

Invitae Corp
Form S-4/A
September 28, 2017
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As filed with the Securities and Exchange Commission on September 28, 2017

Registration No.333-220447

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

Amendment No. 1
to
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	8071 (Primary Standard Industrial	27-1701898 (I.R.S. Employer
incorporation or organization)	Classification Code Number) 1400 16th Street	Identification Number)

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	Mike Hird	Mark McDonough	Parker A. Schweich
General Counsel	Patty M. DeGaetano	President and	Stradling Yocca Carlson
Invitae Corporation	Pillsbury Winthrop Shaw	Chief Executive Officer	& Rauth, P.C.
1400 16th Street	Pittman LLP	CombiMatrix Corporation	660 Newport Center
San Francisco, CA 94103	12255 El Camino Real,	300 Goddard, Suite 100	Drive, Suite 1600
(415) 374-7782	Suite 300	Irvine, CA 92618	Newport Beach, CA 92660
	San Diego, CA 92130	(949) 753-0624	(949) 725-4000

(619) 234-5000

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	Proposed	Amount of registration fee(4)
		maximum offering price per share	maximum aggregate offering price(3)	
Common stock, par value \$0.0001 per share	5,301,622	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.
- (4) Previously paid.

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.

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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 28, 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 November 10, 2017 at 1:00 pm, 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.

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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.

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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 November 10, 2017 at 1:00 pm, 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 September 26, 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 2,938,982 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.

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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	CombiMatrix Corporation
1400 16th Street	300 Goddard, Suite 100
San Francisco, CA 94103	Irvine, CA 92618
(415) 374-7782	(949) 753-0624
Attn.: Investor Relations	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. 333-220447) 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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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.

Table of Contents**Example 1: All Series F Warrants Tendered**

As of September 26, 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 26, 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 26, 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 26, 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:

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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 November 10, 2017 at 1:00 pm, 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.

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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 41,759 shares of CombiMatrix common stock, or approximately 1.42% 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?

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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

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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 120 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

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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.

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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

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\$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 September 27, 2017, the latest practicable date before the date of this document, the estimated Exchange Ratio represented \$8.26 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 105)

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.

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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.

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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;

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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 CombiMatrix Series F warrants outstanding immediately prior to the date of the Merger Agreement (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

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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 110)

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.

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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.

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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 26, 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 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 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 48)

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 November 10, 2017 at 1:00 pm, 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

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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 September 26, 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 2,938,982 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 41,759 shares of CombiMatrix common stock, or approximately 1.42% 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.**

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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.

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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,	2016	As of December 31, 2015	2014	2013	2012

2017
(unaudited) **(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)

Table of Contents**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
		(in thousands, except share and per share data)				
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

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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)

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	Six Months Ended		Year Ended December 31,			
	June 30, 2017	2016	2015	2014	2013	2012
	(unaudited)	(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		As of December 31,			
	June 30, 2017	2016	2015	2014	2013	2012
	(unaudited)	(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)

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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)

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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 CombiMatrix Series F warrants outstanding immediately prior to the date of the Merger Agreement, (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

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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.

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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					

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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

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INVITAE CORPORATION
UNAUDITED PRO FORMA CONDENSED COMBINED STATEMENT OF OPERATIONS
FOR THE YEAR ENDED DECEMBER 31, 2016

(in thousands, except per share data)

	Invitae (Historical)	CombiMatrix (Historical)	Pro Forma Adjustments	Note No.	Pro Forma Combined
Revenue:					
Test revenue	\$ 25,048	\$ 12,696	\$		\$ 37,744
Other revenue		173			173
Total revenue	25,048	12,869			37,917
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	125,231	16,962	2,508		144,701
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	\$ (100,256)	\$ (4,140)	\$ (2,508)		\$ (106,904)
Net loss per share, basic and diluted	\$ (3.02)				\$ (2.92)
Shares used in computing net loss per share, basis and diluted	33,176,305		3,476,733	(I)	36,653,038

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INVITAE CORPORATION

UNAUDITED PRO FORMA CONDENSED COMBINED STATEMENT OF OPERATIONS

FOR THE SIX MONTHS ENDED JUNE 30, 2017

(in thousands, except per share data)

