
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

FORM 8-K

**CURRENT REPORT
Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934**

**Date of Report (Date of earliest event reported)
April 7, 2021**

Otonomy, Inc.
(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction
of incorporation)

001-36591
(Commission
File Number)

26-2590070
(IRS Employer
Identification No.)

4796 Executive Drive
San Diego, CA 92121
(Address of principal executive offices, including zip code)

(619) 323-2200
(Registrant's telephone number, including area code)

Not Applicable
(Former name or former address, if changed since last report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value \$0.001 per share	OTIC	The NASDAQ Stock Market LLC (The Nasdaq Global Select Market)

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

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 13(a) of the Exchange Act.

Item 1.01. Entry into a Material Definitive Agreement.

On April 7, 2021, Otonomy, Inc. (the “**Company**”) entered into an underwriting agreement (the “**Underwriting Agreement**”) with Cowen and Company, LLC and Piper Sandler & Co., as representatives of the underwriters named therein (collectively, the “**Underwriters**”), relating to the public offering of 6,288,890 shares of the Company’s common stock, par value \$0.001 per share (the “**Underwritten Shares**”), and pre-funded warrants (the “**Pre-Funded Warrants**”) to purchase 7,111,110 shares of the Company’s common stock. Under the terms of the Underwriting Agreement, the Company also granted the Underwriters an option exercisable for 30 days from the date of the Underwriting Agreement to purchase up to an additional 2,010,000 shares of common stock (together with the Underwritten Shares, the “**Shares**”). All of the Shares and Pre-Funded Warrants are being sold by the Company. The offering price of the Shares to the public is \$2.25 per share, and the offering price of the Pre-Funded Warrants to the public is \$2.249 per share underlying each Pre-Funded Warrant. The Underwriters will purchase the Shares from the Company pursuant to the Underwriting Agreement at a price of \$2.115 per share and the Pre-Funded Warrants from the Company pursuant to the Underwriting Agreement at a price of \$2.114 per share underlying each Pre-Funded Warrant.

The gross proceeds to the Company from this offering are expected to be approximately \$30.1 million before deducting underwriting discounts and commissions and other estimated offering expenses payable by the Company. The offering is expected to close on April 12, 2021, subject to the satisfaction of customary closing conditions.

The Underwriting Agreement contains customary representations, warranties and agreements by the Company, customary conditions to closing, indemnification obligations of the Company and the Underwriters, including for liabilities under the Securities Act of 1933, as amended, other obligations of the parties and termination provisions. The representations, warranties and covenants contained in the Underwriting Agreement were made only for purposes of such agreement and as of specific dates, were solely for the benefit of the parties to such agreement, and may be subject to limitations agreed upon by such parties.

The public offering is being made pursuant to the Company’s effective registration statement on Form S-3 (File No. 333-227269) (the “**Registration Statement**”) and the related prospectus supplement and the accompanying prospectus, in each case filed with the Securities and Exchange Commission.

Each Pre-Funded Warrant will have an exercise price per share of common stock equal to \$0.001 per share. The exercise price and the number of shares of common stock issuable upon exercise of each Pre-Funded Warrant is subject to appropriate adjustments in the event of certain stock dividends and distributions, stock splits, stock combinations, reclassifications or similar events affecting the common stock. Each Pre-Funded Warrant will be exercisable from the date of issuance until the date the Pre-Funded Warrant is exercised in full. Each Pre-Funded Warrant will be exercisable, in the holder’s discretion, by (i) payment in full in immediately available funds for the number of shares of common stock purchased upon such exercise or (ii) a cashless exercise, in which case the holder would receive upon such exercise the net number of shares of common stock determined according to the formula set forth in the Pre-Funded Warrant. Under the Pre-Funded Warrants, the Company may not effect the exercise of any Pre-Funded Warrant, and a holder will not be entitled to exercise any portion of any Pre-Funded Warrant that, upon giving effect to such exercise, would cause: (i) the aggregate number of shares of common stock beneficially owned by such holder (together with its affiliates) to exceed 9.99% of the total number of shares of common stock outstanding immediately after giving effect to the exercise; or (ii) the combined voting power of the Company’s securities beneficially owned by such holder (together with its affiliates) to exceed 9.99% of the combined voting power of all of the Company’s securities immediately outstanding after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the Pre-Funded Warrant, which percentage may be changed at the holder’s election to a higher or lower percentage not in excess of 19.99% upon at least 61 days’ notice to the Company.

In the event of certain fundamental transactions, a holder of Pre-Funded Warrants will be entitled to receive, upon exercise of the Pre-Funded Warrants, the kind and amount of securities, cash or other property that such holder would have received had they exercised the Pre-Funded Warrants immediately prior to the fundamental transaction without regard to any limitations on exercise contained in the Pre-Funded Warrants.

The foregoing descriptions of the terms of the Underwriting Agreement and the Pre-Funded Warrants do not purport to be complete and are each qualified in their entirety by reference to the Underwriting Agreement and the Form of Pre-Funded Warrant, respectively, which are filed as Exhibit 1.1 and Exhibit 4.1 hereto and are incorporated herein by reference.

A copy of the opinion of Wilson Sonsini Goodrich & Rosati, P.C. relating to the validity of the Shares, the Pre-Funded Warrants and the shares underlying the Pre-Funded Warrants is filed as Exhibit 5.1 hereto and is incorporated by reference into the Registration Statement.

Item 8.01. Other Events.

Announcement of Public Offering

On April 7, 2021, the Company issued a press release announcing the commencement of an underwritten public offering of its common stock, par value \$0.001 per share, and in lieu of common stock to certain investors that so choose, pre-funded warrants to purchase shares of our common stock, pursuant to the Registration Statement. A copy of the press release is attached hereto as Exhibit 99.1 and is incorporated herein by reference.

This Current Report on Form 8-K, including the exhibits hereto, shall not constitute an offer to sell or the solicitation of an offer to buy any securities of the Company, which is being made only by means of a written prospectus meeting the requirements of Section 10 of the Securities Act, nor shall there be any sale of the Company's securities in any state or jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities law of such jurisdiction.

Announcement of Pricing of Public Offering

On April 7, 2021, the Company issued a press release announcing the pricing of the public offering. The press release announcing the pricing of the public offering is attached hereto as Exhibit 99.2 and is incorporated herein by reference.

Forward-Looking Statements

Certain of the statements made in this report are forward looking, such as those, among others, relating to the Company's expectations regarding the timing and completion of the public offering. Actual results or developments may differ materially from those projected or implied in these forward-looking statements. Factors that may cause such a difference include risks and uncertainties related to completion of the public offering on the anticipated terms or at all, market conditions and the satisfaction of customary closing conditions related to the public offering. More information about the risks and uncertainties faced by the Company is contained under the caption "Risk Factors" in the Company's Current Report on Form 10-K filed with the SEC on February 11, 2021. The Company disclaims any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits.

Exhibit No.	Description
1.1	Underwriting Agreement, dated as of April 7, 2021, among Otonomy, Inc. and the representatives
4.1	Form of Pre-Funded Warrant
5.1	Opinion of Wilson Sonsini Goodrich & Rosati
23.1	Consent of Wilson Sonsini Goodrich & Rosati (included in Exhibit 5.1)
99.1	Press Release dated April 7, 2021
99.2	Press Release dated April 7, 2021
104	Cover page interactive data file (embedded within the inline XBRL document)

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

OTONOMY, INC.

By: /s/ Paul E. Cayer

Paul E. Cayer

Chief Financial and Business Officer

Date: April 8, 2021

OTONOMY, INC.
6,288,890 Shares of Common Stock

And

Pre-Funded Warrants to Purchase 7,111,110 Common Shares

Underwriting Agreement

April 7, 2021

COWEN AND COMPANY, LLC
PIPER SANDLER & CO.
As Representatives of
the several Underwriters listed in
Schedule 1 hereto

c/o Cowen and Company, LLC
599 Lexington Avenue, 27th Floor
New York, New York 10022

c/o Piper Sandler & Co.
345 Park Avenue
New York, New York 10154

Ladies and Gentlemen:

Otonomy, Inc., a Delaware corporation (the "Company"), proposes to issue and sell to the several Underwriters listed in Schedule 1 hereto (the "Underwriters"), for whom you are acting as representatives (the "Representatives"), an aggregate of 6,288,890 shares (the "Underwritten Shares") of common stock, par value \$0.001 per share, of the Company (the "Common Stock"), pre-funded warrants to purchase an aggregate of 7,111,110 shares of Common Stock in a form to be mutually agreed by the Company and the Representatives (the "Warrants") and, at the option of the Underwriters, up to an additional 2,010,000 shares of Common Stock (the "Option Shares"). The Underwritten Shares and the Warrants are herein referred to as the "Underwritten Securities". The Underwritten Shares and the Option Shares are herein referred to as the "Shares". The shares of Common Stock issuable upon exercise of the Warrants are herein referred to as the "Warrant Shares". The Shares, the Warrants and the Warrant Shares are herein referred to as the "Securities". The shares of Common Stock to be outstanding after giving effect to the sale of the Shares and the exercise of the Warrants are referred to herein as the "Stock".

The Company hereby confirms its agreement with the several Underwriters concerning the purchase and sale of the Securities, as follows:

1. Registration Statement. The Company has prepared and filed with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended, and the rules and regulations of the Commission thereunder (collectively, the "Securities Act"), a registration statement on Form S-3 (File No. 333-227269), including a base prospectus dated September 21, 2018 (the "Base Prospectus"), relating to the Shares, the Warrants, the Warrant Shares and other securities that may be

sold from time to time by the Company in accordance with Rule 415 of the Securities Act, and such amendments thereof as may have been required to the date of this Agreement. The term “Registration Statement” as used in this Agreement means the initial registration statement (including all exhibits, financial schedules and all documents and information deemed to be a part of the registration statement by incorporation by reference or otherwise, including pursuant to Rule 430A, 430B or 430C under the Securities Act), as amended at the time it became effective and as supplemented or amended, including the information, if any, contained in any preliminary prospectus or the final prospectus filed with the Commission pursuant to Rule 424(b) and Rule 430A, 430B or 430C under the Securities Act. If the Company has filed an abbreviated registration statement pursuant to Rule 462(b) under the Securities Act (the “Rule 462 Registration Statement”), then any reference herein to the term “Registration Statement” shall be deemed to include such Rule 462 Registration Statement. The term “Preliminary Prospectus” as used in this Agreement means the Base Prospectus and any preliminary prospectus supplement used or filed with the Commission pursuant to Rule 424, in the form provided to the Underwriters by the Company for use in connection with the offering of the Securities. The term “Prospectus” means the Base Prospectus, any Preliminary Prospectus and any amendments or further supplements to such prospectus, and including, without limitation, the final prospectus supplement (the “Prospectus Supplement”) filed pursuant to and within the time limits described in Rule 424(b) with the Commission in connection with the proposed sale of the Securities contemplated by this Agreement. Any reference in this underwriting agreement (this “Agreement”) to the Registration Statement, any Preliminary Prospectus or the Prospectus shall be deemed to refer to and include the documents incorporated by reference therein pursuant to Item 12 of Form S-3 under the Securities Act, as of the effective date of the Registration Statement or the date of such Preliminary Prospectus or the Prospectus, as the case may be, and any reference to “amend”, “amendment” or “supplement” with respect to the Registration Statement, any Preliminary Prospectus or the Prospectus shall be deemed to refer to and include any documents filed after such date under the Securities Exchange Act of 1934, as amended, and the rules and regulations of the Commission thereunder (collectively, the “Exchange Act”) that are deemed to be incorporated by reference therein. Capitalized terms used but not defined herein shall have the meanings given to such terms in the Registration Statement and the Prospectus.

At or prior to the Applicable Time (as defined below), the Company had prepared the following information (collectively with the pricing information set forth on Annex A, the “Pricing Disclosure Package”): a Preliminary Prospectus dated April 7, 2021 and each “free-writing prospectus” (as defined pursuant to Rule 405 under the Securities Act) listed on Annex A hereto.

“Applicable Time” means 8:00 P.M., New York City time, on April 7, 2021.

2. Purchase of the Securities by the Underwriters.

(a) The Company agrees to issue and sell the Underwritten Securities to the several Underwriters as provided in this underwriting agreement (this “Agreement”), and each Underwriter, on the basis of the representations, warranties and agreements set forth herein and subject to the conditions set forth herein, agrees, severally and not jointly, to purchase Common Stock at a price per share of \$2.115 (the “Share Purchase Price”) from the Company the respective number of Underwritten Shares set forth opposite such Underwriter’s name in Schedule 1 hereto, and to purchase from the Company Warrants in respect of the respective number of Warrant Shares set forth opposite such Underwriter’s name in Schedule 1 hereto at a price of \$2.114 per Warrant Share (the “Warrant Purchase Price”).

In addition, the Company agrees to issue and sell the Option Shares to the several Underwriters as provided in this Agreement, and the Underwriters, on the basis of the representations, warranties and agreements set forth herein and subject to the conditions set forth herein, shall have the option to purchase, severally and not jointly, from the Company the Option Shares at the Share Purchase Price less an amount per share equal to any dividends or distributions declared by the Company and payable on the Underwritten Shares but not payable on the Option Shares.

If any Option Shares are to be purchased, the number of Option Shares to be purchased by each Underwriter shall be the number of Option Shares which bears the same ratio to the aggregate number of Option Shares being purchased as the number of Underwritten Shares set forth opposite the name of such Underwriter in Schedule 1 hereto (or such number increased as set forth in Section 10 hereof) bears to the aggregate number of Underwritten Shares being purchased from the Company by the several Underwriters, subject, however, to such adjustments to eliminate any fractional Shares as the Representatives in their discretion shall make.

The Underwriters may exercise the option to purchase Option Shares at any time in whole, or from time to time in part, on or before the thirtieth day following the date of the Prospectus, by written notice from the Representatives to the Company. Such notice shall set forth the aggregate number of Option Shares as to which the option is being exercised and the date and time when the Option Shares are to be delivered and paid for, which may be the same date and time as the Closing Date (as hereinafter defined) but shall not be earlier than the Closing Date nor later than the tenth full business day (as hereinafter defined) after the date of such notice (unless such time and date are postponed in accordance with the provisions of Section 10 hereof). Any such notice shall be given at least two business days prior to the date and time of delivery specified therein.

(b) The Company understands that the Underwriters intend to make a public offering of the Securities as soon after the effectiveness of this Agreement as in the judgment of the Representatives is advisable, and initially to offer the Securities on the terms set forth in the Prospectus. The Company acknowledges and agrees that the Underwriters may offer and sell Securities to or through any affiliate of an Underwriter.

(c) Payment for the Securities shall be made by wire transfer in immediately available funds to the account specified by the Company to the Representatives in the case of the Underwritten Securities, at the offices of Cooley LLP, counsel for the underwriters, 4401 Eastgate Mall, San Diego, CA 92121 at 9:00 A.M., New York City time, on April 12, 2021, or at such other time or place on the same or such other date, not later than the fifth business day thereafter, as the Representatives and the Company may agree upon in writing or, in the case of the Option Shares, on the date and at the time and place specified by the Representatives in the written notice of the Underwriters' election to purchase such Option Shares. The time and date of such payment for the Underwritten Securities is referred to herein as the "Closing Date", and the time and date for such payment for the Option Shares, if other than the Closing Date, is herein referred to as the "Additional Closing Date".

Payment for the Securities to be purchased on the Closing Date or the Additional Closing Date, as the case may be, shall be made against delivery to the Representatives for the respective accounts of the several Underwriters of the Securities to be purchased on the Closing Date or the Additional Closing Date, as the case may be, with any transfer taxes payable in connection with the sale of such Shares duly paid by the Company. Delivery of the Shares shall be made through the facilities of The Depository Trust Company ("DTC") unless the Representatives shall otherwise instruct. The certificates for the Shares, if any, will be made available for inspection and packaging by the Representatives at the office of DTC or its designated custodian not later than 1:00 P.M., New York City time, on the business day prior to the Closing Date or the Additional Closing Date, as the case may be. The Warrants shall be delivered to the Representatives in definitive form, registered in such names and in such denominations as the Representatives shall request in writing not later than the Closing Date. The Warrants will be made available for inspection by the Representatives on the business day prior to the Closing Date.

Notwithstanding the foregoing, the Company and the Representatives shall instruct purchasers of the Warrants in the public offering to make payment for the Warrants on the Closing Date to the Company by wire transfer in immediately available funds to the account specified by the Company at a purchase price of \$2.249 per Warrant Share, in lieu of payment by the Underwriters for such Warrants, and the Company shall deliver such Warrants to such purchasers on the Closing Date in definitive form against such payment, in lieu of the Company's obligation to deliver such Warrants to the Underwriters; provided that, upon receipt by the Company of payment for the Warrants, the Company shall promptly (but in no event later than the Closing Date) pay \$0.135 per Warrant Share to the Underwriters by wire transfer in immediately available funds to the account specified by the Representatives.

In the event that the purchasers of the Warrants in the public offering fail to make payment to the Company for all or part of the Warrants on the Closing Date, the Representatives may elect, by written notice to the Company, to receive shares of Common Stock in lieu of all or a portion of such Warrants to be delivered to the Underwriters under this Agreement.

(d) The Company acknowledges and agrees that the Underwriters are acting solely in the capacity of an arm's length contractual counterparty to the Company with respect to the offering of Securities contemplated hereby (including in connection with determining the terms of the offering) and not as a financial advisor or a fiduciary to, or an agent of, the Company or any other person. Additionally, none of the Representatives or any other Underwriter is advising the Company or any other person as to any legal, tax, investment, accounting or regulatory matters in any jurisdiction. The Company shall consult with its own advisors concerning such matters and shall be responsible for making its own independent investigation and appraisal of the transactions contemplated hereby, and the Underwriters shall have no responsibility or liability to the Company with respect thereto. Any review by the Underwriters of the Company, the transactions contemplated hereby or other matters relating to such transactions will be performed solely for the benefit of the Underwriters and shall not be on behalf of the Company.

3. Representations and Warranties of the Company. The Company represents and warrants to each Underwriter that:

(a) *Preliminary Prospectus.* No order preventing or suspending the use of any Preliminary Prospectus has been issued by the Commission, and each Preliminary Prospectus included in the Pricing Disclosure Package, at the time of filing thereof, complied in all material respects with the Securities Act, and no Preliminary Prospectus, at the time of filing thereof, contained any untrue statement of a material fact or omitted to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; provided that the Company makes no representation and warranty with respect to any statements or omissions made in reliance upon and in conformity with information relating to any Underwriter furnished to the Company in writing by such Underwriter through the Representatives expressly for use in any Preliminary Prospectus, it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in Section 7(b) hereof.

(b) *Pricing Disclosure Package.* The Pricing Disclosure Package as of the Applicable Time did not, and as of the Closing Date and as of the Additional Closing Date, as the case may be, will not, contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; provided that the Company makes no representation and warranty with respect to any statements or omissions made in reliance upon and in conformity with information relating to any Underwriter furnished to the Company in writing by such

Underwriter through the Representatives expressly for use in such Pricing Disclosure Package, it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in Section 7(b) hereof. No statement of material fact included in the Prospectus has been omitted from the Pricing Disclosure Package and no statement of material fact included in the Pricing Disclosure Package that is required to be included in the Prospectus has been omitted therefrom.

