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

FORM S-8
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)

27-1701898
(I.R.S. Employer
Identification No.)

1400 16th Street
San Francisco, California
(Address of principal executive offices)

94103
(Zip Code)

Invitae Corporation 2015 Stock Incentive Plan
Invitae Corporation Employee Stock Purchase Plan
(Full titles of plans)

Sean E. George, Ph.D.
President and Chief Executive Officer
1400 16th Street
San Francisco, California 94103
(Name and address agent for service)

(415) 374-7782
(Telephone number, including area code, of agent for service)

Copies to:

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

Mike Hird
Gabriella A. Lombardi
Pillsbury Winthrop Shaw Pittman LLP
2550 Hanover Street
Palo Alto, California 94304
(650) 233-4500
(650) 233-4545 facsimile

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 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

CALCULATION OF REGISTRATION FEE

Title of Securities To Be Registered	Amount To Be Registered(1)	Proposed Maximum Offering Price Per Share	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
Common stock, par value \$0.0001 per share				
To be issued under the Invitae Corporation 2015 Stock Incentive Plan	2,923,183	\$10.29(2)	\$30,079,553.07	\$3,486.22
To be issued under the Invitae Corporation Employee Stock Purchase Plan	775,469	\$8.75(3)	\$6,785,353.75	\$786.42
Total	3,698,652		\$36,864,906.82	\$4,272.64

- (1) Pursuant to Rule 416 of the Securities Act of 1933 (the “Securities Act”), this registration statement also covers any additional securities that may be offered or become issuable under the Invitae Corporation 2015 Stock Incentive Plan or Invitae Corporation Employee Stock Purchase Plan (“ESPP”) in connection with any stock split, stock dividend, recapitalization or any other similar transaction effected without receipt of consideration, which results in an increase in the number of the Registrant’s outstanding shares of Common Stock.
- (2) Estimated in accordance with Rules 457(h) and 457(c) under the Securities Act, solely for the purposes of calculating the registration fee, based on the average of the high and low prices of the Registrant’s Common Stock as reported on the New York Stock Exchange on March 14, 2017.
- (3) Estimated in accordance with Rule 457(h) under the Securities Act solely for the purpose of calculating the registration fee on the basis of 85% of the average of the high and low prices of the Common Stock as reported on the New York Stock Exchange on March 14, 2017. Pursuant to the ESPP, the purchase price of Common Stock will be at least 85% of the lower of the fair market value of the common stock on the first trading day of the offering period or on the exercise date.

The Registration Statement shall become effective upon filing in accordance with Rule 462 under the Securities Act.

PART I

INFORMATION REQUIRED IN THE PROSPECTUS

General Instruction E Information

This Registration Statement is being filed for the purpose of increasing the number of securities of the same class as other securities for which certain Registration Statements on Form S-8 relating to the same employee benefit plan are effective. The Registrant's Registration Statement on Form S-8 filed with the Securities and Exchange Commission (the "Commission") on February 13, 2015 (File No. 333-202066), excluding reports that the Registrant filed with the Commission that were incorporated into the Form S-8 Registration Statements in order to maintain current information about the Registrant, is hereby incorporated by reference into this Registration Statement pursuant to General Instruction E of Form S-8.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

Item 3. Incorporation of Documents by Reference.

The following documents filed by the Registrant with the Securities and Exchange Commission (the "Commission") are hereby incorporated by reference in this Registration Statement:

- (a) The Registrant's Annual Report on Form 10-K for the year ended December 31, 2016;
- (b) The Registrant's Current Reports on Form 8-K filed with the Commission on January 6, 2017, January 9, 2017 and February 9, 2017; and
- (c) The description of the Registrant's Common Stock contained in Registrant's registration statement on Form 8-A, filed on February 11, 2015 pursuant to Section 12(b) of the Securities Exchange Act of 1934 (the "Exchange Act"), including any amendment or report filed for the purpose of updating such description.

In addition, all documents filed by the Registrant pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act (excluding any portions thereof furnished by the Registrant, including information furnished under Item 2.02 and Item 7.01 and any exhibits relating to Item 2.02 or Item 7.01 furnished under Item 9.01 of Form 8-K and any certification required by 18 U.S.C. § 1350), subsequent to the filing of this Registration Statement and prior to the filing of a post-effective amendment which indicates that all securities offered hereby have been sold or which deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference into this Registration Statement and to be a part hereof from the date of filing such documents. Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this Registration Statement to the extent that a statement contained in any subsequently filed document which also is deemed to be incorporated by reference herein modifies or supersedes such statement.