	Invitae (Historical)	CombiMatrix (Historical)	Pro Forma Adjustments	Note No.	Pro Forma Combined
Revenue:					
Test revenue	\$ 23,287	\$ 7,972	\$		\$ 31,259
Other revenue	1,387	56			1,443
Total revenue	24,674	8,028			32,702
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	80,086	8,917	858		89,861
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	\$ (55,485)	\$ (888)	\$ (858)		\$ (57,231)
Net loss per share, basic and diluted	\$ (1.30)				\$ (1.24)
Shares used in computing net loss per share, basis and diluted	42,808,175		3,476,733	(I)	46,284,908

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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 CombiMatrix Series F warrants outstanding immediately prior to the date of the Merger Agreement, (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.

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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	\$ 30,977

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.

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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	\$ 30,977

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.

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- (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.

Table of Contents**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 September 27, 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 \$9.15 and \$8.85, respectively. As of September 26, 2017, there were 69 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.

Table of Contents**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 September 27, 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 \$7.55 and \$7.35, respectively. As of September 26, 2017, there were 9 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.

Table of Contents**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 September 27, 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 September 27, 2017	\$ 9.11	\$ 7.45	\$ 8.26

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.

Table of Contents**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

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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.

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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**.*

Risks Related to the Merger

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 outstanding immediately prior to the date of the Merger Agreement, 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.

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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.

Risks Related to Invitae's Business and Strategy

Invitae's success will depend on its ability to use rapidly changing genetic data to interpret test results accurately and consistently, and its failure to do so would have an adverse effect on Invitae's operating results and business, harm its reputation and could result in substantial liabilities that exceed its resources.

Invitae's success depends on its ability to provide reliable, high-quality tests that incorporate rapidly evolving information about the role of genes and gene variants in disease and clinically relevant outcomes associated with those variants. Errors, such as failure to detect genomic variants with high accuracy, or mistakes, such as failure to identify, or incompletely or incorrectly identifying, gene variants or their significance, could have a significant adverse impact on Invitae's business.

In August 2017, a client reported a discrepancy between an Invitae test report and a test report issued by another laboratory for the presence of a single rare variant in the MSH2 gene known as the Boland inversion. This gene is associated with Lynch syndrome, which is a familial cancer syndrome that significantly increases the risk of colorectal and other cancers. Invitae's assay had reliably detected the Boland inversion event since its first validation. However, during the implementation of an update to the assay, Invitae omitted the components designed specifically to identify the Boland inversion event. As soon as Invitae learned of the error, Invitae quickly rectified it and implemented three new quality checks to ensure this type of error does not happen again. Invitae has identified all potential patients impacted by this incident, and is reanalyzing its previous test results to ensure their accuracy. Invitae expects that less than 50 patients will be affected by this incident. Invitae also expects to complete reanalysis and notification to impacted patients and their clinicians in the fourth quarter of 2017.

Hundreds of genes can be implicated in some disorders, and overlapping networks of genes and symptoms can be implicated in multiple conditions. As a result, a substantial amount of judgment is required in order to interpret testing results for an individual patient and to develop an appropriate patient report. Invitae classifies variants in accordance with published guidelines as benign, likely benign, variants of uncertain significance, likely pathogenic or pathogenic, and these guidelines are subject to change. In addition, it is Invitae's practice to offer support to clinicians and geneticists ordering Invitae's tests regarding which genes or panels to order as well as interpretation of genetic variants. Invitae also relies on clinicians to interpret what Invitae reports and to incorporate specific information about an individual patient into the physician's treatment decision.

The marketing, sale and use of Invitae's genetic tests could subject Invitae to liability for errors in, misunderstandings of, or inappropriate reliance on, information it provides to clinicians or geneticists, and lead to claims against it if someone were to allege that a test failed to perform as it was designed, if Invitae failed to correctly interpret the test results, or if the ordering physician were to misinterpret test results or improperly rely on them when making a clinical

decision. A product liability or professional liability claim could result in substantial damages and be costly and time-consuming for Invitae to defend. Although Invitae maintains liability insurance, including for errors and omissions, it cannot assure you that such insurance would fully protect Invitae from the financial impact of defending against these types of claims or any judgments, fines or settlement costs

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arising out of any such claims. Any liability claim, including an errors and omissions liability claim, brought against Invitae, with or without merit, could increase Invitae's insurance rates or prevent it from securing insurance coverage in the future. Additionally, any liability lawsuit could cause injury to Invitae's reputation or cause it to suspend sales of its tests. The occurrence of any of these events could have an adverse effect on Invitae's business, reputation and results of operations.