(c) *Issuer Free Writing Prospectus.* Other than the Registration Statement, the Preliminary Prospectus and the Prospectus, the Company (including its agents and representatives, other than the Underwriters in their capacity as such) has not prepared, used, authorized, approved or referred to and will not prepare, use, authorize, approve or refer to any “written communication” (as defined in Rule 405 under the Securities Act) that constitutes an offer to sell or solicitation of an offer to buy the Securities (each such communication by the Company or its agents and representatives (other than a communication referred to in clause (i) below) an “Issuer Free Writing Prospectus”) other than (i) any document not constituting a prospectus pursuant to Section 2(a)(10)(a) of the Securities Act or Rule 134 under the Securities Act or (ii) the documents listed on Annex A hereto, each electronic road show and any other written communications approved in writing in advance by the Representatives. Each such Issuer Free Writing Prospectus complied in all material respects with the Securities Act, has been or will be (within the time period specified in Rule 433) filed in accordance with the Securities Act (to the extent required thereby) and does not conflict with the information contained in the Registration Statement or the Pricing Disclosure Package, and, when taken together with the Preliminary Prospectus accompanying, or delivered prior to delivery of, such Issuer Free Writing Prospectus, did not, and as of the Closing Date and as of the Additional Closing Date, as the case may be, will not, contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; provided that the Company makes no representation and warranty with respect to any statements or omissions made in each such Issuer Free Writing Prospectus or Preliminary Prospectus in reliance upon and in conformity with information relating to any Underwriter furnished to the Company in writing by such Underwriter through the Representatives expressly for use in such Issuer Free Writing Prospectus or Preliminary Prospectus, it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in Section 7(b) hereof. Each such Issuer Free Writing Prospectus, as of its issue date and at all subsequent times through the completion of the public offer and sale of the Securities or until any earlier date that the Company notified or notifies the Representatives as described in Section 4(d), did not, does not and will not include any information that conflicted, conflicts or will conflict with the information contained in the Registration Statement or the Prospectus.

(d) *Testing-the-Waters Materials.* The Company has not alone engaged in any Testing-the-Waters Communications other than Testing-the-Waters Communications with entities that are qualified institutional buyers within the meaning of Rule 144A or institutions that are accredited investors within the meaning of Rule 501 of the Securities Act. The Company has not distributed any Written Testing-the-Waters Communications in connection with the offering of the Securities. “Testing-the-Waters Communication” means any communication undertaken in reliance on Rule 163B under the Securities Act, and “Written Testing-the-Waters Communication” means any Testing-the-Waters Communication that is a written communication within the meaning of Rule 405 under the Securities Act.

(e) *Registration Statement and Prospectus.* The Registration Statement has been declared effective by the Commission. No order suspending the effectiveness of the Registration

Statement has been issued by the Commission, and no proceeding for that purpose or pursuant to Section 8A of the Securities Act against the Company or related to the offering of the Securities has been initiated or, to the knowledge of the Company, threatened by the Commission; as of the applicable effective date of the Registration Statement and any post-effective amendment thereto, the Registration Statement and any such post-effective amendment complied and will comply in all material respects with the Securities Act, and did not and will not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements therein not misleading; and as of the date of the Prospectus and any amendment or supplement thereto and as of the Closing Date and as of the Additional Closing Date, as the case may be, the Prospectus complied and will comply in all material respects with the Securities Act and will not contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; provided that the Company makes no representation and warranty with respect to any statements or omissions made in reliance upon and in conformity with information relating to any Underwriter furnished to the Company in writing by such Underwriter through the Representatives expressly for use in the Registration Statement and the Prospectus and any amendment or supplement thereto, it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in Section 7(b) hereof.

(f) *Incorporated Documents.* The documents incorporated by reference in the Registration Statement, the Prospectus and the Pricing Disclosure Package, when they were filed with the Commission conformed in all material respects to the requirements of the Exchange Act, and none of such documents contained any untrue statement of a material fact or omitted to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading; and any further documents so filed and incorporated by reference in the Registration Statement, the Prospectus or the Pricing Disclosure Package, when such documents are filed with the Commission, will conform in all material respects to the requirements of the Exchange Act and will not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

(g) *Financial Statements.* The financial statements (including the related notes thereto) of the Company included or incorporated by reference in the Registration Statement, the Pricing Disclosure Package and the Prospectus comply in all material respects with the applicable requirements of the Securities Act and the Exchange Act, as applicable, and present fairly the financial position of the Company as of the dates indicated and the results of its operations and the changes in its cash flows for the periods specified; such financial statements have been prepared in conformity with generally accepted accounting principles in the United States ("GAAP") applied on a consistent basis throughout the periods covered thereby, except in the case of unaudited, interim financial statements, to the extent they are subject to normal year-end adjustments and do not contain certain footnotes as permitted by the applicable rules of the Commission, and any supporting schedules included or incorporated by reference in the Registration Statement present fairly the information required to be stated therein; and the other financial information included or incorporated by reference in the Registration Statement, the Pricing Disclosure Package and the Prospectus has been derived from the accounting records of the Company and presents fairly the information shown thereby.

(h) *No Material Adverse Change.* Since the date of the most recent financial statements of the Company included or incorporated by reference in the Registration Statement, the Pricing Disclosure Package and the Prospectus, (i) there has not been any change in the

capital stock (other than the issuance of shares of capital stock upon exercise of stock options and warrants described as outstanding in, and the grant of options and awards under existing equity incentive plans described in, the Registration Statement, the Pricing Disclosure Package and the Prospectus), short-term debt or long-term debt of the Company, or any dividend or distribution of any kind declared, set aside for payment, paid or made by the Company on any class of capital stock, or any material adverse change, or any development involving a prospective material adverse change, in or affecting the business, properties, management, financial position, stockholders' equity, results of operations or prospects of the Company; (ii) the Company has not entered into any transaction or agreement (whether or not in the ordinary course of business) that is material to the Company or incurred any liability or obligation, direct or contingent, that is material to the Company; and (iii) the Company has not sustained any loss or interference with its business that is material to the Company and that is either from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor disturbance or dispute or any action, order or decree of any court or arbitrator or governmental or regulatory authority, except in each case as otherwise disclosed in the Registration Statement, the Pricing Disclosure Package and the Prospectus.

(i) *Organization and Good Standing.* The Company has been duly organized and is validly existing and in good standing under the laws of the State of Delaware, is duly qualified to do business and is in good standing in each jurisdiction in which its ownership or lease of property or the conduct of its business requires such qualification, and has all power and authority necessary to own or hold its properties and to conduct the business in which it is engaged, except where the failure to be so qualified or in good standing or have such power or authority would not, individually or in the aggregate, have a material adverse effect on the business, properties, management, financial position, stockholders' equity, results of operations or prospects of the Company or on the performance by the Company of its obligations under this Agreement (a "Material Adverse Effect"). The Company does not own or control, directly or indirectly, any corporation, association or other entity.

(j) *Capitalization.* The Company has an authorized capitalization as set forth in the Registration Statement, the Pricing Disclosure Package and the Prospectus under the heading "Description of Capital Stock"; all the outstanding shares of capital stock of the Company have been duly and validly authorized and issued and are fully paid and non-assessable and are not subject to any pre-emptive or similar rights; except as described in or expressly contemplated by the Pricing Disclosure Package and the Prospectus, there are no outstanding rights (including, without limitation, pre-emptive rights), warrants or options to acquire, or instruments convertible into or exchangeable for, any shares of capital stock or other equity interest in the Company, or any contract, commitment, agreement, understanding or arrangement of any kind relating to the issuance of any capital stock of the Company, any such convertible or exchangeable securities or any such rights, warrants or options; the capital stock of the Company conforms in all material respects to the description thereof contained in the Registration Statement, the Pricing Disclosure Package and the Prospectus.

(k) *Stock Options.* With respect to the stock options (the "Stock Options") granted pursuant to the stock-based compensation plans of the Company (the "Company Stock Plans"), (i) each Stock Option intended to qualify as an "incentive stock option" under Section 422 of the Internal Revenue Code of 1986, as amended (the "Code") so qualifies, (ii) each grant of a Stock Option was duly authorized no later than the date on which the grant of such Stock Option was by its terms to be effective by all necessary corporate action, including, as applicable, approval by the board of directors of the Company (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 such grant was made in accordance with the terms of the Company Stock Plans, the Exchange Act and all other applicable laws and regulatory rules or requirements, including the rules of the Nasdaq Select Global Market (the "Nasdaq Market") and any other exchange on which Company securities are traded, and (iv) each such grant was properly accounted for in accordance with GAAP in the financial statements (including the related notes) of the Company. Each Company Stock Plan is accurately described in all material respects in the Registration Statement, the Pricing Disclosure Package and the Prospectus. The Company has not knowingly granted, and there is no and has been no policy or practice of the Company of granting, Stock Options prior to, or otherwise coordinating the grant of Stock Options with, the release or other public announcement of material information regarding the Company or their results of operations or prospects.

(l) *Due Authorization.* The Company has full right, power and authority to execute and deliver this Agreement and to perform its obligations hereunder; and all action required to be taken for the due and proper authorization, execution and delivery by it of this Agreement and the consummation by it of the transactions contemplated hereby has been duly and validly taken.

(m) *Underwriting Agreement.* This Agreement has been duly authorized, executed and delivered by the Company.

(n) *The Securities.* (i) The Shares to be issued and sold by the Company hereunder have been duly authorized by the Company and, when issued and delivered and paid for as provided herein, will be duly and validly issued, will be fully paid and nonassessable and will conform in all material respects to the descriptions thereof in the Registration Statement, the Pricing Disclosure Package and the Prospectus; (ii) the Warrants have been duly authorized by the Company and, when executed and delivered by the Company and paid for in accordance with this Agreement, will constitute valid and legally binding agreements of the Company enforceable against the Company in accordance with their terms, except as enforceability may be limited by applicable bankruptcy, insolvency or similar laws affecting creditors' rights generally or by equitable principles relating to enforceability; (iii) the Warrant Shares to be issued by the Company upon exercise of the Warrants, as provided therein, have been duly authorized and, when issued and delivered and paid for upon exercise as provided under the Warrant, will be validly issued, fully paid and non-assessable and will conform in all material respects to the descriptions thereof in the Registration Statement, the Pricing Disclosure Package and the Prospectus; and (iv) the issuance of the Securities and the Warrant Shares is not subject to any preemptive, rights of first refusal or similar rights that have not been duly waived or satisfied.

(o) *Listing.* The Shares have been approved for listing on the Nasdaq Market.

(p) *Description of the Underwriting Agreement.* This Agreement conforms in all material respects to the description thereof contained in the Registration Statement, the Pricing Disclosure Package and the Prospectus.

(q) *No Violation or Default.* The Company is not (i) in violation of its charter or by-laws or similar organizational documents; (ii) in default, and no event has occurred that, with notice or lapse of time or both, would constitute such a default, in the due performance or observance of any term, covenant or condition contained in any indenture, mortgage, deed of trust, loan agreement or other agreement or instrument to which the Company is a party or by which the Company is bound or to which any of the property or assets of the Company is subject; or (iii) in violation of any law or statute or any judgment, order, rule or regulation of any court or arbitrator or governmental or regulatory authority, except, in the case of clauses (ii) and (iii) above, for any such default or violation that would not, individually or in the aggregate, have a Material Adverse Effect.

(r) *No Conflicts.* The execution, delivery and performance by the Company of this Agreement and the Warrants by the Company, the issuance and sale of the Securities and the consummation of the transactions contemplated hereby and in the Warrants (with or without notice or lapse of time or both) by this Agreement or the Pricing Disclosure Package and the Prospectus will not (i) conflict with or result in a breach or violation of any of the terms or provisions of, or constitute a default under, or result in the creation or imposition of any lien, charge or encumbrance upon any property or assets of the Company pursuant to, any indenture, mortgage, deed of trust, loan agreement or other agreement or instrument to which the Company is a party or by which the Company is bound or to which any of the property or assets of the Company is subject, (ii) result in any violation of the provisions of the charter or by-laws or similar organizational documents of the Company or (iii) result in the violation of any law or statute or any judgment, order, rule or regulation of any court or arbitrator or governmental or regulatory authority, except, in the case of clauses (i) and (iii) above, for any such conflict, breach, violation or default that would not, individually or in the aggregate, have a Material Adverse Effect.

(s) *No Consents Required.* No consent, filing, approval, authorization, order, license, registration or qualification of or with any court or arbitrator or governmental or regulatory authority is required for the execution, delivery and performance by the Company of this Agreement, the issuance and sale of the Securities and the consummation of the transactions contemplated by this Agreement, except for the registration of the Securities under the Securities Act and such consents, approvals, authorizations, orders and registrations or qualifications as may be required by the Nasdaq Market, Financial Industry Regulatory Authority, Inc. ("FINRA") and under applicable state securities laws in connection with the purchase and distribution of the Securities by the Underwriters.

(t) *Legal Proceedings.* Except as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, there are no legal, governmental or regulatory investigations, actions, suits or proceedings pending to which the Company is or may be a party or to which any property of the Company is or may be the subject that, individually or in the aggregate, if determined adversely to the Company, could reasonably be expected to have a Material Adverse Effect or have a material adverse effect on the power or ability of the Company to perform its obligations under this Agreement or to consummate the transactions contemplated hereby; no such investigations, actions, suits or proceedings are threatened or, to the knowledge of the Company, contemplated by any governmental or regulatory authority or threatened by others; and (i) there are no current or pending legal, governmental or regulatory actions, suits or proceedings that are required under the Securities Act to be described in the Registration Statement, the Pricing Disclosure Package or the Prospectus that are not so described in the Registration Statement, the Pricing Disclosure Package and the Prospectus and (ii) there are no statutes, regulations or contracts or other documents that are required under the Securities Act to be filed as exhibits to the Registration Statement or described in the Registration Statement, the Pricing Disclosure Package or the Prospectus that are not so filed as exhibits to the Registration Statement or described in the Registration Statement, the Pricing Disclosure Package and the Prospectus.

(u) *Independent Accountants.* Ernst & Young LLP, who has certified certain financial statements of the Company, is an independent registered public accounting firm with respect to the Company within the applicable rules and regulations adopted by the Commission and the Public Company Accounting Oversight Board (United States) and as required by the Securities Act.

(v) *Title to Real and Personal Property.* The Company has good and marketable title in fee simple (in the case of real property) to, or has valid and marketable rights to lease or otherwise use, all items of real and personal property and assets that are material to the respective businesses of the Company, in each case free and clear of all liens, encumbrances, claims and defects and imperfections of title except those that (i) do not materially interfere with the use made and proposed to be made of such property by the Company or (ii) could not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect.

(w) *Title to Intellectual Property.* To the knowledge of the Company, the Company owns, possesses, or has a valid license to all material patents, patent applications, trademarks, service marks, trade names, trademark registrations, service mark registrations, copyrights, licenses and know-how (including trade secrets and other unpatented and/or unpatentable proprietary or confidential information, systems or procedures) necessary for the conduct of the Company's business as currently conducted and as proposed to be conducted according to the Prospectus Supplement (collectively, "Intellectual Property"), and, to the knowledge of the Company, the conduct of the Company's business does not and will not conflict in any material respect with any such rights of others. Except as disclosed in the Prospectus Supplement ("Disclosure Documents"), (i) the Company has not received any written notice of any claim of misappropriation or conflict with any intellectual property rights of others in connection with Company's patents, patent applications, patent rights, licenses, inventions, trademarks, service marks, trade names, copyrights and know-how, which could reasonably be expected to result in a Material Adverse Effect, and the Company is unaware of any facts which would form a reasonable basis for any such claim, (ii) to the Company's knowledge there are no third parties who have rights to any Intellectual Property, except for customary reversionary rights of third-party licensors with respect to the Intellectual Property as licensed to the Company; (iii) to the Company's knowledge, there is no infringement by third parties of any Intellectual Property; (iv) there is no pending or, to the Company's knowledge, threatened action, suit, proceeding or claim by others: (A) challenging the Company's rights in or to any Intellectual Property, and the Company is unaware of any facts which would form a reasonable basis for any such action, suit, proceeding or claim; (B) challenging the validity, enforceability or scope of any Intellectual Property, and the Company is unaware of any facts which would form a reasonable basis for any such action, suit, proceeding or claim; or (C) asserting that the Company infringes, misappropriates, or otherwise violates, or would, upon the commercialization of any product or service described in the Disclosure Documents as under development, infringe, misappropriate, or otherwise violate, any intellectual property rights of others, and the Company is unaware of any facts which would form a reasonable basis for any such action, suit, proceeding or claim; (v) the Company has complied with the material terms of each agreement pursuant to which Intellectual Property has been licensed to the Company, and to the Company's knowledge all such agreements are in full force and effect; and (vi) to the Company's knowledge, there are no material defects in any of the patents or patent applications included in the Intellectual Property. In particular, all priority claims made in any United States patents and pending patent applications of the Intellectual Property are valid, and all claims in such patents and pending patent applications are entitled to the priority claims made. No granted United States patents or pending patent applications of the Intellectual Property violate the Paris Convention Treaty. All United States patents and pending patent applications of the Intellectual Property claim priority to all applicable prior filed and/or co-pending patent applications. The product candidates described in the Disclosure Documents as under development by the Company fall within the scope of the claims of one or more patents or patent applications owned by, or exclusively licensed to, the Company.

(x) *Clinical Data and Regulatory Compliance.* The preclinical tests, clinical trials and other studies (collectively, “studies”) that are described in, or the results of which are referred to in, the Registration Statement, the Pricing Disclosure Package or the Prospectus were and, if still pending, are being conducted in all material respects in accordance with the protocols, procedures and controls designed and approved for such studies and with standard medical and scientific research procedures; each description of the results of such studies is accurate and complete in all material respects and fairly presents the data derived from such studies, and the Company has no knowledge of any other studies the results of which are inconsistent with, or otherwise call into question, the results described or referred to in the Registration Statement, the Pricing Disclosure Package or the Prospectus; the Company has made all such filings and obtained all such approvals as may be required by the Food and Drug Administration of the U.S. Department of Health and Human Services or any committee thereof or from any other U.S. or foreign government or drug or medical device regulatory agency, or health care facility Institutional Review Board (collectively, the “Regulatory Agencies”); the Company has not received any notice of, or correspondence from, any Regulatory Agency requiring the termination or suspension of any clinical trials that are described or referred to in the Registration Statement, the Pricing Disclosure Package or the Prospectus; and the Company has operated and currently are in compliance in all material respects with all applicable rules and regulations of the Regulatory Agencies.

