
UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

SCHEDULE 13D
Under the Securities Exchange Act of 1934

(Amendment No. 2)*

Invitae Corporation
(Name of Issuer)

Common Stock, Par Value \$0.0001 Per Share
(Title of Class of Securities)

46185L103
(CUSIP number)

Alexandra A. Toohey
Chief Financial Officer
Baker Bros. Advisors LP
667 Madison Avenue, 21st Floor
New York, NY 10065
(212) 339-5690

(Name, address and telephone number of person authorized to receive notices and communications)

July 31, 2017
(Date of event which requires filing of this statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of Rule 13d-1(e), 13d-1(f) or 13d-1(g), check the following box.

(Continued on the following pages)

Note: Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See Rule 13d-7 for other parties to whom copies are to be sent.

*The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

1.	NAMES OF REPORTING PERSONS Baker Bros. Advisors LP		
2.	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP* (a) <input type="checkbox"/> (b) <input type="checkbox"/>		
3.	SEC USE ONLY		
4.	SOURCE OF FUNDS* OO		
5.	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) or 2(e) <input type="checkbox"/>		
6.	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7.	SOLE VOTING POWER 7,288,300	
	8.	SHARED VOTING POWER: 0	
	9.	SOLE DISPOSITIVE POWER: 7,288,300	
	10.	SHARED DISPOSITIVE POWER: 0	
11.	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON: 7,288,300		
12.	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (See Instructions) <input type="checkbox"/>		
13.	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 15.1%(1)		
14.	TYPE OF REPORTING PERSON (See Instructions) IA, PN		

(1) Based on 42,935,737 shares of Common Stock outstanding as of June 9, 2017, as reported in the Issuer's Form 8-K filed with the Securities and Exchange Commission ("SEC") on June 13, 2017, plus 5,188,235 shares of Common Stock to be issued upon the closing of the Private Placement as defined in Item 4 below.

1.	NAMES OF REPORTING PERSONS Baker Bros. Advisors (GP) LLC		
2.	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP* (a) <input type="checkbox"/> (b) <input type="checkbox"/>		
3.	SEC USE ONLY		
4.	SOURCE OF FUNDS* OO		
5.	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) or 2(e) <input type="checkbox"/>		
6.	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7.	SOLE VOTING POWER 7,288,300	
	8.	SHARED VOTING POWER: 0	
	9.	SOLE DISPOSITIVE POWER: 7,288,300	
	10.	SHARED DISPOSITIVE POWER: 0	
11.	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON: 7,288,300		
12.	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (See Instructions) <input type="checkbox"/>		
13.	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 15.1%(1)		
14.	TYPE OF REPORTING PERSON (See Instructions) HC, OO		

(1) Based on 42,935,737 shares of Common Stock outstanding as of June 9, 2017, as reported in the Issuer's Form 8-K filed with the SEC on June 13, 2017, plus 5,188,235 shares of Common Stock to be issued upon the closing of the Private Placement as defined in Item 4 below.

1.	NAMES OF REPORTING PERSONS Julian C. Baker		
2.	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP* (a) <input type="checkbox"/> (b) <input type="checkbox"/>		
3.	SEC USE ONLY		
4.	SOURCE OF FUNDS* OO		
5.	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) or 2(e) <input type="checkbox"/>		
6.	CITIZENSHIP OR PLACE OF ORGANIZATION United States		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7.	SOLE VOTING POWER 7,288,300	
	8.	SHARED VOTING POWER: 0	
	9.	SOLE DISPOSITIVE POWER: 7,288,300	
	10.	SHARED DISPOSITIVE POWER: 0	
11.	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON: 7,288,300		
12.	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (See Instructions) <input type="checkbox"/>		
13.	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 15.1%(1)		
14.	TYPE OF REPORTING PERSON (See Instructions) IN, HC		

(1) Based on 42,935,737 shares of Common Stock outstanding as of June 9, 2017, as reported in the Issuer's Form 8-K filed with the SEC on June 13, 2017, plus 5,188,235 shares of Common Stock to be issued upon the closing of the Private Placement as defined in Item 4 below.

1.	NAMES OF REPORTING PERSONS Felix J. Baker		
2.	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP* (a) <input type="checkbox"/> (b) <input type="checkbox"/>		
3.	SEC USE ONLY		
4.	SOURCE OF FUNDS* OO		
5.	CHECK BOX IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) or 2(e) <input type="checkbox"/>		
6.	CITIZENSHIP OR PLACE OF ORGANIZATION United States		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7.	SOLE VOTING POWER 7,288,300	
	8.	SHARED VOTING POWER: 0	
	9.	SOLE DISPOSITIVE POWER: 7,288,300	
	10.	SHARED DISPOSITIVE POWER: 0	
11.	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON: 7,288,300		
12.	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (See Instructions) <input type="checkbox"/>		
13.	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11) 15.1%(1)		
14.	TYPE OF REPORTING PERSON (See Instructions) IN, HC		

(1) Based on 42,935,737 shares of Common Stock outstanding as of June 9, 2017, as reported in the Issuer's Form 8-K filed with the SEC on June 13, 2017, plus 5,188,235 shares of Common Stock to be issued upon the closing of the Private Placement as defined in Item 4 below.

