not require such assistance, the obligation to file Section 16

reports (Forms 3, 4 and 5) is a personal obligation of each such person, and the Company is not responsible for any failure to file accurate and timely Section 16 reports. Each Section 16 Reporting Person must ensure that his or her broker provides the Company with detailed information (trade date, number of shares, exact price) regarding every transaction involving the securities of the Company, including gifts, transfers, pledges and all Rule 10b5-1 transactions, both in connection with mandatory pre-clearance requirements for such Section 16 Reporting Persons and immediately following execution.

8. Modifications.

This Insider Trading and Communications Policy has been approved by the Company's Board of Directors. Officers of the Company may, from time to time, make non-substantive modifications to this Insider Trading and Communications Policy (including, without limitation, substitution of the names of the appropriate contact persons within the Company) with subsequent notice to the Company's Board of Directors or the Nominating and Governance Committee of the Board of Directors.

9. Acknowledgements.

All directors, officers and employees of the Company and its subsidiaries will be required to acknowledge, electronically or in writing, their understanding of, and intent to comply with, this Insider Trading and Communications Policy. This agreement will constitute each such person's consent for the Company to issue any necessary stop-transfer orders to the Company's transfer agent to enforce compliance with this policy. As a condition of continued employment or engagement all employees, contractors and consultants must periodically acknowledge, electronically or in writing, that they have read and agree to abide by this policy.

ACKNOWLEDGMENT

I have received and read a copy of the Invitae Corporation Insider Trading and Communications Policy and I understand and agree to comply with the specific requirements of the policy. I agree that I will be subject to sanctions imposed by the Company, in its discretion, for violation of the Company's policy, including dismissal for cause, and that the Company may give stop-transfer and other instructions to the Company's transfer agent against transfer of Company securities by me in a transaction that the Company considers to be in contravention of this policy.

Signed: _____

Printed Name: _____

Date: _____

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the reference to our firm under the caption “Experts” in the Registration Statement (Form S-4) and related Prospectus/Proxy Statement of Invitae Corporation for the registration of up to 5,287,335 shares of its common stock and to the incorporation by reference therein of our report dated March 16, 2017, with respect to the consolidated financial statements of Invitae Corporation, included in its Annual Report (Form 10-K), as amended, for the year ended December 31, 2016, filed with the Securities and Exchange Commission.

/s/ Ernst & Young LLP

Redwood City, California
September 13, 2017

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the use in this Registration Statement on Form S-4 and related Prospectus of Invitae Corporation of our report dated March 3, 2017, relating to our audit of CombiMatrix Corporation's (the "Company") consolidated financial statements as of December 31, 2016 and 2015, and for each of the years then ended, included in the Company's Annual Report on Form 10-K for the year ended December 31, 2016. We also consent to the reference to us under the heading "Experts" in this Registration Statement and related Prospectus.

/s/ HASKELL & WHITE LLP

HASKELL & WHITE LLP

Irvine, California
September 13, 2017

September 11, 2017

CombiMatrix Corporation
300 Goddard, Suite 100
Irvine, CA 92618

We hereby consent to the use of our opinion letter dated July 30, 2017 to the Board of Directors of CombiMatrix Corporation included as Annex B to the proxy statement/prospectus that forms a part of the Registration Statement on Form S-4 of Invitae Corporation, and to the description of such opinion and the references to our name contained in such proxy statement/prospectus and Registration Statement. In giving such consent, we do not admit that we come within the category of persons whose consent is required under Section 7 of the Securities Act of 1933, as amended (the "Securities Act"), or the rules and regulations promulgated thereunder, nor do we admit that we are experts with respect to any part of such Registration Statement within the meaning of the term "experts" as used in the Securities Act or the rules and regulations promulgated thereunder.

Very truly yours,

/s/ Tim C. Opler, Ph.D.
Representative
Torreya Capital

COMBIMATRIX CORPORATION
300 GODDARD, SUITE 100
IRVINE, CA 92618

VOTE BY INTERNET - www.proxyvote.com

Use the Internet to transmit your voting instructions and for electronic delivery of information up until 11:59 p.m. Eastern Time the day before the cut-off date or meeting date. Have your proxy card in hand when you access the web site and follow the instructions to obtain your records and to create an electronic voting instruction form.