(y) *Compliance with Health Care Laws.* The Company is, and at all times has been, in compliance in all material respects with all Health Care Laws. For purposes of this Agreement, “Health Care Laws” means: (i) the Federal Food, Drug, and Cosmetic Act and the regulations promulgated thereunder; (ii) all applicable federal, state, local and all applicable foreign health care related fraud and abuse laws, including, without limitation, the U.S. Anti-Kickback Statute (42 U.S.C. Section 1320a-7b(b)), the Civil Monetary Penalties Law (42 U.S.C. § 1320a-7a), the U.S. Civil False Claims Act (31 U.S.C. Section 3729 et seq.), the U.S. False Statements Law (42 U.S.C. Section 1320a-7b(a)), all applicable federal, state, local and all foreign criminal laws relating to health care fraud and abuse, including but not limited to 18 U.S.C. Sections 286 and 287, and the health care fraud criminal provisions under the U.S. Health Insurance Portability and Accountability Act of 1996 (“HIPAA”) (42 U.S.C. Section 1320d et seq.), the exclusion laws, the statutes, regulations and directives of applicable government funded or sponsored healthcare programs, and the regulations promulgated pursuant to such statutes; (iii) the Patient Protection and Affordable Care Act of 2010, as amended by the Health Care and Education Affordability Reconciliation Act of 2010, the regulations promulgated thereunder; (iv) the U.S. Controlled Substances Act (21 U.S.C. Section 801 et seq.); and (v) all other local, state, federal, national, supranational and foreign laws applicable to the Company; provided that Health Care Laws does not include the health information data privacy and security provisions of HIPAA or other Privacy Laws. The Company has not received written notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from any court or arbitrator or governmental or regulatory authority or third party alleging that any product operation or activity is in violation of any Health Care Laws nor, to the Company’s knowledge, is any such claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action threatened. The Company has filed, maintained or submitted all material reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Health Care Laws, and all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were complete and accurate on the date filed in all material respects (or were corrected or supplemented by a subsequent submission). The Company is not a party to any corporate integrity agreements, monitoring agreements, consent decrees, settlement orders, or similar agreements with or imposed by any governmental or regulatory authority. Additionally, neither the Company nor any of its employees, officers or directors has been excluded, suspended or debarred from participation in any

U.S. federal health care program or human clinical research or, to the knowledge of the Company, is subject to a governmental inquiry, investigation, proceeding, or other similar action that could reasonably be expected to result in debarment, suspension, or exclusion.

(z) *No Undisclosed Relationships.* No relationship, direct or indirect, exists between or among the Company, on the one hand, and the directors, officers, stockholders, customers or suppliers of the Company, on the other, that is required by the Securities Act to be described in the Registration Statement and the Prospectus and that is not so described in such documents and in the Pricing Disclosure Package.

(aa) *Investment Company Act.* The Company is not and, after giving effect to the offering and sale of the Securities and the application of the proceeds thereof as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, will not be required to register as an “investment company” or an entity “controlled” by an “investment company” within the meaning of the Investment Company Act of 1940, as amended, and the rules and regulations of the Commission thereunder (collectively, the “Investment Company Act”).

(bb) *Taxes.* The Company has paid all federal, state, local and foreign taxes and filed all tax returns required to be paid or filed through the date hereof, except where the failure to file would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect, and except as otherwise disclosed in the Registration Statement, the Pricing Disclosure Package and the Prospectus, there is no tax deficiency that has been, or could reasonably be expected to be, asserted against the Company or any of their respective properties or assets and which would reasonably be expected to have a Material Adverse Effect.

(cc) *Licenses and Permits.* The Company possesses all licenses, certificates, permits and other authorizations issued by, and has made all declarations and filings with, the appropriate federal, state, local or foreign governmental or regulatory authorities that are necessary for the ownership or lease of their respective properties or the conduct of their respective businesses as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, except where the failure to possess or make the same would not, individually or in the aggregate, have a Material Adverse Effect; and except as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, the Company has not received notice of any revocation or modification of any such license, certificate, permit or authorization or has any reason to believe that any such license, certificate, permit or authorization will not be renewed in the ordinary course. To the Company’s knowledge, no party granting any such licenses, certificates, permits and other authorizations has taken any action to limit, suspect or revoke the same in any material respect.

(dd) *No Labor Disputes.* No labor disturbance by or dispute with employees of the Company exists or, to the knowledge of the Company, is contemplated or threatened, and the Company is not aware of any existing or imminent labor disturbance by, or dispute with, the employees of any of its principal suppliers, contractors or customers, except as would not have a Material Adverse Effect.

(ee) *Compliance with and Liability under Environmental Laws.* (i) The Company (a) is, and at all prior times was, in compliance with any and all applicable federal, state, local and foreign laws, rules, regulations, requirements, decisions, judgments, decrees, orders and the common law relating to pollution or the protection of the environment, natural resources or human health or safety, including those relating to the generation, storage, treatment, use, handling, transportation, Release or threat of Release of Hazardous Materials (collectively,

“Environmental Laws”), (b) has received and is in compliance with all permits, licenses, certificates or other authorizations or approvals required of them under applicable Environmental Laws to conduct their respective businesses, (c) has not received notice of any actual or potential liability under or relating to, or actual or potential violation of, any Environmental Laws, including for the investigation or remediation of any Release or threat of Release of Hazardous Materials, and has no knowledge of any event or condition that would reasonably be expected to result in any such notice, (d) is not conducting or paying for, in whole or in part, any investigation, remediation or other corrective action pursuant to any Environmental Law at any location, and (e) is not a party to any order, decree or agreement that imposes any obligation or liability under any Environmental Law, and (ii) there are no costs or liabilities associated with Environmental Laws of or relating to the Company, except in the case of each of (i) and (ii) above, for any such matter, as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect; and (iii) except as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, (a) there are no proceedings that are pending, or that are known to be contemplated, against the Company under any Environmental Laws in which a governmental entity is also a party, other than such proceedings regarding which it is reasonably believed no monetary sanctions of \$100,000 or more will be imposed, (b) the Company is not aware of any facts or issues regarding the Company’s compliance with Environmental Laws, or liabilities or other obligations under Environmental Laws, including the Release or threat of Release of Hazardous Materials, that could reasonably be expected to have a material effect on the capital expenditures, earnings or competitive position of the Company, and (c) the Company does not anticipate material capital expenditures relating to any Environmental Laws.

(ff) *Hazardous Materials*. There has been no storage, generation, transportation, use, handling, treatment, Release or threat of Release of Hazardous Materials by, relating to or caused by the Company (or, to the knowledge of the Company, any other entity (including any predecessor) for whose acts or omissions the Company is or could reasonably be expected to be liable) at, on, under or from any property or facility now or previously owned, operated or leased by the Company, or at, on, under or from any other property or facility, in violation of any Environmental Laws or in a manner or amount or to a location that could reasonably be expected to result in any liability under any Environmental Law, except for any violation or liability which would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect. “Hazardous Materials” means any material, chemical, substance, waste, pollutant, contaminant, compound, mixture, or constituent thereof, in any form or amount, including petroleum (including crude oil or any fraction thereof) and petroleum products, natural gas liquids, asbestos and asbestos containing materials, naturally occurring radioactive materials, brine, and drilling mud, regulated or which can give rise to liability under any Environmental Law. “Release” means any spilling, leaking, seepage, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, disposing, depositing, dispersing, or migrating in, into or through the environment, or in, into from or through any building or structure.

(gg) *Compliance with ERISA*. (i) Each employee benefit plan, within the meaning of Section 3(3) of the Employee Retirement Income Security Act of 1974, as amended (“ERISA”), for which the Company or any member of its “Controlled Group” (defined as any organization which is a member of a controlled group of corporations within the meaning of Section 414 of the Code) would have any liability (each, a “Plan”) has been maintained in compliance with its terms and the requirements of any applicable statutes, orders, rules and regulations, including but not limited to ERISA and the Code, except for noncompliance that could not reasonably be expected to result in material liability to the Company; (ii) no prohibited transaction, within the meaning

of Section 406 of ERISA or Section 4975 of the Code, has occurred with respect to any Plan excluding transactions effected pursuant to a statutory or administrative exemption that could reasonably be expected to result in a material liability to the Company; (iii) for each Plan that is subject to the funding rules of Section 412 of the Code or Section 302 of ERISA, the minimum funding standard of Section 412 of the Code or Section 302 of ERISA, as applicable, has been satisfied (without taking into account any waiver thereof or extension of any amortization period) and is reasonably expected to be satisfied in the future (without taking into account any waiver thereof or extension of any amortization period); (iv) the fair market value of the assets of each Plan exceeds the present value of all benefits accrued under such Plan (determined based on those assumptions used to fund such Plan); (v) no “reportable event” (within the meaning of Section 4043(c) of ERISA) has occurred or is reasonably expected to occur that either has resulted, or could reasonably be expected to result, in material liability to the Company; (vi) neither the Company nor any member of the Controlled Group has incurred, nor reasonably expects to incur, any liability under Title IV of ERISA (other than contributions to the Plan or premiums to the PBGC, in the ordinary course and without default) in respect of a Plan (including a “multiemployer plan”, within the meaning of Section 4001(a)(3) of ERISA); and (vii) there is no pending audit or investigation by the Internal Revenue Service, the U.S. Department of Labor, the Pension Benefit Guaranty Corporation or any other governmental agency or any foreign regulatory agency with respect to any Plan that could reasonably be expected to result in material liability to the Company. None of the following events has occurred or is reasonably likely to occur: (x) a material increase in the aggregate amount of contributions required to be made to all Plans by the Company in the current fiscal year of the Company compared to the amount of such contributions made in the Company’s most recently completed fiscal year; or (y) a material increase in the Company’s “accumulated post-retirement benefit obligations” (within the meaning of Statement of Financial Accounting Standards 106) compared to the amount of such obligations in the Company’s most recently completed fiscal year.

(hh) *Disclosure Controls.* The Company maintains an effective system of “disclosure controls and procedures” (as defined in Rule 13a-15(e) of the Exchange Act) that are designed to comply with the requirements of the Exchange Act and that has been designed to ensure that information required to be disclosed by the Company in reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Commission’s rules and forms, including controls and procedures designed to ensure that such information is accumulated and communicated to the Company’s management as appropriate to allow timely decisions regarding required disclosure.

(ii) *Accounting Controls.* The Company maintains systems of “internal control over financial reporting” (as defined in Rule 13a-15(f) of the Exchange Act) that are designed to comply with the requirements of the Exchange Act and have been designed by, or under the supervision of, their respective principal executive and principal financial officers, or persons performing similar functions, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP, including, but not limited to, internal accounting controls sufficient to provide reasonable assurance that (i) transactions are executed in accordance with management’s general or specific authorizations; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with generally accepted accounting principles and to maintain asset accountability; (iii) access to assets is permitted only in accordance with management’s general or specific authorization; (iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences; and (v) interactive data in eXtensible Business Reporting Language included or incorporated by reference in the Registration Statement fairly presents the information called for in all material

respects and is prepared in accordance with the Commission's rules and guidelines applicable thereto. Except as disclosed in the Registration Statement, the Pricing Disclosure Package and the Prospectus, there are no material weaknesses in the Company's internal controls. The Company's auditors and the Audit Committee of the Board of Directors of the Company have been advised of: (i) all significant deficiencies and material weaknesses in the design or operation of internal controls over financial reporting which have adversely affected or are reasonably likely to adversely affect the Company's ability to record, process, summarize and report financial information; and (ii) any fraud, whether or not material, that involves management or other employees who have a significant role in the Company's internal controls over financial reporting.

(jj) *eXtensible Business Reporting Language*. The interactive data in eXtensible Business Reporting Language included or incorporated by reference in the Registration Statement fairly presents the information called for in all material respects and has been prepared in accordance with the Commission's rules and guidelines applicable thereto.

(kk) *Insurance*. The Company has insurance covering its properties, operations, personnel and businesses, including business interruption insurance and policies covering product liability and clinical trial liability claims, which insurance is in amounts and insures against such losses and risks as are generally maintained by companies engaged in the same or similar business and which are, in the Company's reasonable judgment, adequate to protect the Company's business; and the Company has not (i) received notice from any insurer or agent of such insurer that capital improvements or other expenditures are required or necessary to be made in order to continue such insurance or (ii) any reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage at reasonable cost from similar insurers as may be necessary to continue its business.

(ll) *No Unlawful Payments*. Neither the Company nor any director or officer, nor, to the knowledge of the Company, any agent, employee, affiliate or other person associated with or acting on behalf of the Company has (i) used any corporate funds for any unlawful contribution, gift, entertainment or other unlawful expense relating to political activity; (ii) made or taken an act in furtherance of an offer, promise or authorization of any direct or indirect unlawful payment or benefit to any foreign or domestic government or regulatory official or employee, including of any government-owned or controlled entity (such as a state-affiliated hospital, research lab, or university) or of a public international organization, or any person acting in an official capacity for or on behalf of any of the foregoing, or any political party or party official or candidate for political office; (iii) violated or is in violation of any provision of the Foreign Corrupt Practices Act of 1977, as amended, or any applicable law or regulation implementing the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions, or committed an offence under the Bribery Act 2010 of the United Kingdom, or any other applicable anti-bribery or anti-corruption law; or (iv) made, offered, agreed, requested or taken an act in furtherance of any unlawful bribe or other unlawful benefit, including, without limitation, any rebate, payoff, influence payment, kickback or other unlawful or improper payment or benefit. The Company has instituted, maintains and enforces, and will continue to maintain and enforce policies and procedures designed to promote and ensure compliance with all applicable anti-bribery and anti-corruption laws.

(mm) *Compliance with Anti-Money Laundering Laws*. The operations of the Company are and have been conducted at all times in compliance with applicable financial recordkeeping and reporting requirements, including those of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the applicable money laundering statutes of all jurisdictions where the

Company conducts business, the rules and regulations thereunder and any related or similar rules, regulations or guidelines issued, administered or enforced by any governmental or regulatory agency (collectively, the “Anti-Money Laundering Laws”) and no action, suit or proceeding by or before any court or governmental or regulatory agency, authority or body or any arbitrator involving the Company with respect to the Anti-Money Laundering Laws is pending or, to the knowledge of the Company, threatened.

(nn) *No Conflicts with Sanctions Laws.* Neither the Company nor any of its directors or officers, nor, to the knowledge of the Company, any agent, employee, affiliate or other person associated with or acting on behalf of the Company is currently the subject or the target of any sanctions administered or enforced by the U.S. government, (including, without limitation, the Office of Foreign Assets Control of the U.S. Department of the Treasury or the U.S. Department of State and including, without limitation, the designation as a “specially designated national” or “blocked person”), the United Nations Security Council, the European Union, Her Majesty’s Treasury, or other relevant sanctions authority (collectively, “Sanctions”), nor is the Company located, organized or resident in a country or territory that is the subject or the target of Sanctions, including, without limitation, Cuba, Iran, North Korea and Syria (each, a “Sanctioned Country”); and the Company will not directly or indirectly use the proceeds of the offering of the Securities hereunder, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other person or entity (i) to fund or facilitate any activities of or business with any person that, at the time of such funding or facilitation, is the subject or target of Sanctions, (ii) to fund or facilitate any activities of or business in any Sanctioned Country or (iii) in any other manner that will result in a violation by any person (including any person participating in the transaction, whether as underwriter, advisor, investor or otherwise) of Sanctions. For the past five years, the Company has not knowingly engaged in and are not now knowingly engaged in any dealings or transactions with any person that at the time of the dealing or transaction is or was the subject or the target of Sanctions or with any Sanctioned Country.

(oo) *No Broker’s Fees.* The Company is not a party to any contract, agreement or understanding with any person (other than this Agreement) that would give rise to a valid claim against the Company or any Underwriter for a brokerage commission, finder’s fee or like payment in connection with the offering and sale of the Securities.

(pp) *No Registration Rights.* Except as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, no person has the right to require the Company to register any securities for sale under the Securities Act by reason of the filing of the Registration Statement with the Commission or the issuance and sale of the Securities.

(qq) *No Stabilization.* The Company has not taken, directly or indirectly, any action designed to or that could reasonably be expected to cause or result in any stabilization or manipulation of the price of the Securities.

(rr) *Margin Rules.* The application of the proceeds received by the Company from the issuance, sale and delivery of the Securities as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus will not violate Regulation T, U or X of the Board of Governors of the Federal Reserve System or any other regulation of such Board of Governors.

(ss) *Forward-Looking Statements.* No forward-looking statement (within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act) included or incorporated by reference in any of the Registration Statement, the Pricing Disclosure Package or the Prospectus has been made or reaffirmed without a reasonable basis or has been disclosed other than in good faith.

(tt) *Statistical and Market Data*. Nothing has come to the attention of the Company that has caused the Company to believe that the statistical and market-related data included or incorporated by reference in the Registration Statement, the Pricing Disclosure Package and the Prospectus is not based on or derived from sources that are reliable and accurate in all material respects.

(uu) *Sarbanes-Oxley Act*. There is and has been no failure on the part of the Company or any of the Company's directors or officers, in their capacities as such, to comply with any provision of the Sarbanes-Oxley Act of 2002, as amended, and the rules and regulations promulgated in connection therewith (the "Sarbanes-Oxley Act"), including Section 402 related to loans.

(vv) *Status under the Securities Act*. At the time of filing the Registration Statement and any post-effective amendment thereto, at the earliest time thereafter that the Company or any offering participant made a *bona fide* offer (within the meaning of Rule 164(h)(2) under the Securities Act) of the Securities and at the date hereof, the Company was not and is not an "ineligible issuer," as defined in Rule 405 under the Securities Act.

(ww) *No Ratings*. There are (and prior to the Closing Date, will be) no debt securities or preferred stock issued or guaranteed by the Company that are rated by a "nationally recognized statistical rating organization," as such term is defined in Section 3(a)(62) of the Exchange Act.

(xx) *Cybersecurity; Data Protection*. "Personal Data" includes (A) a natural person's name, street address, telephone number, e-mail address, photograph, social security number or tax identification number, driver's license number, passport number, credit card number, bank information, or customer or account number; (B) "personal data" as defined by the European Union General Data Protection Regulation ("GDPR") (EU 2016/679); (C) any information which would qualify as "protected health information" under HIPAA; and (D) any "personal information" as defined by the California Consumer Privacy Act ("CCPA"); and (E) any other piece of information that allows the identification of such natural person, or his or her family, or permits the collection or analysis of any data related to an identified person's health or sexual orientation. Except as would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect: (i) the Company's information technology assets and equipment, computers, systems, networks, hardware, software, websites, applications, and databases (collectively, "IT Systems") operate and perform in all material respects as required in connection with the operation of the business of the Company as currently conducted, free and clear of all material bugs, errors, defects, Trojan horses, time bombs, malware and other corruptants; (ii) the Company has implemented and maintained commercially reasonable controls, policies, procedures, and safeguards to maintain and protect their material confidential information and the integrity, continuous operation, redundancy and security of all IT Systems and all personal, personally identifiable, sensitive, confidential or regulated data ("Personal Data") and all sensitive, confidential, or proprietary data (collectively, with Personal Data, "Sensitive Data") used by the Company, or by its service providers in the performance of services for the Company, in connection with the Company's businesses; (iii) there have been no breaches, violations, outages or unauthorized uses of or accesses to Sensitive Data used or maintained by the Company or by its service providers in the performance of services for the Company ("Company Data"), except for those that have been remedied without material cost or liability or the duty to notify any other person, nor any incidents under internal review or investigations by the Company

relating to the same, and (iv) the Company is and at all prior times has been, in material compliance with all applicable state and federal data privacy and security laws and regulations, including without limitation HIPAA, CCPA, and GDPR, as applicable (collectively, the “Privacy Laws”), and all of its internal policies and binding industry standards, and contractual obligations relating to the privacy and security of IT Systems and Company Data and to the protection of such IT Systems and Company Data from unauthorized use, access, misappropriation or modification. Except as would not, individually or in the aggregate, have a Material Adverse Effect, the Company has at all times made all disclosures to users or customers required by applicable Privacy Laws and none of such disclosures made, have been inaccurate or in violation of any applicable Privacy Laws in any material respect. The Company (A) has not received written (or to its knowledge, other) notice of any actual or potential liability under, or actual or potential violation of, any of the Privacy Laws, and has no knowledge of any event or condition that would reasonably be expected to result in any such notice; (B) is not currently conducting or paying for, in whole or in part, any investigation, remediation, or other corrective action pursuant to any Privacy Law; or (C) is not a party to any order, decree, or agreement that imposes any obligation or liability by any governmental or regulatory authority under any Privacy Law, except, in the case of (A), (B) or (C), where such violation, investigation, remediation, order, decree or agreement would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

4. Further Agreements of the Company. The Company covenants and agrees with each Underwriter that:

(a) *Required Filings.* The Company will file the Prospectus Supplement with the Commission within the time periods specified by Rule 424(b) and Rule 430A, 430B or 430C under the Securities Act, will file any Issuer Free Writing Prospectus to the extent required by Rule 433 under the Securities Act; and the Company will file promptly all reports and any definitive proxy or information statements required to be filed by the Company with the Commission pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act subsequent to the date of the Prospectus and for so long as the delivery of a prospectus is required in connection with the offering or sale of the Securities; and the Company will furnish copies of the Prospectus Supplement and each Issuer Free Writing Prospectus (to the extent not previously delivered) to the Underwriters in New York City prior to 10:00 A.M., New York City time, on the business day next succeeding the date of this Agreement in such quantities as the Representatives may reasonably request.