Amendment No. 2 to Schedule 13D

This Amendment No. 2 to Schedule 13D amends and supplements the previously filed Schedules 13D filed by Baker Bros. Advisors LP (the “Adviser”), Baker Bros. Advisors (GP), LLC (the “Adviser GP”), Julian C. Baker and Felix J. Baker. Except as supplemented herein, such statements, as heretofore amended and supplemented, remain in full force and effect. Information given in response to each item shall be deemed incorporated by reference in all other items, as applicable. Each capitalized term used but not defined herein has the meaning ascribed to such term in the Schedule 13D, as amended.

Item 3. Source and Amount of Funds or Other Consideration

Item 3 of Schedule 13D is supplemented and amended, as the case may be, as follows:

The disclosure regarding the purchases in Item 4 below is incorporated herein by reference.

Item 4. Purpose of the Transaction.

Item 4 of Schedule 13D is supplemented and amended, as the case may be, as follows:

The information in Item 6 is incorporated by reference herein.

On July 31, 2017, Invitae Corporation (“the Issuer”) entered into a securities purchase agreement (the “Purchase Agreement”) with several new and existing investors, including Baker Brothers Life Sciences, L.P. (“Life Sciences”) and 667, L.P. (“667”), related to a private placement (the “Private Placement”) of 5,188,235 shares of the Issuer’s Common Stock and 3,458,823 shares of Series A Convertible Preferred Stock, \$0.0001 par value per share (“Convertible Preferred”) at a price of \$8.50 per share. Pursuant to the Purchase Agreement, 667 and Life Sciences purchased 349,760 and 3,109,063 shares of Convertible Preferred, respectively. Each of 667 and Life Sciences purchased the shares of Convertible Preferred with their working capital. The Convertible Preferred is a Common Stock equivalent with no voting rights and converts into shares of Common Stock at a conversion price equal to \$8.50 per share, subject to adjustment for events such as stock splits, stock dividends, reorganizations, recapitalizations and other events as provided for in the Certificate of Designation of the Convertible Preferred. The Private Placement is expected to close on August 3, 2017.

Life Sciences, 667 and 14159, L.P. (collectively, the “Funds”) hold securities of the Issuer for investment purposes. The Reporting Persons or their affiliates may purchase additional securities or dispose of securities in varying amounts and at varying times depending upon the Reporting Persons’ continuing assessments of pertinent factors, including the availability of shares of Common Stock or other securities for purchase at particular price levels, the business prospects of the Issuer, other business investment opportunities, economic conditions, stock market conditions, money market conditions, the attitudes and actions of the board of directors and management of the Issuer, the availability and nature of opportunities to dispose of shares of the Issuer and other plans and requirements of the particular entities. The Reporting Persons may discuss items of mutual interest with the Issuer, which could include items in subparagraphs (a) through (j) of Item 4 of Schedule 13D.

Depending upon their assessments of the above factors, the Reporting Persons or their affiliates may change their present intentions as stated above and they may assess whether to make suggestions to the management of the Issuer regarding financing, and whether to acquire additional securities of the Issuer, including shares of Common Stock (by means of open market purchases, privately negotiated purchases, or otherwise) or to dispose of some or all of the securities of the Issuer, including shares of Common Stock, under their control.

Except as otherwise disclosed herein, at the present time, the Reporting Persons do not have any plans or proposals with respect to any extraordinary corporate transaction involving the Issuer including, without limitation, those matters described in subparagraphs (a) through (j) of Item 4 of Schedule 13D.

Item 5. Interest in Securities of the Issuer.

(a) and (b) Items 7 through 11 and 13 of each of the cover pages of this Amendment No. 2 are incorporated herein by reference. Set forth below is the aggregate number of shares of Common Stock of the Issuer directly held by each of the Funds, which may be deemed to be indirectly beneficially owned by the Reporting Persons, as well as shares of Common Stock that may be acquired upon conversion of shares of Convertible Preferred by the Funds, subject to the limitations on conversion described below.

<u>Holder</u>	<u>Shares of Common Stock</u>	<u>Convertible Preferred</u>
667, L.P.	734,261	349,760
Baker Brothers Life Sciences, L.P.	6,480,668	3,109,063
14159, L.P.	73,371	-
Total	7,288,300	3,458,823

The shares of Convertible Preferred are only convertible to the extent that after giving effect to such conversion the holders thereof, together with their affiliates and any member of a Section 13(d) group, would beneficially own, for purposes of Rule 13d-3 under the Securities Exchange Act of 1934, as amended, no more than 4.99% of the outstanding shares of Common Stock of the Issuer (the “Beneficial Ownership Limitation”). As a result of the Beneficial Ownership Limitation, the number of shares that may be issued upon conversion of shares of Convertible Preferred by the above holders may change depending upon changes in the outstanding shares of Common Stock. The Beneficial Ownership Limitation may be increased or decreased to any other percentage at the holder’s election upon 61 days’ notice delivered to the Issuer. Due to the Beneficial Ownership Limitation, no shares of Convertible Preferred are presently convertible by the Funds.