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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 may 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.

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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 November 10, 2017 at 1:00 pm, 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

Edgar Filing: Invitae Corp - Form S-4/A

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.

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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 September 26, 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, 2,938,982 shares of CombiMatrix common stock were outstanding, held by 9 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 41,759 shares of CombiMatrix common stock, or approximately 1.42% of the outstanding CombiMatrix common stock entitled to vote at the special meeting.

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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.

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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 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

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.

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THE MERGER PROPOSAL

Background of the Merger

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 Torreyia 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 Torreyia negotiated the terms of the prospective engagement and, on April 20, 2016, CombiMatrix entered into a written engagement letter with Torreyia 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 Torreyia, 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. Torreyia 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 Torreyia, 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 Torreyia canvassed approximately 100 parties to gauge interest in potential partnerships or strategic transactions, and circulated a form confidentiality agreement. Torreyia 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 Torreyia 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 Torreyia 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. Torreya 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 a 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 a 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 a 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 a 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 a 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 a 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 a 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.

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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;

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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 outstanding immediately prior to the date of the Merger Agreement 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 Merger

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 to 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 Merger

Based on the number of shares of CombiMatrix common stock and the number of CombiMatrix Series F warrants outstanding as of September 26, 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.

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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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Torreya did not make or obtain any independent evaluations, valuations or appraisals of the assets or liabilities of CombiMatrix, nor was Torreya furnished with such materials. Torreya 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. Torreya'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. Torreya 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. Torreya's opinion is necessarily based upon economic and market conditions and other circumstances as they existed and could be evaluated by Torreya as of the date of its opinion. It should be understood that although subsequent developments may affect Torreya's opinion, Torreya does not have any obligation to update, revise or reaffirm its opinion and Torreya expressly disclaims any responsibility to do so.

For purposes of rendering its opinion, Torreya 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 Torreya. Torreya 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.

Torreya'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. Torreya was not requested to opine as to, and Torreya'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, Torreya 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 Torreya's opinion was approved by an authorized internal fairness committee of Torreya in accordance with its customary practice.

Summary of Material Financial Analysis

The following is a summary of the material financial analyses performed by Torreya 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. Torreya 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 Torreya's various valuation and financial analyses:

VWAP: means the relevant company's volume weighted average stock price over a specified period.

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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. Torreya 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. Torreya reviewed the historical trading range of shares of CombiMatrix's common stock for the 52 week period ending July 28, 2017. Torreya 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.

Torreya 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. Torreya 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. Torreya compared certain financial information of CombiMatrix with publicly available information for the selected companies. The selected companies were chosen based on Torreya'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 Torreyia opinion utilized the following information:

Company	FV/LTM Revenue
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, Torreyia 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, Torreyia 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:

Buyer / Target	Announcement Date
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

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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 Torrey's fairness analysis. Torrey 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 Torreyra 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 Torreyra's fairness analysis. Based on the analysis of the relevant metrics for the selected companies, Torreyra 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, Torreyra 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, Torreyia 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, Torreyia 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, Torreya 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. Torreya performed a DCF analysis to determine a range of potential values per share of CombiMatrix common stock, using the CombiMatrix Forecast. Torreya 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. Torreya 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, Torreya 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 Torreya. 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. Torreya 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, Torreya 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, Torreya 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 Torreya 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, Torreya or any other person assumes responsibility if future results are materially different from those projected. The analyses supplied by Torreya 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 Torreya's current engagement by CombiMatrix, where Torreya acted as exclusive financial advisor and provided a fairness opinion to the CombiMatrix board of directors pursuant to its engagement, Torreya has not provided any investment banking or other services to CombiMatrix or any of its affiliates. Torreya may provide investment banking and other services to or with respect to CombiMatrix or its affiliates in the future, for which Torreya may receive compensation.