(b) *Delivery of Copies.* The Company will deliver, without charge, (i) to the Representatives, three signed copies of the Registration Statement as originally filed and each amendment thereto, in each case including all exhibits and consents filed therewith and documents incorporated by reference therein; and (ii) to each Underwriter (A) a conformed copy of the Registration Statement as originally filed and each amendment thereto (without exhibits) and (B) during the Prospectus Delivery Period (as defined below), as many copies of the Prospectus (including all amendments and supplements thereto and documents incorporated by reference therein and each Issuer Free Writing Prospectus) as the Representatives may reasonably request. As used herein, the term “Prospectus Delivery Period” means such period of time after the first date of the public offering of the Securities as in the opinion of counsel for the Underwriters a prospectus relating to the Securities is required by law to be delivered (or required to be delivered but for Rule 172 under the Securities Act) in connection with sales of the Securities by any Underwriter or dealer.

(c) *Amendments or Supplements, Issuer Free Writing Prospectuses.* Before preparing, using, authorizing, approving, referring to or filing any Issuer Free Writing Prospectus, and before filing any amendment or supplement to the Registration Statement or the Prospectus, the Company will furnish to the Representatives and counsel for the Underwriters a copy of the proposed Issuer Free Writing Prospectus, amendment or supplement for review and will not prepare, use, authorize, approve, refer to or file any such Issuer Free Writing Prospectus or file any such proposed amendment or supplement to which the Representatives reasonably object.

(d) *Notice to the Representatives.* The Company will advise the Representatives promptly, and confirm such advice in writing, (i) when any amendment to the Registration Statement has been filed or becomes effective; (ii) when any supplement to the Prospectus, any Issuer Free Writing Prospectus or any Written Testing-the-Waters Communication or any amendment to the Prospectus has been filed or distributed; (iii) of any request by the Commission for any amendment to the Registration Statement or any amendment or supplement to the Prospectus or the receipt of any comments from the Commission relating to the Registration Statement or any other request by the Commission for any additional information including, but not limited to, any request for information concerning any Testing-the-Waters Communication; (iv) of the issuance by the Commission of any order suspending the effectiveness of the Registration Statement or preventing or suspending the use of any Preliminary Prospectus, any of the Pricing Disclosure Package, the Prospectus or any Written Testing-the-Waters Communication or the initiation or threatening of any proceeding for that purpose or pursuant to Section 8A of the Securities Act; (v) of the occurrence of any event or development within the Prospectus Delivery Period as a result of which the Prospectus, the Pricing Disclosure Package, any Issuer Free Writing Prospectus any Written Testing-the-Waters Communication or as then amended or supplemented would include any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances existing when the Prospectus, the Pricing Disclosure Package, any such Issuer Free Writing Prospectus is delivered to a purchaser, not misleading; and (vi) of the receipt by the Company of any notice with respect to any suspension of the qualification of the Securities for offer and sale in any jurisdiction or the initiation or threatening of any proceeding for such purpose; and the Company will use its best efforts to prevent the issuance of any such order suspending the effectiveness of the Registration Statement, preventing or suspending the use of any Preliminary Prospectus, any of the Pricing Disclosure Package or the Prospectus or any Written Testing-the-Waters Communication or suspending any such qualification of the Securities and, if any such order is issued, will obtain as soon as possible the withdrawal thereof.

(e) *Ongoing Compliance.* (1) If during the Prospectus Delivery Period (i) any event or development shall occur or condition shall exist as a result of which the Prospectus as then amended or supplemented would include any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in the light of the circumstances existing when the Prospectus is delivered to a purchaser, not misleading or (ii) it is necessary to amend or supplement the Prospectus to comply with law, the Company will immediately notify the Underwriters thereof and forthwith prepare and, subject to paragraph (c) above, file with the Commission and furnish to the Underwriters and to such dealers as the Representatives may designate such amendments or supplements to the Prospectus (or any document to be filed with the Commission and incorporated by reference therein) as may be necessary so that the statements in the Prospectus as so amended or supplemented (or any document to be filed with the Commission and incorporated by reference therein) will not, in the light of the circumstances existing when the Prospectus is delivered to a purchaser, be misleading or so that the Prospectus will comply with law and (2) if at any time prior to the Closing Date (i) any event or development shall occur or condition shall exist as a result of which the Pricing

Disclosure Package as then amended or supplemented would include any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in the light of the circumstances existing when the Pricing Disclosure Package is delivered to a purchaser, not misleading or (ii) it is necessary to amend or supplement the Pricing Disclosure Package to comply with law, the Company will immediately notify the Underwriters thereof and forthwith prepare and, subject to paragraph (c) above, file with the Commission (to the extent required) and furnish to the Underwriters and to such dealers as the Representatives may designate such amendments or supplements to the Pricing Disclosure Package as may be necessary so that the statements in the Pricing Disclosure Package (or any document to be filed with the Commission and incorporated by reference therein) as so amended or supplemented will not, in the light of the circumstances existing when the Pricing Disclosure Package is delivered to a purchaser, be misleading or so that the Pricing Disclosure Package will comply with law.

(f) *Blue Sky Compliance.* The Company will qualify the Securities for offer and sale under the securities or Blue Sky laws of such jurisdictions as the Representatives shall reasonably request and will continue such qualifications in effect so long as required for distribution of the Securities; provided that the Company shall not be required to (i) qualify as a foreign corporation or other entity or as a dealer in securities in any such jurisdiction where it would not otherwise be required to so qualify, (ii) file any general consent to service of process in any such jurisdiction or (iii) subject itself to taxation in any such jurisdiction if it is not otherwise so subject.

(g) *Earning Statement.* The Company will make generally available to its security holders and the Representatives as soon as practicable an earning statement that satisfies the provisions of Section 11(a) of the Securities Act and Rule 158 of the Commission promulgated thereunder covering a period of at least twelve months beginning with the first fiscal quarter of the Company occurring after the “effective date” (as defined in Rule 158) of the Registration Statement.

(h) *Clear Market.* For a period of 60 days after the date of the Prospectus, the Company will not (i) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, hedge, lend or otherwise transfer or dispose of, directly or indirectly, or file with the Commission a registration statement under the Securities Act relating to, any shares of Stock or any securities convertible into or exercisable or exchangeable for Stock, (ii) enter into any swap, hedging or other agreement that transfers, in whole or in part, any of the economic consequences of ownership of the Stock or any such other securities, or (iii) or publicly disclose the intention to undertake any of the foregoing, whether any such transaction described in clause (i), (ii) or (iii) above is to be settled by delivery of Stock or such other securities, in cash or otherwise, without the prior written consent of Cowen and Company, LLC and Piper Sandler & Co., other than (A) the Securities to be sold hereunder and the delivery of Warrant Shares upon exercise of the Warrants, (B) any shares of Stock issued upon the exercise of options granted under Company Stock Plans or warrants described as outstanding in the Registration Statement, the Pricing Disclosure Package and the Prospectus, (C) any options and other awards granted under a Company Stock Plan described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, provided that prior to the grant of any such options or other awards pursuant to this clause (C) to an officer or director of the Company, each such recipient of such grant shall have signed and delivered an agreement substantially in the form of Exhibit A hereto, (D) the filing by the Company of any registration statement on Form S-8 or a successor form thereto relating to a Company Stock Plan described in the Registration Statement, the Pricing Disclosure Package and the Prospectus and (E) shares of Stock or other securities issued in connection with a transaction with an unaffiliated third party that includes a bona fide commercial relationship

(including joint ventures, marketing or distribution arrangements, collaboration agreements or intellectual property license agreements) or any acquisition of assets or acquisition of not less than a majority or controlling portion of the equity of another entity, provided that (x) the aggregate number of shares issued pursuant to this clause (E) shall not exceed five percent (5%) of the total number of outstanding shares of Stock immediately following the issuance and sale of the Underwritten Shares pursuant hereto and (y) the recipient of any such shares of Stock and securities issued pursuant to this clause (E) during the 60-day restricted period described above shall enter into an agreement substantially in the form of Exhibit A hereto.

(i) *Use of Proceeds.* The Company will apply the net proceeds from the sale of the Securities as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus under the heading "Use of Proceeds".

(j) *No Stabilization.* The Company will not take, directly or indirectly, any action designed to or that could reasonably be expected to cause or result in any stabilization or manipulation of the price of the Stock.

(k) *Exchange Listing.* The Company will use its best efforts to list, subject to notice of issuance, for quotation the Shares and the Warrant Shares on the Nasdaq Market.

(l) *Reports.* During a period of three years from the date of this Agreement, the Company will furnish to the Representatives, as soon as they are available, copies of all reports or other communications (financial or other) furnished to holders of the Shares or the Warrants, and copies of any reports and financial statements furnished to or filed with the Commission or any national securities exchange or automatic quotation system; provided the Company will be deemed to have furnished such reports and financial statements to the Representatives to the extent they are filed on the Commission's Electronic Data Gathering, Analysis, and Retrieval system.

(m) *Record Retention.* The Company will, pursuant to reasonable procedures developed in good faith, retain copies of each Issuer Free Writing Prospectus that is not filed with the Commission in accordance with Rule 433 under the Securities Act.

(n) The Company shall, at all times while the Company is subject to the reporting requirements of Section 13 or 15(d) of the Exchange Act and any Warrants are outstanding, use its best efforts to maintain a registration statement covering the exercise of the Warrants and the issue and sale of the Warrant Shares such that the Warrant Shares, when issued, will not be subject to resale restrictions under the Securities Act except to the extent that the Warrant Shares are owned by affiliates.

(o) The Company shall, at all times while any Warrants are outstanding, reserve and keep available out of the aggregate of its authorized but unissued and otherwise unreserved Common Stock, solely for the purpose of enabling it to issue Warrant Shares upon exercise of such warrants, the number of Warrant Shares that are initially issuable and deliverable upon the exercise of the then-outstanding Warrants.

5. Certain Agreements of the Underwriters. Each Underwriter hereby represents and agrees that:

(a) It has not used, authorized use of, referred to or participated in the planning for use of, and will not use, authorize use of, refer to or participate in the planning for use of, any

“free writing prospectus”, as defined in Rule 405 under the Securities Act (which term includes use of any written information furnished to the Commission by the Company and not incorporated by reference into the Registration Statement and any press release issued by the Company) other than (i) a free writing prospectus that contains no “issuer information” (as defined in Rule 433(h)(2) under the Securities Act) that was not included (including through incorporation by reference) in the Preliminary Prospectus or a previously filed Issuer Free Writing Prospectus, (ii) any Issuer Free Writing Prospectus listed on Annex A or prepared pursuant to Section 3(c) or Section 4(c) above (including any electronic road show), or (iii) any free writing prospectus prepared by such Underwriter and approved by the Company in advance in writing.

(b) It has not and will not, without the prior written consent of the Company, use any free writing prospectus that contains the final terms of the Securities unless such terms have previously been included in a free writing prospectus filed with the Commission; *provided* that Underwriters may use a term sheet substantially in the form of Annex B hereto without the consent of the Company; *provided further* that any Underwriter using such term sheet shall notify the Company, and provide a copy of such term sheet to the Company, prior to, or substantially concurrently with, the first use of such term sheet.

(c) It is not subject to any pending proceeding under Section 8A of the Securities Act with respect to the offering (and will promptly notify the Company if any such proceeding against it is initiated during the Prospectus Delivery Period).

6. Conditions of Underwriters' Obligations. The obligation of each Underwriter to purchase the Underwritten Securities on the Closing Date or the Option Shares on the Additional Closing Date, as the case may be, as provided herein is subject to the performance by the Company of its covenants and other obligations hereunder and to the following additional conditions:

(a) *Registration Compliance; No Stop Order.* No order suspending the effectiveness of the Registration Statement shall be in effect, and no proceeding for such purpose or pursuant to Section 8A under the Securities Act shall be pending before or threatened by the Commission; the Prospectus and each Issuer Free Writing Prospectus shall have been timely filed with the Commission under the Securities Act (in the case of an Issuer Free Writing Prospectus, to the extent required by Rule 433 under the Securities Act) and in accordance with Section 4(a) hereof; and all requests by the Commission for additional information shall have been complied with to the reasonable satisfaction of the Representatives.

(b) *Representations and Warranties.* The representations and warranties of the Company contained herein shall be true and correct on the date hereof and on and as of the Closing Date or the Additional Closing Date, as the case may be; and the statements of the Company and its officers made in any certificates delivered pursuant to this Agreement shall be true and correct on and as of the Closing Date or the Additional Closing Date, as the case may be.

(c) *No Material Adverse Change.* No event or condition of a type described in Section 3(h) hereof shall have occurred or shall exist, which event or condition is not described in the Pricing Disclosure Package (excluding any amendment or supplement thereto) and the Prospectus (excluding any amendment or supplement thereto) and the effect of which in the judgment of the Representatives makes it impracticable or inadvisable to proceed with the offering, sale or delivery of the Securities on the Closing Date or the Additional Closing Date, as the case may be, on the terms and in the manner contemplated by this Agreement, the Pricing Disclosure Package and the Prospectus.

(d) *Officer's Certificate.* The Representatives shall have received on and as of the Closing Date or the Additional Closing Date, as the case may be, a certificate of the chief financial officer or chief accounting officer of the Company and one additional senior executive officer of the Company who is satisfactory to the Representatives (i) confirming that such officers have carefully reviewed the Registration Statement, the Pricing Disclosure Package and the Prospectus and, to the knowledge of such officers, the representations set forth in Sections 3(b) and 3(c) hereof are true and correct, (ii) confirming that the other representations and warranties of the Company in this Agreement are true and correct and that the Company has complied with all agreements and satisfied all conditions on its part to be performed or satisfied hereunder at or prior to the Closing Date or the Additional Closing Date, as the case may be, and (iii) to the effect set forth in paragraphs (a) and (c) above.

(e) *Comfort Letters.* On the date of this Agreement and on the Closing Date or the Additional Closing Date, as the case may be, Ernst & Young LLP shall have furnished to the Representatives, at the request of the Company, letters, dated the respective dates of delivery thereof and addressed to the Underwriters, in form and substance reasonably satisfactory to the Representatives, containing statements and information of the type customarily included in accountants' "comfort letters" to underwriters with respect to the financial statements and certain financial information contained or incorporated by reference in each of the Registration Statement, the Pricing Disclosure Package and the Prospectus; provided, that the letter delivered on the Closing Date or the Additional Closing Date, as the case may be, shall use a "cut-off" date no more than three business days prior to such Closing Date or such Additional Closing Date, as the case may be.

(f) *Reserved.*

(g) *Opinion and Negative Assurance Letter of Counsel for the Company.* Wilson Sonsini Goodrich & Rosati, P.C., counsel for the Company, shall have furnished to the Representatives, at the request of the Company, their written opinion and negative assurance letter, dated the Closing Date or the Additional Closing Date, as the case may be, and addressed to the Underwriters, in form and substance reasonably satisfactory to the Representatives, to the effect set forth in Annex C-1 hereto.

(h) *Opinion of Intellectual Property Counsel for the Company.* Procopio, Cory, Hargreaves & Savitch LLP, intellectual property counsel for the Company, shall have furnished to the Representatives, at the request of the Company, their written opinion and negative assurance letter, dated the Closing Date or the Additional Closing Date, as the case may be, and addressed to the Underwriters, in form and substance reasonably satisfactory to the Representatives hereto, to the effect set forth in Annex C-2 hereto.

(i) *Opinion and Negative Assurance Letter of Counsel for the Underwriters.* The Representatives shall have received on and as of the Closing Date or the Additional Closing Date, as the case may be, an opinion and negative assurance letter of Cooley LLP, counsel for the Underwriters, with respect to such matters as the Representatives may reasonably request, and such counsel shall have received such documents and information as they may reasonably request to enable them to pass upon such matters.

(j) *No Legal Impediment to Issuance and Sale.* No action shall have been taken and no statute, rule, regulation or order shall have been enacted, adopted or issued by any federal, state or foreign governmental or regulatory authority that would, as of the Closing Date or the Additional Closing Date, as the case may be, prevent the issuance or sale of the Securities; and no

injunction or order of any federal, state or foreign court shall have been issued that would, as of the Closing Date or the Additional Closing Date, as the case may be, prevent the issuance or sale of the Securities.

(k) *Good Standing.* The Representatives shall have received on and as of the Closing Date or the Additional Closing Date, as the case may be, satisfactory evidence of the good standing of the Company in the State of Delaware and its good standing as a foreign entity in California and such other jurisdictions as the Representatives may reasonably request, in each case in writing or any standard form of telecommunication from the appropriate governmental authorities of such jurisdictions.

(l) *Exchange Listing.* The Shares to be delivered on the Closing Date or Additional Closing Date, as the case may be, shall have been approved for listing on the Nasdaq Market and the Warrant Shares to be issued by the Company upon exercise of the Warrants to be issued and sold by the Company to the Underwriters pursuant to this Agreement will be listed and posted for trading on the Nasdaq Market upon the Company complying with the usual conditions imposed by the Nasdaq market.

(m) *Lock-up Agreements.* The “lock-up” agreements, each substantially in the form of Exhibit A hereto, between you, and certain shareholders and the officers and directors of the Company relating to sales and certain other dispositions of shares of Stock or certain other securities, delivered to you on or before the date hereof, shall be full force and effect on the Closing Date or Additional Closing Date, as the case may be.

(n) *Warrants.* The Representatives shall have received a form of Warrant in form and substance reasonably acceptable to the Representatives.

(o) *Additional Documents.* On or prior to the Closing Date or the Additional Closing Date, as the case may be, the Company shall have furnished to the Representatives such further certificates and documents as the Representatives may reasonably request.

All opinions, letters, certificates and evidence mentioned above or elsewhere in this Agreement shall be deemed to be in compliance with the provisions hereof only if they are in form and substance reasonably satisfactory to counsel for the Underwriters.