Item 8. Exhibits.

EXHIBITS

<u>Exhibit No.</u>	<u>Description</u>
5.1	Opinion of Pillsbury Winthrop Shaw Pittman LLP.
23.1	Consent of independent registered public accounting firm.
23.2	Consent of Pillsbury Winthrop Shaw Pittman LLP (included in Exhibit 5.1).
24.1	Power of Attorney (contained on signature page hereto).
99.1	Invitae Corporation 2015 Stock Incentive Plan, as amended and forms of awards thereunder (incorporated by reference to Exhibits 10.5 through 10.7 to the Registrant's Registration Statement on Form S-1 (Registration No. 333-201433), as declared effective by the Commission on February 11, 2015 (the "Registrant's Form S-1")).
99.2	Invitae Corporation Employee Stock Purchase Plan (incorporated by reference to Exhibit 10.8 to the Registrant's Form S-1).

Item 9. Undertakings.

(a) The undersigned Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this Registration Statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the Registration Statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information in the Registration Statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective Registration Statement; and

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the Registration Statement or any material change to such information in the Registration Statement;

provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) of this section shall not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in the Registration Statement.

(2) That, for the purpose of determining any liability under the Securities Act, 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 remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(b) The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in the Registration Statement 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.

(c) Insofar as indemnification for liabilities arising under the Securities Act 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 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 certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and 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 the 16th day of March, 2017.

INVITAE CORPORATION

By /s/ S E A N E . G E O R G E , P H . D .

Sean E. George, Ph.D.

President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Sean E. George, Lee Bendekgey and Patricia E. Dumond and each of them, his or her true and lawful attorneys-in-fact and agents, each with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments, including post-effective amendments, to this Registration Statement on Form S-8, and to file the same, with exhibits thereto and other documents in connection therewith, with the Securities and Exchange Commission granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that each of said attorneys-in-fact and agents, or his or her substitute or substitutes may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ S E A N E . G E O R G E , P H . D .</u> Sean E. George, Ph.D.	President and Chief Executive Officer (Principal Executive Officer) and Director	March 16, 2017
<u>/s/ L E E B E N D E K G E Y</u> Lee Bendekgey	Chief Financial Officer and Secretary (Principal Financial Officer)	March 16, 2017
<u>/s/ P A T R I C I A E . D U M O N D</u> Patricia E. Dumond	Chief Accounting Officer (Principal Accounting Officer)	March 16, 2017
<u>/s/ R A N D A L W . S C O T T , P H . D .</u> Randal W. Scott, Ph.D.	Chairman of the Board of Directors	March 16, 2017
<u>/s/ E R I C A G U I A R , M . D .</u> Eric Aguiar, M.D.	Director	March 16, 2017
<u>/s/ G E O F F R E Y S . C R O U S E</u> Geoffrey S. Crouse	Director	March 16, 2017
<u>/s/ C H R I S T I N E M . G O R J A N C</u> Christine M. Gorjanc	Director	March 16, 2017

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PILLSBURY WINTHROP SHAW PITTMAN LLP
2550 Hanover Street
Palo Alto, California 94304

March 16, 2017

Invitae Corporation
1400 16th Street
San Francisco, California 94103

Re: Registration Statement on Form S-8

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-8 (the "Registration Statement") relating to the registration under the Securities Act of 1933 (the "Act") of 3,698,652 shares of the Company's common stock, \$0.0001 par value per share (the "Shares"), issuable pursuant to the Company's 2015 Stock Incentive Plan and the Company's Employee Stock Purchase Plan (collectively, the "Plans").

We have reviewed and are familiar with such corporate proceedings and other matters as we have deemed necessary for this opinion. Based upon the foregoing, we are of the opinion that the Shares have been duly authorized and, when issued and sold in accordance with the Plans, 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. 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

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in this Registration Statement (Form S-8) pertaining to the Invitae Corporation 2015 Stock Incentive Plan and the Invitae Corporation Employee Stock Purchase Plan 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) for the year ended December 31, 2016, filed with the Securities and Exchange Commission.

/s/ Ernst & Young, LLP

Redwood City, California
March 16, 2017