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

Pursuant to Torreya's engagement letter with CombiMatrix dated April 20, 2016, and subsequent fee adjustment correspondence on both February 9, 2017 and July 11, 2017, Torreya 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 Torreya 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 26, 2017, directors and executive officers of CombiMatrix owned or controlled 1.42% 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 September 27, 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 September 27, 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.

Name	Golden Parachute Payment(1)			Total (\$)
	Cash Severance (\$)(2)	Equity (\$)(3)	Perquisites/Benefits (\$)(4)	
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.

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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 unvested 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 26, 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:

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.

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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:

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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

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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 outstanding immediately prior to the date of the Merger Agreement are tendered 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).

A condition to the closing of the Merger is that at least 90% of the Series F warrants outstanding immediately prior to the date of the Merger Agreement 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 exchanged in the Warrant Exchange Offer, 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.

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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

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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.

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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.

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THE WARRANT EXCHANGE OFFER

As of September 26, 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.

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CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

Marketing and Laboratory Services Agreement

On September 25, 2017, Invitae and its wholly-owned subsidiary Good Start Genetics, Inc. (collectively referred to as Invitae) entered into a Marketing and Laboratory Services Agreement, or the Marketing Agreement, with CombiMatrix Molecular Diagnostics, Inc., or CMDX, a wholly-owned subsidiary of CombiMatrix. Pursuant to the terms of the Marketing Agreement, Invitae will promote and market certain CMDX diagnostic tests, including miscarriage analysis tests, or the Tests, to physicians and other healthcare providers in the same channels in which Invitae markets its own diagnostic tests. Invitae will also coordinate logistics, customer service and support for the Tests.

In consideration for the services provided by Invitae under the Marketing Agreement, CMDX will pay Invitae a \$200 fee for each Test Invitae markets and which CMDX processes, reports and bills to a patient, ordering physician or other healthcare provider and/or third party payer program, subject to all applicable federal, state and local laws, rules, and regulations, including, without limitation, the federal Anti-Kickback Statute and similar state anti-kickback laws and regulations. CMDX has also agreed to assist Invitae in promoting and marketing the Tests by providing training and support and sharing educational materials and scientific publications. In addition, CMDX will remain responsible for Test performance, reporting and billing.

Under the terms of the Marketing Agreement, the parties will jointly own all data and results from Tests performed as a result of Invitae's promotional activities, and CMDX will retain ownership of the Tests and related intellectual property.

The term of the Marketing Agreement commenced on September 25, 2017 and continues until December 31, 2019, with automatic renewals for successive 12-month periods. The Marketing Agreement may be terminated by either party upon (a) 60 days' notice prior to the end of the then-current term, (b) a material breach by the other party (subject to a 60-day cure period, or 10 days with respect to a breach of such party's payment obligations) and (c) 60 days' notice after the filing of bankruptcy, reorganization, liquidation or receivership proceedings by or against the other party. CMDX may also terminate the Marketing Agreement upon 30 days' notice if Invitae enters into an agreement with a third party for, or decides to internally develop, invasive prenatal diagnostic tests, pediatric array tests or miscarriage analysis tests.

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

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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.

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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. Counsel's 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.

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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."

Table of Contents**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 26, 2017, there were 50,207,961 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 26, 2017, there were 2,938,982 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 14 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.

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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.

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LEGAL MATTERS

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.

EXPERTS

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 PROPOSALS

Invitae

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.

CombiMatrix

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.

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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.

Invitae SEC Filings	Period or Date Filed
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: September 27, 2017, 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.

CombiMatrix SEC Filings	Annex to Proxy Statement/Prospectus
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 Annex D
quarterly period ended June 30, 2017

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

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exhibits to those documents unless the exhibit is specifically incorporated by reference as an exhibit in this 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	CombiMatrix Corporation
1400 16th Street	300 Goddard, Suite 100
San Francisco, CA 94103	Irvine, CA 92618
(415) 374-7782	(949) 753-0624
Attn: Investor Relations	Attn: Investor Relations

If you would like to request any documents, please do so by November 1, 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.

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Annex A

EXECUTION VERSION

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.

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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;

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(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 unvested 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

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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.

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(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

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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; Leaseholds. 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

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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

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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

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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

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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

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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 (v) 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.

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(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.

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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

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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;

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(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

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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

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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.

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(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

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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.

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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 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.

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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 Statements. 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;

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(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 re