7. Indemnification and Contribution.

(a) *Indemnification of the Underwriters.* The Company agrees to indemnify and hold harmless each Underwriter, its affiliates, directors and officers and each person, if any, who controls such Underwriter within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act, from and against any and all losses, claims, damages and liabilities (including, without limitation, legal fees and other expenses incurred in connection with any suit, action or proceeding or any claim asserted, as such fees and expenses are incurred), joint or several, that arise out of, or are based upon, (i) any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement or caused by any omission or alleged omission to state therein a material fact required to be stated therein or necessary in order to make the statements therein, not misleading, or (ii) any untrue statement or alleged untrue statement of a material fact contained in the Prospectus (or any amendment or supplement thereto), any Issuer Free Writing Prospectus, any “issuer information” filed or required to be filed pursuant to Rule 433(d) under the Securities Act, any materials or information provided to investors by, or with the approval of, the Company in connection with the marketing of the offering of the Stock (“Marketing Materials”), including any road show or investor presentation as defined in Rule 433(h) under the

Securities Act (a “road show”) or any Pricing Disclosure Package (including any Pricing Disclosure Package that has subsequently been amended), or caused by any omission or alleged omission to state therein a material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading, in each case except insofar as such losses, claims, damages or liabilities arise out of, or are based upon, any untrue statement or omission or alleged untrue statement or omission made in reliance upon and in conformity with any information relating to any Underwriter furnished to the Company in writing by such Underwriter through the Representatives expressly for use therein, it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in subsection (b) below.

(b) *Indemnification of the Company.* Each Underwriter agrees, severally and not jointly, to indemnify and hold harmless the Company, its directors, its officers who signed the Registration Statement and each person, if any, who controls the Company within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act to the same extent as the indemnity set forth in paragraph (a) above, but only with respect to any losses, claims, damages or liabilities that arise out of, or are based upon, any untrue statement or omission or alleged untrue statement or omission made in reliance upon and in conformity with any information relating to such Underwriter furnished to the Company in writing by such Underwriter through the Representatives expressly for use in the Registration Statement, the Prospectus (or any amendment or supplement thereto), any Issuer Free Writing Prospectus, any road show or any Pricing Disclosure Package (including any Pricing Disclosure Package that has subsequently been amended), it being understood and agreed upon that the only such information furnished by any Underwriter consists of the following information in the Prospectus furnished on behalf of each Underwriter: the information contained in the fourth, ninth, twelfth and thirteenth paragraphs under the heading “Underwriting.”

(c) *Notice and Procedures.* If any suit, action, proceeding (including any governmental or regulatory investigation), claim or demand shall be brought or asserted against any person in respect of which indemnification may be sought pursuant to either paragraph (a) or (b) above, such person (the “Indemnified Person”) shall promptly notify the person against whom such indemnification may be sought (the “Indemnifying Person”) in writing; provided that the failure to notify the Indemnifying Person shall not relieve it from any liability that it may have under paragraph (a) or (b) above except to the extent that it has been materially prejudiced (through the forfeiture of substantive rights or defenses) by such failure; and provided, further, that the failure to notify the Indemnifying Person shall not relieve it from any liability that it may have to an Indemnified Person otherwise than under paragraph (a) or (b) above. If any such proceeding shall be brought or asserted against an Indemnified Person and it shall have notified the Indemnifying Person thereof, the Indemnifying Person shall retain counsel reasonably satisfactory to the Indemnified Person (who shall not, without the consent of the Indemnified Person, be counsel to the Indemnifying Person) to represent the Indemnified Person in such proceeding and shall pay the fees and expenses of such counsel related to such proceeding, as incurred. In any such proceeding, any Indemnified Person shall have the right to retain its own counsel, but the fees and expenses of such counsel shall be at the expense of such Indemnified Person unless (i) the Indemnifying Person and the Indemnified Person shall have mutually agreed to the contrary; (ii) the Indemnifying Person has failed within a reasonable time to retain counsel reasonably satisfactory to the Indemnified Person; (iii) the Indemnified Person shall have reasonably concluded that there may be legal defenses available to it that are different from or in addition to those available to the Indemnifying Person; or (iv) the named parties in any such proceeding (including any impleaded parties) include both the Indemnifying Person and the Indemnified Person and representation of both parties by the same counsel would be inappropriate due to actual or potential differing interest between them. It is understood and agreed that the Indemnifying Person shall not, in connection with any proceeding or related proceedings in the same jurisdiction, be liable for the fees and expenses of more than one separate firm (in addition to any local counsel) for all Indemnified Persons, and that all such fees and expenses shall be paid or reimbursed as they are incurred.

Any such separate firm for any Underwriter, its affiliates, directors and officers and any control persons of such Underwriter shall be designated in writing by the Representatives and any such separate firm for the Company, its directors, its officers who signed the Registration Statement and any control persons of the Company shall be designated in writing by the Company. The Indemnifying Person shall not be liable for any settlement of any proceeding effected without its written consent, but if settled with such consent or if there be a final judgment for the plaintiff, the Indemnifying Person agrees to indemnify each Indemnified Person from and against any loss or liability by reason of such settlement or judgment. Notwithstanding the foregoing sentence, if at any time an Indemnified Person shall have requested that an Indemnifying Person reimburse the Indemnified Person for fees and expenses of counsel as contemplated by this paragraph, the Indemnifying Person shall be liable for any settlement of any proceeding effected without its written consent if (i) such settlement is entered into more than 45 days after receipt by the Indemnifying Person of such request and (ii) the Indemnifying Person shall not have reimbursed the Indemnified Person in accordance with such request prior to the date of such settlement. No Indemnifying Person shall, without the written consent of the Indemnified Person, effect any settlement of any pending or threatened proceeding in respect of which any Indemnified Person is or could have been a party and indemnification could have been sought hereunder by such Indemnified Person, unless such settlement (x) includes an unconditional release of such Indemnified Person, in form and substance reasonably satisfactory to such Indemnified Person, from all liability on claims that are the subject matter of such proceeding and (y) does not include any statement as to or any admission of fault, culpability or a failure to act by or on behalf of any Indemnified Person.

(d) *Contribution.* If the indemnification provided for in paragraphs (a) and (b) above is unavailable to an Indemnified Person or insufficient in respect of any losses, claims, damages or liabilities referred to therein, then each Indemnifying Person under such paragraph, in lieu of indemnifying such Indemnified Person thereunder, shall contribute to the amount paid or payable by such Indemnified Person as a result of such losses, claims, damages or liabilities (i) in such proportion as is appropriate to reflect the relative benefits received by the Company, on the one hand, and the Underwriters, on the other, from the offering of the Securities or (ii) if the allocation provided by clause (i) is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) but also the relative fault of the Company, on the one hand, and the Underwriters, on the other, in connection with the statements or omissions that resulted in such losses, claims, damages or liabilities, as well as any other relevant equitable considerations. The relative benefits received by the Company, on the one hand, and the Underwriters, on the other, shall be deemed to be in the same respective proportions as the net proceeds (before deducting expenses) received by the Company from the sale of the Securities and the total underwriting discounts and commissions received by the Underwriters in connection therewith, in each case as set forth in the table on the cover of the Prospectus, bear to the aggregate offering price of the Securities. The relative fault of the Company, on the one hand, and the Underwriters, on the other, shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Company or by the Underwriters and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission.

(e) *Limitation on Liability.* The Company and the Underwriters agree that it would not be just and equitable if contribution pursuant to paragraph (d) above were determined by pro rata allocation (even if the Underwriters were treated as one entity for such purpose) or by any other method of allocation that does not take account of the equitable considerations referred to in paragraph (d) above. The amount paid or payable by an Indemnified Person as a result of the losses, claims, damages and liabilities referred to in paragraph (d) above shall be deemed to include, subject to the limitations set forth above, any legal or other expenses incurred by such Indemnified Person in connection with any such action or claim. Notwithstanding the provisions of paragraphs (d) and (e), in no event shall an Underwriter be required to contribute any amount in excess of the amount by which the total underwriting

discounts and commissions received by such Underwriter with respect to the offering of the Securities exceeds the amount of any damages that such Underwriter has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The Underwriters' obligations to contribute pursuant to paragraphs (d) and (e) are several in proportion to their respective purchase obligations hereunder and not joint.

(f) *Non-Exclusive Remedies.* The remedies provided for in paragraphs (a) through (e) are not exclusive and shall not limit any rights or remedies which may otherwise be available to any Indemnified Person at law or in equity.

8. Effectiveness of Agreement. This Agreement shall become effective upon the execution and delivery hereof by the parties hereto.

9. Termination. This Agreement may be terminated in the absolute discretion of the Representatives, by notice to the Company, if after the execution and delivery of this Agreement and prior to the Closing Date or, in the case of the Option Shares, prior to the Additional Closing Date: (i) there has been, in the judgment of the Representatives, since the time of execution of this Agreement or since the respective dates as of which information is given in the Registration Statement, the Pricing Disclosure Package or the Prospectus, any material adverse change in the business, properties, management, financial position, stockholders' equity, results of operations or prospects of the Company and its subsidiaries taken as a whole, (ii) trading generally shall have been suspended or materially limited on or by any of the New York Stock Exchange, the American Stock Exchange, the Nasdaq Stock Market, the Chicago Board Options Exchange, the Chicago Mercantile Exchange or the Chicago Board of Trade; (iii) trading of any securities issued or guaranteed by the Company shall have been suspended on any exchange or in any over-the-counter market; (iv) a general moratorium on commercial banking activities shall have been declared by federal or New York State authorities; (v) there shall have occurred any major disruption of settlements of securities, payment or clearance services in the United States or any other country where such securities are listed; or (vi) there shall have occurred any outbreak or escalation of hostilities or declaration by the United States of a national emergency or war, or any change in financial markets or any calamity or crisis or escalation thereof, either within or outside the United States, that, in the judgment of the Representatives, is material and adverse and makes it impracticable or inadvisable to proceed with the offering, sale or delivery of the Securities on the Closing Date or the Additional Closing Date, as the case may be, on the terms and in the manner contemplated by this Agreement, the Pricing Disclosure Package and the Prospectus.

10. Defaulting Underwriter.

(a) If, on the Closing Date or the Additional Closing Date, as the case may be, any Underwriter defaults on its obligation to purchase the Securities that it has agreed to purchase hereunder on such date, the non-defaulting Underwriters may in their discretion arrange for the purchase of such Securities by other persons satisfactory to the Company on the terms contained in this Agreement. If, within 36 hours after any such default by any Underwriter, the non-defaulting Underwriters do not arrange for the purchase of such Securities, then the Company shall be entitled to a further period of 36 hours within which to procure other persons satisfactory to the non-defaulting Underwriters to purchase such Securities on such terms. If other persons become obligated or agree to purchase the Securities of a defaulting Underwriter, either the non-defaulting Underwriters or the Company may postpone the Closing Date or the Additional Closing Date, as the case may be, for up to five full business days in order to effect any changes that in the opinion of counsel for the Company or counsel for the Underwriters may be necessary in the Registration Statement and the Prospectus or in any other document or arrangement, and

the Company agrees to promptly prepare any amendment or supplement to the Registration Statement and the Prospectus that effects any such changes. As used in this Agreement, the term "Underwriter" includes, for all purposes of this Agreement unless the context otherwise requires, any person not listed in Schedule 1 hereto that, pursuant to this Section 10, purchases Securities that a defaulting Underwriter agreed but failed to purchase.

(b) If, after giving effect to any arrangements for the purchase of the Securities of a defaulting Underwriter or Underwriters by the non-defaulting Underwriters and the Company as provided in paragraph (a) above, the aggregate number of Securities that remain unpurchased on the Closing Date or the Additional Closing Date, as the case may be, does not exceed one-eleventh of the aggregate number of Securities to be purchased on such date, then the Company shall have the right to require each non-defaulting Underwriter to purchase the number of Securities that such Underwriter agreed to purchase hereunder on such date plus such Underwriter's pro rata share (based on the number of Securities that such Underwriter agreed to purchase on such date) of the Securities of such defaulting Underwriter or Underwriters for which such arrangements have not been made.

(c) If, after giving effect to any arrangements for the purchase of the Securities of a defaulting Underwriter or Underwriters by the non-defaulting Underwriters and the Company as provided in paragraph (a) above, the aggregate number of Securities that remain unpurchased on the Closing Date or the Additional Closing Date, as the case may be, exceeds one-eleventh of the aggregate amount of Shares to be purchased on such date, or if the Company shall not exercise the right described in paragraph (b) above, then this Agreement or, with respect to any Additional Closing Date, the obligation of the Underwriters to purchase Securities on the Additional Closing Date, shall terminate without liability on the part of the non-defaulting Underwriters. Any termination of this Agreement pursuant to this Section 10 shall be without liability on the part of the Company, except that the Company will continue to be liable for the payment of expenses as set forth in Section 11 hereof and except that the provisions of Section 7 hereof shall not terminate and shall remain in effect.

(d) Nothing contained herein shall relieve a defaulting Underwriter of any liability it may have to the Company or any non-defaulting Underwriter for damages caused by its default.

11. Payment of Expenses.

(a) Whether or not the transactions contemplated by this Agreement are consummated or this Agreement is terminated, the Company will pay or cause to be paid all costs and expenses incident to the performance of its obligations hereunder, including without limitation, (i) the costs incident to the authorization, issuance, sale, preparation and delivery of the Securities and any taxes payable in that connection; (ii) the costs incident to the preparation, printing and filing under the Securities Act of the Registration Statement, the Preliminary Prospectus, any Issuer Free Writing Prospectus, any Pricing Disclosure Package and the Prospectus (including all exhibits, amendments and supplements thereto) and the distribution thereof; (iii) the fees and expenses of the Company's counsel and independent accountants; (iv) the fees and expenses incurred in connection with the registration or qualification and determination of eligibility for investment of the Securities under the state or foreign securities or blue sky laws of such jurisdictions as the Representatives may designate and the preparation, printing and distribution of a Blue Sky Memorandum and any "Canadian Wrapper" (including the related fees and expenses of counsel for the Underwriters in an amount not to exceed \$10,000); (v) the cost of preparing stock certificates; (vi) the costs and charges of any transfer agent and any registrar; (vii) all expenses and application fees incurred in connection with any filing with, and clearance of the offering by, FINRA (including the fees and expenses of counsel for the Underwriters in an amount not to exceed \$10,000); (viii) all expenses incurred by the Company in connection with any "road show" presentation to potential investors, including, without limitation, expenses associated with the preparation or dissemination of any electronic road show,

expenses associated with the production of road show slides and graphics, fees and expenses of any consultants engaged in connection with the road show presentations with the prior approval of the Company, travel and lodging expenses of the officers of the Company and any such consultants, and 50% of the cost of any aircraft or other transportation chartered in connection with the “road show” (it being understood and agreed that except as provided in this Section 11 or Section 7 hereof, the Underwriters will pay all of the travel, lodging and other expenses of the Underwriters or any of their employees incurred by them in connection with the “road show,” except that the Underwriters shall pay 50% of the cost of any aircraft or other transportation chartered in connection with the “road show”); and (ix) all expenses and application fees related to the listing of the Shares on the Nasdaq Market.

(b) If (i) this Agreement is terminated pursuant to Section 9, (ii) the Company for any reason fails to tender the Securities for delivery to the Underwriters or (iii) the Underwriters decline to purchase the Securities for any reason permitted under this Agreement, the Company agrees to reimburse the Underwriters for all out-of-pocket costs and expenses (including the fees and expenses of their counsel) reasonably incurred by the Underwriters in connection with this Agreement and the offering contemplated hereby. For the avoidance of doubt, it is understood that the Company shall not pay or reimburse any costs, fees or expenses incurred by any Underwriter that defaults on its obligations to purchase the Securities.

12. Persons Entitled to Benefit of Agreement. This Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective successors and the officers and directors and any controlling persons referred to in Section 7 hereof. Nothing in this Agreement is intended or shall be construed to give any other person any legal or equitable right, remedy or claim under or in respect of this Agreement or any provision contained herein. No purchaser of Securities from any Underwriter shall be deemed to be a successor merely by reason of such purchase.

13. Survival. The respective indemnities, rights of contribution, representations, warranties and agreements of the Company and the Underwriters contained in this Agreement or made by or on behalf of the Company or the Underwriters pursuant to this Agreement or any certificate delivered pursuant hereto shall survive the delivery of and payment for the Securities and shall remain in full force and effect, regardless of any termination of this Agreement or any investigation made by or on behalf of the Company or the Underwriters.

14. Certain Defined Terms. For purposes of this Agreement, (a) except where otherwise expressly provided, the term “affiliate” has the meaning set forth in Rule 405 under the Securities Act and (b) the term “business day” means any day other than a day on which banks are permitted or required to be closed in New York City.

15. Miscellaneous.

(a) Notices. All notices and other communications hereunder shall be in writing and shall be deemed to have been duly given if mailed or transmitted and confirmed by any standard form of telecommunication. Notices to the Underwriters shall be given to the Representatives c/o Cowen and Company, LLC, 599 Lexington Avenue, New York, New York 10022, Attention: Head of Equity Capital Markets, Fax: 646-562-1249 with a copy to the General Counsel, Fax: 646-562-1130; and c/o Piper Sandler & Co., 800 Nicollet Mall, Minneapolis, Minnesota 55402, to the attention of Equity Capital Markets and separately, General Counsel, at legalcapmarkets@psc.com. Notices to the Company shall be given to it at Otonomy, Inc., 6275 Nancy Ridge Drive, Suite 100, San Diego, California 92121 (fax: (858) 200-0933), Attention: General Counsel, with a copy (which copy shall not constitute notice) to Wilson Sonsini Goodrich & Rosati, P.C., 650 Page Mill Road, Palo Alto, California 94304 (fax: (650) 493-6811), Attention: Tony Jeffries.

(b) *Governing Law.* This Agreement and any claim, controversy or dispute arising under or related to this Agreement shall be governed by and construed in accordance with the laws of the State of New York applicable to agreements made and to be performed in such state.

(c) *Waiver of Jury Trial.* The Company and each of the Underwriters hereby irrevocably waive, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Agreement or the transactions contemplated hereby.

(d) *Recognition of the U.S. Special Resolution Regimes.*

(i) In the event that any Underwriter that is a Covered Entity becomes subject to a proceeding under a U.S. Special Resolution Regime, the transfer from such Underwriter of this Agreement, and any interest and obligation in or under this Agreement, will be effective to the same extent as the transfer would be effective under the U.S. Special Resolution Regime if this Agreement, and any such interest and obligation, were governed by the laws of the United States or a state of the United States.

(ii) In the event that any Underwriter that is a Covered Entity or a BHC Act Affiliate of such Underwriter becomes subject to a proceeding under a U.S. Special Resolution Regime, Default Rights under this Agreement that may be exercised against such Underwriter are permitted to be exercised to no greater extent than such Default Rights could be exercised under the U.S. Special Resolution Regime if this Agreement were governed by the laws of the United States or a state of the United States.

As used in this Section 16(g):

“BHC Act Affiliate” has the meaning assigned to the term “affiliate” in, and shall be interpreted in accordance with, 12 U.S.C. § 1841(k).

“Covered Entity” means any of the following:

- (i) a “covered entity” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 252.82(b);
- (ii) a “covered bank” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 47.3(b); or
- (iii) a “covered FSI” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 382.2(b).

“Default Right” has the meaning assigned to that term in, and shall be interpreted in accordance with, 12 C.F.R. §§ 252.81, 47.2 or 382.1, as applicable.

“U.S. Special Resolution Regime” means each of (i) the Federal Deposit Insurance Act and the regulations promulgated thereunder and (ii) Title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act and the regulations promulgated thereunder.

(e) *Counterparts.* This Agreement may be signed in counterparts (which may include counterparts delivered via facsimile, electronic mail (including any electronic signature covered by the U.S. federal ESIGN Act of 2000, Uniform Electronic Transactions Act, the Electronic Signatures and Records Act or other applicable law, e.g., www.docusign.com) or other transmission method), each of which shall be an original and all of which together shall constitute one and the same instrument.