ELECTRONIC DELIVERY OF FUTURE PROXY MATERIALS

If you would like to reduce the costs incurred by our company in mailing proxy materials, you can consent to receiving all future proxy statements, proxy cards and annual reports electronically via e-mail or the Internet. To sign up for electronic delivery, please follow the instructions above to vote using the Internet and, when prompted, indicate that you agree to receive or access proxy materials electronically in future years.

VOTE BY PHONE - 1-800-690-6903

Use any touch-tone telephone to transmit your voting instructions up until 11:59 p.m. Eastern Time the day before the cut-off date or meeting date. Have your proxy card in hand when you call and then follow the instructions.

VOTE BY MAIL

Mark, sign and date your proxy card and return it in the postage-paid envelope we have provided or return it to Vote Processing, c/o Broadridge, 51 Mercedes Way, Edgewood, NY 11717.

TO VOTE, MARK BLOCKS BELOW IN BLUE OR BLACK INK AS FOLLOWS:

KEEP THIS PORTION FOR YOUR RECORDS

 DETACH AND RETURN THIS PORTION ONLY

THIS PROXY CARD IS VALID ONLY WHEN SIGNED AND DATED.

COMBIMATRIX CORPORATION			
The Board of Directors unanimously recommends you vote FOR proposals 1, 2 and 3.			
	For	Against	Abstain
1. To approve and adopt the Agreement and Plan of Merger and Reorganization, dated as of July 31, 2017, by and among Invitae Corporation, Coronado Merger Sub, Inc. and CombiMatrix Corporation, as such agreement may be amended from time to time, and the transactions contemplated thereby, including the merger of Coronado Merger Sub, Inc. with and into CombiMatrix Corporation, with CombiMatrix Corporation surviving as a wholly owned subsidiary of Invitae Corporation (the "Merger").	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. To approve, on a non-binding advisory basis, specified compensation that may be paid or become payable to CombiMatrix Corporation's named executive officers in connection with the Merger, as described in the proxy statement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. To approve the possible adjournment of the special meeting, including, if necessary or appropriate, to solicit additional proxies in the event that there are not sufficient votes at the time of the special meeting to approve the foregoing proposals.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
NOTE : In their discretion, the proxies are authorized to vote upon other business that may properly come before the Special Meeting or any adjournments or postponements thereof.			
Please sign exactly as your name(s) appear(s) hereon. When signing as attorney, executor, administrator, or other fiduciary, please give full title as such. Joint owners should each sign personally. All holders must sign. If a corporation or partnership, please sign in full corporate or partnership name by authorized officer.			
_____	_____	_____	_____
Signature [PLEASE SIGN WITHIN BOX]	Date	Signature (Joint Owners)	Date

Important Notice Regarding the Availability of Proxy Materials for the Special Meeting:
The Notice and Proxy Statement is available at www.proxyvote.com.

**COMBIMATRIX CORPORATION
Special Meeting of Stockholders
, 2017 [AM/PM]**

This proxy is solicited by the Board of Directors

The undersigned hereby revokes all previous proxies, acknowledges receipt of the Notice of the Special Meeting of Stockholders and the accompanying proxy statement and hereby appoints Mark McDonough and Scott Burell, or either of them, as proxies, each with the power to appoint his substitute, and hereby authorizes them to represent and to vote, as designated on the reverse side of this proxy, all of the shares of Common stock of COMBIMATRIX CORPORATION that the undersigned is entitled to vote at the Special Meeting of Stockholders to be held at the offices of Stradling Yocca Carlson & Rauth, P.C., 660 Newport Center Drive, Suite 1600, Newport Beach, California 92660, beginning at [a.m./p.m.] local time and any adjournment or postponement thereof.

This proxy, when properly executed, will be voted in the manner directed herein. If no such direction is made, this proxy will be voted in accordance with the Board of Directors' recommendations and at the discretion of your proxy on any other matter that may be properly brought before the Special Meeting or any adjournments or postponements thereof.

Continued and to be signed on reverse side