Pursuant to the management agreements, as amended, among the Adviser, the Funds and their respective general partners, the Funds’ respective general partners relinquished to the Adviser all discretion and authority with respect to the investment and voting power over the securities held by the Funds, and thus the Adviser has complete and unlimited discretion and authority with respect to the Funds’ investments and voting power over investments.

The Adviser GP, Felix J. Baker and Julian C. Baker as principals of the Adviser GP, and the Adviser may be deemed to be beneficial owners of securities of the Issuer directly held by the Funds, and may be deemed to have the power to vote or direct the vote of and the power to dispose or direct the disposition of such securities.

(c) The disclosure regarding the Private Placement in Item 4 is incorporated by reference herein. Except as disclosed herein, none of the Reporting Persons or their affiliates has effected any other transactions in securities of the Issuer during the past 60 days.

(d) Certain securities of the Issuer are held directly by 667, a limited partnership the sole general partner of which is Baker Biotech Capital, L.P., a limited partnership the sole general partner of which is Baker Biotech Capital (GP), LLC. Julian C. Baker and Felix J. Baker are the controlling members of Baker Biotech Capital (GP), LLC.

Certain securities of the Issuer are held directly by Life Sciences, a limited partnership the sole general partner of which is Baker Brothers Life Sciences Capital, L.P., a limited partnership the sole general partner of which is Baker Brothers Life Sciences Capital (GP), LLC. Julian C. Baker and Felix J. Baker are the controlling members of Baker Brothers Life Sciences Capital (GP), LLC.

Certain securities of the Issuer are held directly by 14159, a limited partnership the sole general partner of which is 14159 Capital, L.P., a limited partnership the sole general partner of which is 14159 Capital (GP), LLC. Julian C. Baker and Felix J. Baker are the controlling members of 14159 Capital (GP), LLC.

(e) Not applicable.

Item 6. Contracts, Arrangements, Understandings or Relationships with Respect to the Securities of the Issuer.

Item 6 of this Schedule 13D is hereby supplemented and amended, as the case may be, as follows:

The disclosure regarding the Purchase Agreement in Item 4 is incorporated by reference herein.

The Purchase Agreement is incorporated by reference as Exhibit 99.1 and is incorporated by reference herein.

On July 31, 2017, the Issuer entered into an amended and restated registration rights agreement (the “Registration Rights Agreement”) with the Funds. Under the Registration Rights Agreement, the Issuer agreed that following a demand by the Funds that the Issuer register their shares of Common Stock for resale under the Securities Act of 1933, as amended, the Issuer would be obligated to effect such registration. The Issuer’s registration obligations under the Registration Rights Agreement cover all shares of Common Stock now held or later acquired by the Funds, will continue in effect for up to 10 years, and include the Issuer’s obligation to facilitate certain underwritten public offerings of Common Stock by the Funds in the future, not to exceed one per calendar year and two underwritten public offerings in total. The Issuer will bear all expenses incurred by it in effecting any registration pursuant to the Registration Rights Agreement as well as the legal expenses of the Funds of up to \$50,000 per underwritten public offering effected pursuant to the Registration Rights Agreement.

In addition, as a condition of the Issuer’s execution and delivery of the Registration Rights Agreement, the Funds and their affiliates irrevocably waived any and all prior registration rights pursuant to the Fifth Amended and Restated Investor Rights Agreement, dated August 26, 2014, by and among the Issuer and the investors set forth therein and party thereto.

The foregoing description of the Registration Rights Agreement does not purport to be complete and is qualified in its entirety by reference to the full text of the Registration Rights Agreement, which is incorporated by reference as Exhibit 99.2, and is incorporated herein by reference.

Item 7. Material to be Filed as Exhibits.

Exhibit	Description
99.1	Securities Purchase Agreement, dated July 31, 2017, by and among Invitae Corporation and the investors named therein (incorporated by reference to Exhibit 10.1 to the Issuer’s Form 8-K, filed with the SEC on August 1, 2017).
99.2	Registration Rights Agreement, dated July 31, 2017, by and among Invitae Corporation, 667, L.P., Baker Brothers Life Sciences, L.P. and 14159, L.P.(incorporated by reference to Exhibit 10.4 to the Issuer’s Form 8-K, filed with the SEC on August 1, 2017).

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

Dated: August 2, 2017

BAKER BROS. ADVISORS LP

By: Baker Bros. Advisors (GP) LLC, its general partner

By: /s/ Scott L. Lessing
Name: Scott L. Lessing
Title: President

BAKER BROS. ADVISORS (GP) LLC

By: /s/ Scott L. Lessing
Name: Scott L. Lessing
Title: President

/s/ Julian C. Baker
Julian C. Baker

/s/ Felix J. Baker
Felix J. Baker