(f) *Amendments or Waivers.* No amendment or waiver of any provision of this Agreement, nor any consent or approval to any departure therefrom, shall in any event be effective unless the same shall be in writing and signed by the parties hereto.

(g) *Headings.* The headings herein are included for convenience of reference only and are not intended to be part of, or to affect the meaning or interpretation of, this Agreement.

(h) *Integration.* This Agreement supersedes all prior agreements and understandings (whether written or oral) between the Company and the Underwriters, or any of them, with respect to the subject matter hereof.

If the foregoing is in accordance with your understanding, please indicate your acceptance of this Agreement by signing in the space provided below.

Very truly yours,

OTONOMY, INC.

By: /s/ David A. Weber, Ph.D.

Name: David A. Weber, Ph.D.

Title: President and Chief Executive Officer

[Signature Page to Underwriting Agreement]

Accepted as of the date first written above:

COWEN AND COMPANY, LLC
PIPER SANDLER & CO.

Each for itself and on behalf of the several Underwriters
listed in Schedule 1 hereto.

COWEN AND COMPANY, LLC

By: /s/ Bill Follis
Authorized Signatory

PIPER SANDLER & CO.

By: /s/ Neil Riley
Authorized Signatory

[Signature Page to Underwriting Agreement]

<u>Underwriter</u>	<u>Number of Shares</u>	<u>Number of Warrant Shares</u>
Cowen and Company, LLC	3,301,668	3,733,333
Piper Sandler & Co.	2,987,222	3,377,777
Total	6,288,890	7,111,110

a. **Pricing Disclosure Package**

None.

b. **Pricing Information Provided Orally by Underwriters**

Underwritten Shares: 6,288,890

Number of Warrant Shares: 7,111,110

Option Shares: 2,010,000

Public Offering Price per Share: \$2.25

Public Offering Price per Warrant Share: \$2.249

Pricing Term Sheet

None.

Form of Opinion of Counsel for the Company

April , 2021

Cowen and Company, LLC
Piper Sandler & Co.
As Representatives of the several Underwriters

Cowen and Company, LLC
c/o Broadridge Financial Solutions
599 Lexington Avenue, 27th Floor
New York, NY 10022

c/o Piper Sandler & Co.
800 Nicollet Mall, J12S03
Minneapolis, MN 55402

Re: Public Offering of Shares of Common Stock of Otonomy, Inc.

Ladies and Gentlemen:

Reference is made to the underwriting agreement, dated April , 2021 (the “**Underwriting Agreement**”) by and among Otonomy, Inc., a Delaware corporation (the “**Company**”) and Cowen and Company, LLC and Piper Sandler & Co., as representatives (the “**Representatives**”) of the several Underwriters named in Schedule I thereto (the “**Underwriters**”). Pursuant to the Underwriting Agreement, the Company has agreed to issue and sell to the Underwriters an aggregate of [] shares of its common stock, par value \$0.001 per share (the “**Shares**”) (including [] shares of its common stock upon the Underwriters exercise of their option to purchase additional shares), and pre-funded warrants to purchase [] shares of the Company’s common stock (the “**Warrants**”). The Shares and the Warrants are referred to herein as the “**Securities**”. This opinion letter is delivered to you as Representatives of the Underwriters pursuant to Section 6(g) of the Underwriting Agreement, and all terms used herein have the meanings defined for them in the Underwriting Agreement unless otherwise defined herein.

We have acted as counsel for the Company in connection with the Underwriting Agreement and the issuance of the Securities. As such counsel, we have made such legal and factual examinations and inquiries as we have deemed necessary or advisable for the purpose of rendering the opinions and statements set forth below.

In rendering the opinions and statements expressed below, we have examined originals or copies of the following:

- (a) the certificate of incorporation, as amended to date, of the Company as certified by the Secretary of State of Delaware (the “**Certificate of Incorporation**”);
- (b) the bylaws of the Company, as amended to date (the “**Bylaws**”);

- (c) the minutes of the meetings of, or actions by written consent of, the Board of Directors, the Pricing Committee of the Board of Directors, and the stockholders of the Company with respect to the transactions covered by the opinions set forth below;
- (d) the registration statement on Form S-3 (File No. 333-227269) filed by the Company under the Securities Act of 1933, as amended (the “**Securities Act**”), with the Securities and Exchange Commission (the “**Commission**”) on September 10, 2018, together with the exhibits thereto (other than any Form T-1) and the documents or portions thereof incorporated by reference therein, as modified or superseded or as described therein (such registration statement, as amended at the time it became effective, [including the abbreviated registration statement filed pursuant to Rule 462(b) under the Securities Act and] including the information deemed to be a part of the registration statement pursuant to Rule 430B of the General Rules and Regulations of the Commission (the “**Rules and Regulations**”) under the Securities Act, being hereinafter referred to as the “**Registration Statement**”);
- (e) the base prospectus, dated September 10, 2018, together with the documents or portions thereof incorporated by reference therein, as modified or superseded as described therein which forms a part of the Registration Statement, in the form filed with the Registration Statement (the “**Base Prospectus**”), relating to the offering of securities of the Company, which forms a part of and is included in the Registration Statement;
- (f) the related prospectus supplement dated April , 2021, in the form in which it was filed with the Commission pursuant to Rule 424(b) of the Rules and Regulations, relating to the offering of the Securities (such prospectus supplement, together with the documents or portions thereof incorporated by reference therein, as modified or superseded as described therein, and the Base Prospectus, the “**Pricing Prospectus**”) and the information set forth on Exhibit A hereto (that information taken together with the Pricing Prospectus, the “**Time of Sale Prospectus**”);
- (g) the related final prospectus supplement dated [April], 2021, in the form in which it was filed with the Commission pursuant to Rule 424(b) of the Rules and Regulations, (such prospectus supplement, together with the documents or portions thereof incorporated by reference therein, as modified or superseded as described therein, relating to the offering of the Securities, the “**Final Prospectus Supplement**” and, together with the Base Prospectus, the “**Prospectus**”);
- (h) the notice of effectiveness filed on September 21, 2018 on the Electronic Data Gathering, Analysis and Retrieval System (“**EDGAR**”) as to the effective time and date of the Registration Statement being on September 21, 2018;
- (i) a specimen certificate for shares of the Company’s common stock;
- (j) executed counterparts of the Underwriting Agreement;
- (k) the Officers’ Certificates (as defined below) dated as of the date hereof delivered to you pursuant to Section 6(d) of the Underwriting Agreement;
- (l) the Secretary’s Certificate of the Company dated as of the date hereof delivered to you pursuant to the Underwriting Agreement;

- (m) the certificate of the transfer agent and registrar delivered to you on the date hereof;
- (n) the cross-receipts delivered by you and the Company on the date hereof;
- (o) (i) a certificate of the Secretary of State of Delaware, dated [April], 2021 with respect to the standing of the Company as a corporation incorporated under the laws of the State of Delaware, (ii) a Certificate of the Secretary of California dated [April], 2021 with respect to the standing of the Company as a foreign corporation qualified to do business in the State of California and (iii) a Certificate from the Franchise Tax Board of the State of California dated [April], 2021 with respect to the good standing of the Company;
- (p) the agreements, contracts, or instruments filed as an exhibit to the Registration Statement pursuant to Item 601(b)(4) or (10) of Regulation S-K (the “**Reviewed Agreements**”);
- (q) the letter, dated [April], 2021, sent by the Representatives to the Company delivered pursuant to the Underwriting Agreement exercising the option to purchase additional shares; and
- (r) the judgments, orders or decrees listed on Exhibit B hereto (the “**Reviewed Judgments**”).

In addition, we have reviewed originals or copies of such corporate records of the Company, certificates of public officials, a certificate of an officer of the Company as to factual matters (the “**Officer’s Certificate**”) and such other documents which we consider necessary or advisable for the purpose of rendering the opinions set forth below. We have not independently established the facts stated therein.

In such examination we have assumed the genuineness of all signatures, the authenticity and completeness of all documents submitted to us as originals and the conformity to original documents of all copies submitted to us. In making our examination of documents, we have assumed that each party to any such document (other than the Company in connection with the Underwriting Agreement) has satisfied those requirements that are applicable to it to the extent necessary to make such document a valid and binding obligation of such party, enforceable against such party in accordance with its terms. We have assumed that the certificates representing the Securities (to the extent certificated) purchased by you from the Company have been properly authenticated by the signature of an authorized officer of the Company’s transfer agent. We have also assumed the conformity of the documents filed with the Commission via EDGAR, except for required EDGAR formatting changes, to physical copies submitted for our examination and the absence of any evidence extrinsic to the provisions of the written agreements between the parties that the parties intended a meaning contrary to that expressed by those provisions.

As used in the opinions or statements set forth below, the expressions “to our knowledge,” “known to us” or similar language with reference to matters of fact refer to the current actual knowledge of the attorneys of this firm who have rendered substantive legal services to the Company. Except to the extent expressly set forth herein, we have not undertaken any independent investigation to determine the existence or absence of any fact, and no inference as to our knowledge of the existence or absence of any fact should be drawn from our representation of the Company or the rendering of the opinions or statements set forth below.

We express no opinion as to any matter relating to the laws of any jurisdiction other than the federal laws of the United States of America, the General Corporation Law of the State of Delaware (“**Delaware General Corporation Law**”), the laws of the States of California and New York. This opinion letter should be interpreted in accordance with customary practice in the preparation and understanding of legal opinions in the

United States as set forth in the Legal Opinion Principles issued by the Committee on Legal Opinions of the American Bar Association's Section of Business Law as published in 53 *Business Lawyer* 831 (1998) and the "Statement on the Role of Customary Practice in the Preparation and Understanding of Third Party Legal Opinions" as published in 63 *Business Lawyer* 1277 (2008).

The opinions and statements hereinafter expressed are subject to the following additional exceptions, qualifications, limitations and assumptions:

- (a) We have assumed that the representations and warranties as to factual matters made by the Company in the Underwriting Agreement and pursuant thereto are correct and complete.
- (b) In rendering the opinion set forth in paragraph 1 below as to due incorporation, valid existence, good standing and qualification to do business, we have relied solely upon the documents and certificates referenced in paragraphs (i) and (xv) above.
- (c) In rendering the opinions set forth in paragraph 1 below, we have relied solely upon a review of the Certificate of Incorporation and Bylaws of the Company, minute books relating to meetings and written actions of the board of directors and stockholders of the Company in our possession, the Reviewed Agreements each in the forms provided to us by the Company and statements in a certificate executed by an officer of the Company relating to the capitalization of the Company, including a statement to the effect that the Company has received consideration in the amount and in the form specified by the board of directors for all of the issued and outstanding shares of capital stock of the Company.
- (d) Except as set forth in paragraph 3 below, we express no opinion regarding compliance or noncompliance (or the effect thereof) with federal or state securities laws or the rules and regulations of the Financial Industry Regulatory Authority, Inc.
- (e) In rendering the opinion set forth in paragraph 5 below concerning violations of and defaults under Reviewed Agreements and violations of Reviewed Judgments, we have relied solely upon an examination of the Reviewed Agreements and Reviewed Judgments in the forms provided to us by the Company. The opinion in paragraph 5 below concerning violations of and defaults under Reviewed Agreements is based on the result that would be obtained if the Reviewed Agreements were interpreted and enforced in accordance with their plain meaning.
- (f) Regarding our statements set forth below as to the effectiveness of the Registration Statement, the filing of the Final Prospectus Supplement and no stop orders, we have relied solely upon information contained on the Commission's website.
- (g) In rendering the opinion set forth in paragraph 3 below regarding the applicability of the Investment Company Act of 1940, as amended (the "**Investment Company Act**") to the Company, we (i) have been advised by the Company that the values used to form the basis of that opinion were determined by its management in accordance with guidance from the Commission regarding fair value methodologies and that we can treat those values as though they are fair values determined by the Company's board of directors, and were derived from the balance sheet and statement of operations dated as of December 31, 2020, and (ii) assumed that Company will invest the net proceeds from the offering and the sale of the Securities in the manner identified in the Prospectus.

Based upon and subject to the foregoing, we are of the opinion that:

1. The Company is a corporation duly incorporated and validly existing under the laws of the State of Delaware and is in good standing under such laws. The Company has requisite corporate power to carry on its business as described in the Prospectus. The Company is qualified to do business and is in good standing as a foreign corporation in the State of California.
2. The authorized capital stock of the Company is as set forth in the Registration Statement and the Prospectus under the caption "Description of Capital Stock." The Shares delivered by the Company on the date hereof have been duly authorized and, when issued and paid for in accordance with the Underwriting Agreement, will be validly issued, fully paid and nonassessable. The Warrants delivered by the Company on the date hereof have been duly authorized, executed and delivered by the Company. The shares of the Company's common stock issuable upon exercise of the Warrants have been duly authorized and, when issued and paid for upon exercise of the Warrants in accordance with the terms of the Warrants, will be validly issued, fully paid and nonassessable. The issuance and sale of the Securities by the Company to the Underwriters pursuant to the Underwriting Agreement are not subject to any written preemptive rights pursuant to the Certificate of Incorporation, Bylaws, any Reviewed Agreement or the Delaware General Corporation Law that have not otherwise been waived or satisfied.
3. The Company is not and, immediately after giving effect to the offering and sale of the Securities and the application of the net proceeds thereof as identified in the Prospectus, will not be required to register as an "investment company" as such term is defined in the Investment Company Act.
4. No consent, approval, authorization of, or designation, declaration or filing with, any governmental authority on the part of the Company is required for the valid execution and delivery by the Company of the Underwriting Agreement, or the offer, sale or issuance by the Company of the Securities.
5. The execution and delivery by the Company of the Underwriting Agreement, the performance by the Company of its obligations under the Underwriting Agreement, and the issuance and sale of the Securities do not violate any provisions of the Certificate of Incorporation or Bylaws, or any provision of any applicable federal or state law, rule or regulation known to us to be customarily applicable to transactions of this nature. The execution and delivery by the Company of the Underwriting Agreement, the performance by the Company of its obligations under the Underwriting Agreement, and the issuance of the Securities do not violate, or constitute a default under, the Reviewed Agreements, and do not violate any Reviewed Judgment.
6. The Company has the corporate power to execute and deliver the Underwriting Agreement, to sell and issue the Securities as contemplated by the Underwriting Agreement and to carry out and perform its obligations under the terms of the Underwriting Agreement.
7. The Underwriting Agreement has been duly authorized, executed and delivered by the Company.

8. The information in the Registration Statement and the Prospectus under the captions “Business – Government Regulation”, “Description of Capital Stock,” “Material U.S. Federal Income Tax Consequences to Non-U.S. Holders,” “Underwriting” (to the extent of the description of the Underwriting Agreement) and in Part II of the Registration Statement under Item 15, in each case insofar as such statements purport to constitute summaries of legal matters or specific provisions of documents referred to therein, fairly summarize in all material respects the matters referred to therein.
9. Except as disclosed in the Registration Statement, the Time of Sale Prospectus and the Prospectus or waived in writing or satisfied, to our knowledge there are no agreements between the Company and any person that require the Company to include any securities of the Company owned by such person in the securities registered pursuant to the Registration Statement.
10. The Registration Statement was declared effective under the Securities Act. The Final Prospectus Supplement was filed with the Commission pursuant to Rule 424(b) under the Securities Act on April , 2021. No stop order suspending the effectiveness of the Registration Statement or any part thereof has been issued, and, to our knowledge, no proceedings for that purpose have been instituted or are pending under the Securities Act.
11. To our knowledge, there are no lawsuits pending or threatened in writing against the Company that are required to be described in the Registration Statement or the Prospectus and that are not described in all material respects therein as required. We note that we have not conducted a docket search in any jurisdiction with respect to lawsuits that may be pending against the Company.

* * *

This opinion letter is furnished to you as the Representatives of the Underwriters solely for the Underwriters’ benefit in connection with the Underwriting Agreement, and may not be relied upon by any other person or for any other purpose without our prior written consent. We assume no obligation to inform you of any facts, circumstances, events or changes in the law that may arise or be brought to our attention after the date of this opinion letter that may alter, affect or modify the opinions or statements expressed herein.

Very truly yours,

WILSON SONSINI GOODRICH & ROSATI
Professional Corporation

[April], 2021

Cowen and Company, LLC
Piper Sandler & Co.
As Representatives of the several Underwriters

Cowen and Company, LLC
c/o Broadridge Financial Solutions
599 Lexington Avenue, 27th Floor
New York, NY 10022

c/o Piper Sandler & Co.
800 Nicollet Mall, J12S03
Minneapolis, MN 55402

Re: Public Offering of Shares of Common Stock of Otonomy, Inc.

Ladies and Gentlemen:

Reference is made to the underwriting agreement, dated [April], 2021 (the “**Underwriting Agreement**”), by and among Otonomy, Inc., a Delaware corporation (the “**Company**”) and Cowen and Company, LLC and Piper Sandler & Co., as representatives (the “**Representatives**”) of the several Underwriters named in Schedule I thereto (the “**Underwriters**”). Pursuant to the Underwriting Agreement, the Company has agreed to issue and sell to the Underwriters an aggregate of [] shares of its common stock, par value \$0.001 per share (the “**Shares**”) (including [] shares of its common stock upon the Underwriters exercise of their option to purchase additional shares)[, and pre-funded warrants to purchase [] shares of the Company’s common stock (the “**Warrants**”). The Shares [and the Warrants] are referred to herein as the “**Securities**”. This letter is delivered to you as Representatives of the Underwriters pursuant to Section [6(g)] of the Underwriting Agreement, and all terms used herein have the meanings defined for them in the Underwriting Agreement unless otherwise defined herein.

We have acted as counsel for the Company in connection with the Underwriting Agreement and the issuance of the Securities. We have also participated in the preparation of the registration statement on Form S-3 (File No. 333-227269) filed by the Company under the Securities Act of 1933, as amended (the “**Securities Act**”), with the Securities and Exchange Commission (the “**Commission**”) on September 10, 2018, together with the exhibits thereto (other than any Form T-1) and the documents or portions thereof incorporated by reference therein, as modified or superseded therein (such registration statement, as amended at the time it became effective, [including the abbreviated registration statement filed pursuant to Rule 462(b) under the Securities Act and] including the information deemed to be a part of the registration statement pursuant to Rule 430B of the General Rules and Regulations of the Commission (the “**Rules and Regulations**”) under the Securities Act, the “**Registration Statement**”); the base prospectus dated September 10, 2018, together with the documents or portions thereof incorporated by reference therein, as modified or superseded therein, filed with the Registration Statement (the “**Base Prospectus**”), relating to the offering of securities of the Company, which forms a part of and is included in the Registration Statement; the related prospectus supplement dated [April], 2021 in the form in which it was filed with the Commission, relating to the offering of the Securities (such prospectus supplement, together with the Base Prospectus, is referred to herein as the “**Pricing Prospectus**”), which Pricing Prospectus forms a part of and is included in the Registration Statement; the related final prospectus supplement of the Company, dated [April], 2021, in the form filed with the Commission pursuant to Rule 424(b) of the Rules and Regulations, together with the documents or portions thereof incorporated by reference

therein, as modified or superseded as described therein, relating to the offering of the Securities (such final prospectus supplement, together with the documents or portions thereof incorporated by reference therein, as modified or superseded as described therein and the Base Prospectus, the “**Prospectus**”); and the information set forth on Exhibit A to this opinion letter (that information taken together with the Pricing Prospectus, the “**Time of Sale Prospectus**”).

We have assumed the conformity of the documents filed with the Commission via the Data Gathering, Analysis and Retrieval System (“**EDGAR**”), except for required EDGAR formatting changes, to physical copies submitted for our examination.

The primary purpose of our professional engagement was not to establish or confirm factual matters or financial, accounting, or quantitative information. Furthermore, many determinations involved in the preparation of the Registration Statement, the Time of Sale Prospectus and the Prospectus are of a wholly or partially non-legal character or relate to legal matters outside the scope of our opinion letter separately delivered to you today pursuant to the Underwriting Agreement. We are not passing upon, and do not assume any responsibility for, the accuracy, completeness, or fairness of the statements contained in the Registration Statement, the Time of Sale Prospectus or the Prospectus, and we have not ourselves checked the accuracy, completeness or fairness of, or otherwise verified, the information furnished in such documents (except to the extent expressly set forth in paragraph 8 of our opinion letter separately delivered to you today pursuant to the Underwriting Agreement). However, in the course of our acting as counsel to the Company in connection with the preparation of the Registration Statement, the Time of Sale Prospectus and the Prospectus, we have participated in conferences with certain officers and other representatives of the Company, the Representatives, counsel for the Underwriters and the independent certified public accountants of the Company, at which conferences the contents of the Registration Statement, the Time of Sale Prospectus, the Prospectus and related matters were reviewed and discussed.

In the course of such participation, review and discussion, no facts have come to our attention that have caused us to believe that:

- (a) the Registration Statement, at the time it became effective, contained an 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 therein not misleading;
- (b) the Time of Sale Prospectus, as of 8:00 a.m. (Eastern time) on [April], 2021 contained an untrue statement of a material fact or omitted to state a material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading; or
- (c) the Prospectus, as of its date or as of the date hereof, contained or contains an untrue statement of a material fact or omitted or omits to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading.

In addition, based on our participation, review and discussion as described above, the Registration Statement, at the time it became effective, and each of the Pricing Prospectus and the Prospectus, at the time each was transmitted for filing with the Commission pursuant to Rule 424(b) of the Rules and Regulations, appeared on their face to be appropriately responsive, in all material respects relevant to the offering of the Securities, to the requirements of the Securities Act and the applicable Rules and Regulations.

In providing this letter to you as the Representatives of the Underwriters, we have not been called to pass upon, and we express no view regarding, the financial statements and related schedules and the financial and statistical data derived from such financial statements or schedules included in or omitted from the

Registration Statement, the Time of Sale Prospectus or the Prospectus. Further, we express no view as to the conveyance of the Time of Sale Prospectus or the information contained therein to investors.

* * *

This letter is furnished to you as Representatives of the Underwriters solely for the benefit of the Underwriters in connection with the Underwriting Agreement, and may not be relied upon by any other person or for any other purpose without our prior written consent. We assume no obligation to inform you of any facts, circumstances, events or changes in the law that may arise or be brought to our attention after the date of this letter that may alter, affect or modify the statements expressed herein.

Very truly yours,

WILSON SONSINI GOODRICH & ROSATI

Professional Corporation

Form of Opinion of IP Counsel for the Company

Ladies and Gentlemen:

This opinion is delivered in connection with the Underwriting Agreement (the "Underwriting Agreement") dated [[, 2021]], between Otonomy, Inc., a Delaware corporation (the "Company") and you as the representative of the several Underwriters listed therein. Unless otherwise defined herein, capitalized terms used herein shall have the meanings ascribed to them in the Underwriting Agreement.

Procopio, Cory, Hargreaves & Savitch LLP (the "Firm") has acted as patent counsel to the Company in relation to the U.S. patents and patent applications attached hereto in Schedule A (the "Schedule A Patent Rights") and our opinions are limited to matters about which we have been informed or consulted, or about which we otherwise have actual knowledge. We do not opine on intellectual property matters handled by other law firms, nor on matters relating to the Company's trade secrets, trademarks, copyrights, or other intellectual property or proprietary rights. Except as expressly described herein, we are expressing no opinion on any matter other than on the patent matters in the United States specifically referred by the Company to us as set forth in the Schedule A Patent Rights.

We have assumed the genuineness of all signatures, the authenticity of all items submitted to us as originals and the conformity with originals of all items submitted to us as copies. As to facts and other matters relevant to the opinions or other statements set forth herein, we have relied, without independent investigation or verification, upon, and assumed the accuracy and completeness of, certificates, letters and oral or written representations or other statements of governmental authorities, public officials, officers and other representatives of the Company. For purposes of rendering the opinions set forth herein, we have reviewed our files relating to the Schedule A Patent Rights and consulted with Cooley LLP, the several Underwriters' counsel. Except as noted herein, we have not reviewed or made any independent verification of any other records or other documents of the Company.

This opinion is subject to the following additional qualifications:

- A. Whenever a statement herein is qualified by "to our knowledge," "known to us," or similar language with reference to matters of fact, it is intended to indicate that only those patent prosecution attorneys and patent agents in the Firm who have billed time to the Company in connection with the Schedule A Patent Rights, do not have current actual knowledge of the inaccuracy of such statement. We have not made or undertaken any independent investigation to determine the accuracy of such statement.
- B. For purposes of this opinion, it is understood that a legal or governmental or other "proceeding," an "action," or a "suit" is considered to be threatened if, to our knowledge, as applicable, (i) the Company has informed us that such a proceeding, action or suit has been made in writing, (ii) the claimant has manifested to the Company, in writing, a present intention to bring such a proceeding, action or suit against the Company in the immediate future and has not subsequently indicated otherwise by a communication to the Company, or (iii) the Company has manifested to a third party, in writing, a present intention to bring such a proceeding, action or suit against the third party in the immediate future and has not subsequently indicated otherwise by a communication to the third party. An offer to license a patent, without more, is not considered to manifest a present intention to bring a proceeding against the Company, or on behalf of the Company, as applicable.

- C. This opinion is limited in all respects to matters governed by the federal patent laws of the United States, and we express no opinion concerning the laws of any other jurisdiction. We have made no inquiry into, and express no opinion as to the statutes, regulations, treaties or common laws of any other nation, state or jurisdiction.

Based upon and subject to the foregoing, we are of the opinion that:

1. To our knowledge, the Company currently owns, co-owns or has rights to the patents and patent applications included in the Schedule A Patent Rights, in that: (i) one or more written assignments to the Company from the relevant inventor(s) or assignor(s) for such patents or patent applications has been duly executed and recorded in the United States Patent and Trademark Office (the "USPTO"); or (ii) the relevant inventor(s) or assignor(s) for such patents or patent applications are under an obligation to assign such patents or patent applications to the Company.
2. Based solely on inspection of the prosecution history files of the Schedule A Patent Rights, the Company has taken such steps as are required to maintain the pendency of the Schedule A Patent Rights, including the payment of any necessary fees to the USPTO for the Schedule A Patent Rights.
3. To our knowledge, there are no liens, encumbrances or security interests recorded against any of the Schedule A Patent Rights for the benefit of a third party based solely on inspection of public records at the USPTO assignments on the web database and after consultation with the Company.
4. To our knowledge, the Company has not received any written notice of any pending or threatened actions, suits or proceedings by third parties challenging the validity of any of the Schedule A Patent Rights.
5. To our knowledge, the Company has not received any written notice of any pending or threatened actions, suits or proceedings by third parties that the Company is infringing any third-party patents.

This opinion is furnished by us as patent counsel for the Company in certain patent matters only to you as the Underwriter and is solely for use and benefit to you as the Underwriter in connection with the transaction described above. This opinion may not be disclosed, used or relied upon by you as the Underwriter for any other purpose, or furnished to, quoted to, or relied upon by any other person or entity for any purpose, without our prior written consent. We assume no obligation to inform you of any facts, circumstances, events or changes in the law that may arise or be brought to our attention after the date of this opinion that may alter, affect or modify the opinions expressed herein.

Very truly yours,

Procopio, Cory, Hargreaves & Savitch LLP

Lock-up Parties

- Vickie L. Capps
- James Breitmeyer
- Ciara A. Kennedy
- Iain McGill
- Ted Schroeder
- Jay Lichter
- Paul E. Cayer
- Robert M. Savel II
- David A. Weber

FORM OF LOCK-UP AGREEMENT

[•], 2021

COWEN AND COMPANY, LLC
PIPER SANDLER & CO.
As Representatives of
the several Underwriters listed in
Schedule 1 to the Underwriting Agreement
referred to below

c/o Cowen and Company, LLC
599 Lexington Avenue, 27th Floor
New York, New York 10022

c/o Piper Sandler & Co.
345 Park Avenue
New York, New York 10154

Re: Otonomy, Inc. — Public Offering

Ladies and Gentlemen:

The undersigned understands that you, as representatives (the “Representatives”) of the several Underwriters, propose to enter into an Underwriting Agreement (the “Underwriting Agreement”) with Otonomy, Inc., a Delaware corporation (the “Company”), providing for the public offering (the “Public Offering”) by the several Underwriters named in Schedule 1 to the Underwriting Agreement (the “Underwriters”), of common stock, par value \$0.001 per share (“Common Stock”), of the Company (the “Securities”). Capitalized terms used herein and not otherwise defined shall have the meanings set forth in the Underwriting Agreement.

In consideration of the Underwriters’ agreement to purchase and make the Public Offering of the Securities, and for other good and valuable consideration receipt of which is hereby acknowledged, the undersigned hereby agrees that, without the prior written consent of Cowen and Company, LLC (“Cowen”) and Piper Sandler & Co. (“Piper”), on behalf of the Underwriters, the undersigned will not, and will not cause any direct or indirect affiliate to, during the period commencing on the date hereof and ending 60 days (the “Lock-up Period”) after the date of the prospectus supplement (the “Prospectus”) relating to the Public Offering (the “Public Offering Date”), (1) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, hedge, lend or otherwise transfer or dispose of, directly or indirectly, any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock (including, without limitation, Common Stock or such other securities which may be deemed to be beneficially owned by the undersigned in accordance with the rules and regulations of the Securities and Exchange Commission and securities which may be issued upon exercise of a stock option or warrant) (collectively, the “Equity Securities”), (2) enter into any hedging, swap or other agreement that transfers, in whole or in

part, any of the economic consequences of ownership of the Equity Securities, whether any such transaction described in clause (1) or (2) above is to be settled by delivery of Common Stock or such other securities, in cash or otherwise, (3) make any demand for or exercise any right with respect to the registration of any Equity Securities or (4) publicly disclose the intention to do any of the foregoing, in each case other than (A) the Securities to be sold by the undersigned pursuant to the Underwriting Agreement; (B) Common Stock acquired in open market transactions on or after the Public Offering Date; (C) transfers of Common Stock as a bona fide gift or gifts; (D) transfers of Common Stock to any trust for the direct or indirect benefit of the undersigned or the immediate family member of the undersigned, or if the undersigned is a trust, to any beneficiary (including such beneficiary's estate) of the undersigned; (E) transfers of Common Stock by will or intestate succession upon the death of the undersigned; (F) if the undersigned is a corporation, partnership, limited liability company, trust or other business entity, transfers of Common Stock (i) to another corporation, partnership, limited liability company, trust or other business entity that is a direct or indirect affiliate (as defined in Rule 405 promulgated under the Securities Act of 1933, as amended) of the undersigned or (ii) as part of a distribution without consideration by the undersigned to stockholders, beneficiaries, partners, members or other equity holders; provided that in the case of any transfer contemplated in clauses (C), (D), (E) or (F) above, each donee, heir, distributee or other transferee shall execute and deliver to the Representatives a lock-up letter in the form of this paragraph, and provided, further, that in the case of any transfer contemplated in clauses (B) (C), (D), (E) or (F) above, no filing by any party (donor, donee, transferor or transferee) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or other public announcement shall be required or shall be made voluntarily in connection with such transfer or distribution (other than a filing on a Form 5 made after the expiration of the Lock-up Period); (G) the "net" or "cashless" exercise of options to purchase Common Stock or settlement of restricted stock units pursuant to the Company's equity incentive plans or of warrants to purchase Equity Securities, or the exchange or conversion of any Equity Securities convertible or exchangeable for Common Stock granted pursuant to the Company's equity incentive plans, in each case which equity incentive plans and warrants are described in the Prospectus, provided that any exercise or settlement does not involve a sale of Equity Securities to any person or entity other than the Company, whether to cover the applicable exercise price, withholding tax obligation or otherwise, provided, further, that the Equity Securities received upon such exercise, settlement, exchange or conversion shall be subject to the terms of this letter agreement and that no filing by any party under the Exchange Act or other public announcement shall be required or shall be made voluntarily in connection therewith (other than a filing on a Form 5 made after the expiration of the Lock-up Period) except if such exercise, settlement, exchange or conversion is in connection with sales or transfers of Common Stock permitted under clause (N) below; (H) dispositions to the Company pursuant to agreements under which the shares were issued and the Company has the option to repurchase such shares or securities or a right of first refusal with respect to transfers of such shares or securities, provided that no filing under Section 16(a) of the Exchange Act shall be required or shall be voluntarily made within 30 days after the date of the Prospectus, and after such 30th day, any filing under Section 16(a) of the Exchange Act shall clearly indicate in the footnotes thereto that (i) the filing relates to the transfer of such shares or securities to the Company pursuant to such repurchase option or right of first refusal, as the case may be, and (ii) no shares were sold by the reporting person; (I) pursuant to a bona fide third-party tender offer, merger, consolidation or other similar transaction made to all holders of the Company's capital stock involving a change of control of the Company, provided that in the event that such tender offer, merger, consolidation or other such transaction is not completed, the Equity Securities held by the undersigned shall remain subject to the provisions of this letter agreement; (J) the transfer of shares of Equity Securities to the Company pursuant to agreements under which the Company has the option to repurchase such shares or a right of first refusal with respect to transfers of such shares; (K) by operation of law, such as pursuant to a domestic relations order or in connection with a divorce settlement, provided that any transferee shall execute and deliver to the Representatives a lock-up letter in the form of this paragraph; (L) with the prior written consent of Cowen and Piper; [or] (M) the establishment of a written plan meeting the requirements of Rule 10b5-1 under the

Exchange Act (“Rule 10b5-1”) relating to the sale of Equity Securities, provided that the Equity Securities subject to such plan may not be sold and no public disclosure of any such action shall be required or shall be voluntarily made by any person during the Lock-Up Period; [or (N) sales or transfers of Common Stock made pursuant to a trading plan pursuant to Rule 10b5-1 that has been entered into by the undersigned prior to the date of this letter agreement, provided, that to the extent a public announcement or filing under the Exchange Act, if any, is required or voluntarily made by or on behalf of the undersigned or the Company regarding any such sales or transfers, such announcement or filing shall include a statement to the effect that the sale or transfer was made pursuant to a trading plan pursuant to Rule 10b5-1]1. For purposes of this letter agreement, “immediate family member” shall mean the spouse, domestic partner, parent, child, grandchild or first cousin, regardless of whether such relationship is by blood, marriage or adoption, and “change of control” shall mean the consummation of any bona fide third-party tender offer, merger, consolidation or other similar transaction, the result of which is that any “person” (as defined in Section 13(d)(3) of the Exchange Act) or group of persons, other than the Company or its subsidiaries, becomes the beneficial owner (as defined in Rules 13d-3 and 13d-5 of the Exchange Act) of two-thirds or more of the total voting power of the voting stock of the Company.

In furtherance of the foregoing, the Company, and any duly appointed transfer agent for the registration or transfer of the securities described herein, are hereby authorized to decline to make any transfer of securities if such transfer would constitute a violation or breach of this letter agreement.

The undersigned hereby represents and warrants that the undersigned has full power and authority to enter into this letter agreement. All authority herein conferred or agreed to be conferred and any obligations of the undersigned shall be binding upon the successors, assigns, heirs or personal representatives of the undersigned.

The undersigned acknowledges and agrees that the foregoing precludes the undersigned from engaging in any hedging or other transactions or arrangements (including, without limitation, any short sale or the purchase or sale of, or entry into, any put or call option, or combination thereof, forward, swap or any other derivative transaction or instrument, however described or defined) designed or intended, or which could reasonably be expected to lead to or result in, a sale or disposition or transfer (whether by the undersigned or any other person) of any economic consequences of ownership, in whole or in part, directly or indirectly, of any Equity Securities, whether any such transaction or arrangement (or instrument provided for thereunder) would be settled by delivery of Equity Securities, in cash or otherwise.

The undersigned hereby waives any and all notice requirements and rights with respect to the registration of securities pursuant to any agreement, instrument, understanding or otherwise, including any stockholders or registration rights agreement or similar agreement, to which the undersigned is a party or under which the undersigned is entitled to any right or benefit, provided, however, that such waiver shall apply only to the proposed Public Offering, and any other action taken by the Company in connection with the proposed Public Offering.

The undersigned acknowledges and agrees that the Underwriters have not provided any recommendation or investment advice nor have the Underwriters solicited any action from the undersigned with respect to the Public Offering of the Securities and the undersigned has consulted their own legal, accounting, financial, regulatory and tax advisors to the extent deemed appropriate. The undersigned further acknowledges and agrees that, although the Representatives may be required or choose to provide certain Regulation Best Interest and Form CRS disclosures to you in connection with the Public Offering, the Representatives and the other Underwriters are not making a recommendation to you to participate in the

¹ To include only for those with trading plans in place.

Public Offering, enter into this letter agreement, or sell any Securities at the price determined in the Public Offering, and nothing set forth in such disclosures is intended to suggest that the Representatives or any Underwriter is making such a recommendation.

The undersigned understands that, if (i) the Company advises the Representatives in writing that it has determined not to proceed with the Public Offering, (ii) the Underwriting Agreement does not become effective by April 30, 2021 (provided that the Company may by written notice to the undersigned extend such date for a period of up to three additional months), or (iii) the Underwriting Agreement (other than the provisions thereof which survive termination) shall terminate or be terminated prior to payment for and delivery of the Common Stock to be sold thereunder, the undersigned shall be released from all obligations under this letter agreement.

The undersigned understands that the Underwriters are entering into the Underwriting Agreement and proceeding with the Public Offering in reliance upon this letter agreement.

[Signature Page Follows]

This letter agreement and any claim, controversy or dispute arising under or related to this letter agreement shall be governed by and construed in accordance with the laws of the State of New York, without regard to the conflict of laws principles thereof.

Very truly yours,

Name of Security Holder *(Print exact name)*

By: _____
Signature

If not signing in an individual capacity:

Name of Authorized Signatory *(Print)*

Title of Authorized Signatory *(Print)*

(indicate capacity of person signing if signing as custodian, trustee, or on behalf of an entity)

[Signature Page to the Lock-Up Agreement]

FORM OF PRE-FUNDED WARRANT TO PURCHASE COMMON STOCK

Number of Shares: []
(subject to adjustment)

Original Issue Date: [], 2021

Otonomy, Inc. , a Delaware corporation (the “*Company*”), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, [] or its registered assigns (the “*Holder*”), is entitled, subject to the terms set forth below, to purchase from the Company up to a total of [] shares of common stock, \$0.001 par value per share (the “*Common Stock*”), of the Company (each such share, a “*Warrant Share*” and all such shares, the “*Warrant Shares*”) at an exercise price per share equal to \$0.001 per share (as adjusted from time to time as provided in Section 9 herein, the “*Exercise Price*”), upon surrender of this *Warrant to Purchase Common Stock* (including any *Warrants to Purchase Common Stock* issued in exchange, transfer or replacement hereof, the “*Warrant*”) at any time and from time to time on or after the date hereof (the “*Original Issue Date*”), subject to the following terms and conditions:

1. Definitions. For purposes of this Warrant, the following terms shall have the following meanings:

(a) “*Affiliate*” means any Person directly or indirectly controlled by, controlling or under common control with, a Holder, but only for so long as such control shall continue. For purposes of this definition, “control” (including, with correlative meanings, “controlled by”, “controlling” and “under common control with”) means, with respect to a Person, possession, direct or indirect, of (a) the power to direct or cause direction of the management and policies of such Person (whether through ownership of securities or partnership or other ownership interests, by contract or otherwise), or (b) at least 50% of the voting securities (whether directly or pursuant to any option, warrant or other similar arrangement) or other comparable equity interests.

(b) “*Commission*” means the United States Securities and Exchange Commission.

(c) “*Closing Sale Price*” means, for any security as of any date, the last trade price for such security on the Principal Trading Market for such security, as reported by Bloomberg Financial Markets, or, if such Principal Trading Market begins to operate on an extended hours basis and does not designate the last trade price, then the last trade price of such security prior to 4:00 P.M., New York City time, as reported by Bloomberg Financial Markets, or if the foregoing do not apply, the last trade price of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg Financial Markets. If the Closing Sale Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Closing Sale Price of such security on such date shall be the fair market value as mutually determined in good faith by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then the Board of Directors of the Company shall use its good faith judgment to determine the fair market value. The Board of Directors’ determination shall be binding upon all parties absent demonstrable error. All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination or other similar transaction during the applicable calculation period.

(d) “*Principal Trading Market*” means the national securities exchange or other trading market on which the Common Stock is primarily listed on and quoted for trading, which, as of the Original Issue Date, shall be the Nasdaq Global Select Market.

(e) “*Registration Statement*” means the Company’s Registration Statement on Form S-3 (File No. 333-227269), declared effective on September 21, 2018.

(f) “*Securities Act*” means the Securities Act of 1933, as amended.

(g) “*Trading Day*” means any weekday on which the Principal Trading Market is normally open for trading.

(h) “*Transfer Agent*” means EQ Shareowner Services, the Company’s transfer agent and registrar for the Common Stock, and any successor appointed in such capacity.

2. Issuance of Securities; Registration of Warrants. The Warrant, as initially issued by the Company, is offered and sold pursuant to the Registration Statement. As of the Original Issue Date, the Warrant Shares are issuable under the Registration Statement. Accordingly, the Warrant and, assuming issuance pursuant to the Registration Statement or an exchange meeting the requirements of Section 3(a)(9) of the Exchange Act as in effect on the Original Issue Date, the Warrant Shares, are not “restricted securities” under Rule 144 promulgated under the Securities Act. The Company shall register ownership of this Warrant, upon records to be maintained by the Company for that purpose (the “*Warrant Register*”), in the name of the record Holder (which shall include the initial Holder or, as the case may be, any assignee to which this Warrant is assigned hereunder) from time to time. The Company may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, absent actual notice to the contrary.

3. Registration of Transfers. Subject to compliance with all applicable securities laws, the Company shall, or will cause its Transfer Agent to, register the transfer of all or any portion of this Warrant in the Warrant Register, upon surrender of this Warrant, and payment for all applicable transfer taxes (if any). Upon any such registration or transfer, a new warrant to purchase Common Stock in substantially the form of this Warrant (any such new warrant, a “*New Warrant*”) evidencing the portion of this Warrant so transferred shall be issued to the transferee, and a New Warrant evidencing the remaining portion of this Warrant not so transferred, if any, shall be issued to the transferring Holder. The acceptance of the New Warrant by the transferee thereof shall be deemed the acceptance by such transferee of all of the rights and obligations in respect of the New Warrant that the Holder has in respect of this Warrant. The Company shall, or will cause its Transfer Agent to, prepare, issue and deliver at the Company’s own expense any New Warrant under this Section 3. Until due presentment for registration of transfer, the Company may treat the registered Holder hereof as the owner and holder for all purposes, and the Company shall not be affected by any notice to the contrary.

4. Exercise and Duration of Warrants.

(a) All or any part of this Warrant shall be exercisable by the registered Holder in any manner permitted by this Warrant at any time and from time to time on or after the Original Issue Date.

(b) The Holder may exercise this Warrant by delivering to the Company (i) an exercise notice, in the form attached as Schedule 1 hereto (the “*Exercise Notice*”), completed and duly signed, and (ii) payment of the Exercise Price for the number of Warrant Shares as to which this Warrant is being exercised (which may take the form of a “cashless exercise” if so indicated in the Exercise Notice pursuant to Section 10 below), and the date on which the last of such items is delivered to the Company (as determined in accordance with the notice provisions hereof) is an “*Exercise Date*.” The Holder shall not be required to deliver the original Warrant in order to effect an exercise hereunder. Execution and delivery of the Exercise Notice shall have the same effect as cancellation of the original Warrant and issuance of a New Warrant evidencing the right to purchase the remaining number of Warrant Shares, if any. The aggregate exercise price of this Warrant, except for the Exercise Price, was pre-funded to the Company on or before the Original Issue Date, and consequently no additional consideration (other than the Exercise Price) shall be required by to be paid by the Holder to effect any exercise of this Warrant. The Holder shall not be entitled to the return or refund of all, or any portion, of such pre-funded exercise price under any circumstance or for any reason whatsoever.

5. Delivery of Warrant Shares.

(a) Upon exercise of this Warrant, the Company shall promptly (but in no event later than five (5) Trading Days after the Exercise Date), upon the request of the Holder, credit such aggregate number of shares of Common Stock to which the Holder is entitled pursuant to such exercise to the Holder’s or its designee’s balance account with The Depository Trust Company (“*DTC*”) through its Deposit Withdrawal Agent Commission system, or if the Transfer Agent is not participating in the Fast Automated Securities Transfer Program (the “*FAST Program*”) or if the certificates are required to bear a legend regarding restriction on transferability, issue and dispatch by overnight

courier to the address as specified in the Exercise Notice, a certificate, registered in the Company's share register in the name of the Holder or its designee, for the number of shares of Common Stock to which the Holder is entitled pursuant to such exercise. The Holder, DTC (or its nominee) or any natural person or legal entity (each, a "Person") so designated by the Holder to receive Warrant Shares, shall be deemed to have become the holder of record of such Warrant Shares as of the Exercise Date, irrespective of the date such Warrant Shares are credited to the Holder's DTC account or the date of delivery of the certificates evidencing such Warrant Shares, as the case may be.

(b) If by the close of the fifth (5th) Trading Day after the Exercise Date, the Company fails to deliver to the Holder a certificate representing the required number of Warrant Shares in the manner required pursuant to Section 5(a) or fails to credit the Holder's balance account with DTC for such number of Warrant Shares to which the Holder is entitled, and if after such fifth (5th) Trading Day and prior to the receipt of such Warrant Shares, the Holder purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a "Buy-In"), then the Company shall, within five (5) Trading Days after the Holder's request and in the Holder's sole discretion, either (1) pay in cash to the Holder an amount equal to the Holder's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased, at which point the Company's obligation to deliver such certificate (and to issue such Warrant Shares) shall terminate or (2) promptly honor its obligation to deliver to the Holder a certificate or certificates representing such Warrant Shares and pay cash to the Holder in an amount equal to the excess (if any) of Holder's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased in the Buy-In over the product of (A) the number of shares of Common Stock purchased in the Buy-In, times (B) the Closing Sale Price of a share of Common Stock on the Exercise Date.

(c) To the extent permitted by law and subject to Section 5(b), the Company's obligations to issue and deliver Warrant Shares in accordance with and subject to the terms hereof (including the limitations set forth in Section 11 below) are absolute and unconditional, irrespective of any action or inaction by the Holder to enforce the same, any waiver or consent with respect to any provision hereof, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination, or any breach or alleged breach by the Holder or any other Person of any obligation to the Company or any violation or alleged violation of law by the Holder or any other Person, and irrespective of any other circumstance that might otherwise limit such obligation of the Company to the Holder in connection with the issuance of Warrant Shares. Subject to Section 5(b), nothing herein shall limit the Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver certificates representing shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

6. Charges, Taxes and Expenses. Issuance and delivery of certificates for shares of Common Stock upon exercise of this Warrant shall be made without charge to the Holder for any issue or transfer tax, transfer agent fee or other incidental tax or expense (excluding any applicable stamp duties) in respect of the issuance of such certificates, all of which taxes and expenses shall be paid by the Company; *provided, however*, that the Company shall not be required to pay any tax that may be payable in respect of any transfer involved in the registration of any certificates for Warrant Shares or the Warrants in a name other than that of the Holder or an Affiliate thereof. The Holder shall be responsible for all other tax liability that may arise as a result of holding or transferring this Warrant or receiving Warrant Shares upon exercise hereof.

7. Replacement of Warrant. If this Warrant is mutilated, lost, stolen or destroyed, the Company shall issue or cause to be issued in exchange and substitution for and upon cancellation hereof, or in lieu of and substitution for this Warrant, a New Warrant, but only upon receipt of evidence reasonably satisfactory to the Company of such loss, theft or destruction (in such case) and, in each case, a customary and reasonable indemnity and surety bond, if requested by the Company. Applicants for a New Warrant under such circumstances shall also comply with such other reasonable regulations and procedures and pay such other reasonable third-party costs as the Company may prescribe. If a New Warrant is requested as a result of a mutilation of this Warrant, then the Holder shall deliver such mutilated Warrant to the Company as a condition precedent to the Company's obligation to issue the New Warrant.

8. **Reservation of Warrant Shares.** The Company covenants that it will, at all times while this Warrant is outstanding, reserve and keep available out of the aggregate of its authorized but unissued and otherwise unreserved Common Stock, solely for the purpose of enabling it to issue Warrant Shares upon exercise of this Warrant as herein provided, the number of Warrant Shares that are initially issuable and deliverable upon the exercise of this entire Warrant, free from preemptive rights or any other contingent purchase rights of persons other than the Holder (taking into account the adjustments and restrictions of Section 9). The Company covenants that all Warrant Shares so issuable and deliverable shall, upon issuance and the payment of the applicable Exercise Price in accordance with the terms hereof, be duly and validly authorized, issued and fully paid and non-assessable. The Company will take all such action as may be reasonably necessary to assure that such shares of Common Stock may be issued as provided herein without violation of any applicable law or regulation, or of any requirements of any securities exchange or automated quotation system upon which the Common Stock may be listed. The Company further covenants that it will not, without the prior written consent of the Holder, take any actions to increase the par value of the Common Stock at any time while this Warrant is outstanding.

9. **Certain Adjustments.** The Exercise Price and number of Warrant Shares issuable upon exercise of this Warrant are subject to adjustment from time to time as set forth in this Section 9.

(a) **Stock Dividends and Splits.** If the Company, at any time while this Warrant is outstanding, (i) pays a stock dividend on its Common Stock or otherwise makes a distribution on any class of capital stock issued and outstanding on the Original Issue Date and in accordance with the terms of such stock on the Original Issue Date or as amended, as described in the Registration Statement, that is payable in shares of Common Stock, (ii) subdivides its outstanding shares of Common Stock into a larger number of shares of Common Stock, (iii) combines its outstanding shares of Common Stock into a smaller number of shares of Common Stock or (iv) issues by reclassification of shares of capital stock any additional shares of Common Stock of the Company, then in each such case the Exercise Price shall be multiplied by a fraction, the numerator of which shall be the number of shares of Common Stock outstanding immediately before such event and the denominator of which shall be the number of shares of Common Stock outstanding immediately after such event. Any adjustment made pursuant to clause (i) of this paragraph shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution, provided, however, that if such record date shall have been fixed and such dividend is not fully paid on the date fixed therefor, the Exercise Price shall be recomputed accordingly as of the close of business on such record date and thereafter the Exercise Price shall be adjusted pursuant to this paragraph as of the time of actual payment of such dividends. Any adjustment pursuant to clause (ii) or (iii) of this paragraph shall become effective immediately after the effective date of such subdivision or combination.

(b) **Pro Rata Distributions.** If the Company, at any time while this Warrant is outstanding, distributes to all holders of Common Stock for no consideration (i) evidences of its indebtedness, (ii) any security (other than a distribution of Common Stock covered by the preceding paragraph) or (iii) rights or warrants to subscribe for or purchase any security, or (iv) cash or any other asset (in each case, "*Distributed Property*"), then, upon any exercise of this Warrant that occurs after the record date fixed for determination of stockholders entitled to receive such distribution, the Holder shall be entitled to receive, in addition to the Warrant Shares otherwise issuable upon such exercise (if applicable), the Distributed Property that such Holder would have been entitled to receive in respect of such number of Warrant Shares had the Holder been the record holder of such Warrant Shares immediately prior to such record date without regard to any limitation on exercise contained therein.

(c) **Fundamental Transactions.** If, at any time while this Warrant is outstanding (i) the Company effects any merger or consolidation of the Company with or into another Person, in which the Company is not the surviving entity and in which the stockholders of the Company immediately prior to such merger or consolidation do not own, directly or indirectly, at least 50% of the voting power of the surviving entity immediately after such merger or consolidation, (ii) the Company effects any sale to another Person of all or substantially all of its assets in one transaction or a series of related transactions, (iii) pursuant to any tender offer or exchange offer (whether by the Company or another Person), holders of capital stock tender shares representing more than 50% of the voting power of the capital stock of the Company and the Company or such other Person, as applicable, accepts such tender for payment, (iv) the Company consummates a stock purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person whereby such other Person acquires more than the 50% of the voting power of the capital stock of the Company (except for any such transaction in which the stockholders of the Company immediately prior to such transaction maintain, in substantially the same proportions, the voting power of such Person immediately after the transaction), provided, however, the foregoing shall not include transactions for which the primary purpose is raising capital, or (v) the

Company effects any reclassification of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property (other than as a result of a subdivision or combination of shares of Common Stock covered by Section 9(a) above) (in any such case, a “*Fundamental Transaction*”), then following such Fundamental Transaction the Holder shall have the right to receive, upon exercise of this Warrant, the same amount and kind of securities, cash or property as it would have been entitled to receive upon the occurrence of such Fundamental Transaction if it had been, immediately prior to such Fundamental Transaction, the holder of the number of Warrant Shares then issuable upon exercise in full of this Warrant without regard to any limitations on exercise contained herein. In the event the Holder does not exercise this Warrant as contemplated by the foregoing sentence, this Warrant shall be deemed exercised in full without regard to any limitations on exercise contained herein pursuant to the “cashless exercise” provision in Section 10 hereof upon the effective date of the consummation of such Fundamental Transaction.

(d) Number of Warrant Shares. Simultaneously with any adjustment to the Exercise Price pursuant to Section 9, the number of Warrant Shares that may be purchased upon exercise of this Warrant shall be increased or decreased proportionately, so that after such adjustment the aggregate Exercise Price payable hereunder for the increased or decreased number of Warrant Shares shall be the same as the aggregate Exercise Price in effect immediately prior to such adjustment.

(e) Calculations. All calculations under this Section 9 shall be made to the nearest one-tenth of one cent or the nearest share, as applicable.

(f) Notice of Adjustments. Upon the occurrence of each adjustment pursuant to this Section 9, the Company at its expense will, at the written request of the Holder, promptly compute such adjustment, in good faith, in accordance with the terms of this Warrant and prepare a certificate setting forth such adjustment, including a statement of the adjusted Exercise Price and adjusted number or type of Warrant Shares or other securities issuable upon exercise of this Warrant (as applicable), describing the transactions giving rise to such adjustments and showing in detail the facts upon which such adjustment is based. Upon written request, the Company will promptly deliver a copy of each such certificate to the Holder and to the Company’s transfer agent.

(g) Notice of Corporate Events. If, while this Warrant is outstanding, the Company (i) declares a dividend or any other distribution of cash, securities or other property in respect of its Common Stock, including, without limitation, any granting of rights or warrants to subscribe for or purchase any capital stock of the Company or any subsidiary, (ii) authorizes or approves, enters into any agreement contemplating or solicits stockholder approval for any Fundamental Transaction or (iii) authorizes the voluntary dissolution, liquidation or winding up of the affairs of the Company, then, except if such notice and the contents thereof shall be deemed to constitute material non-public information, the Company shall deliver to the Holder a notice of such transaction at least ten (10) days prior to the applicable record or effective date on which a Person would need to hold Common Stock in order to participate in or vote with respect to such transaction; *provided, however*, that the failure to deliver such notice or any defect therein shall not affect the validity of the corporate action required to be described in such notice. In addition, if while this Warrant is outstanding, the Company authorizes or approves, enters into any agreement contemplating or solicits stockholder approval for any Fundamental Transaction contemplated by Section 9(c), other than a Fundamental Transaction under clause (iii) of Section 9(c), the Company shall deliver to the Holder a notice of such Fundamental Transaction at least thirty (30) days prior to the date such Fundamental Transaction is consummated. Holder agrees to maintain any information disclosed pursuant to this Section 9(g) in confidence until such information is publicly available, and shall comply with applicable law with respect to trading in the Company’s securities following receipt any such information.

10. Payment of Exercise Price. Notwithstanding anything contained herein to the contrary, the Holder may, in its sole discretion, satisfy its obligation to pay the Exercise Price through a “cashless exercise”, in which event the Company shall issue to the Holder the number of Warrant Shares in an exchange of securities effected pursuant to Section 3(a)(9) of the Securities Act, as determined as follows:

$$X = Y [(A-B)/A]$$

where:

“X” equals the number of Warrant Shares to be issued to the Holder;

“Y” equals the total number of Warrant Shares with respect to which this Warrant is then being exercised;

“A” equals the Closing Sale Prices of the shares of Common Stock (as reported by Bloomberg Financial Markets) as of the Trading Day on the date immediately preceding the Exercise Date; and

“B” equals the Exercise Price then in effect for the applicable Warrant Shares at the time of such exercise.

For purposes of Rule 144 promulgated under the Securities Act, it is intended, understood and acknowledged that the Warrant Shares issued in a “cashless exercise” transaction shall be deemed to have been acquired by the Holder, and the holding period for the Warrant Shares shall be deemed to have commenced, on the date this Warrant was originally issued (provided that the Commission continues to take the position that such treatment is proper at the time of such exercise). In the event that the Registration Statement or another registration statement registering the issuance of Warrant Shares is, for any reason, not effective at the time of exercise of this Warrant, then the Warrant may only be exercised through a cashless exercise, as set forth in this Section 10. Except as set forth in Section 5(b) (Buy-In remedy) and Section 12 (payment of cash in lieu of fractional shares), in no event will the exercise of this Warrant be settled in cash.

11. Limitations on Exercise.

(a) Notwithstanding anything to the contrary herein, the Company shall not effect any exercise of this Warrant, and the Holder shall not be entitled to exercise this Warrant for a number of Warrant Shares in excess of that number of Warrant Shares which, upon giving effect or immediately prior to such exercise, would cause (i) the aggregate number of shares of Common Stock beneficially owned by the Holder, its Affiliates and any Persons who are members of a Section 13(d) group with such Holder or its Affiliates to exceed 9.99% (the “Maximum Percentage”) of the total number of issued and outstanding shares of Common Stock of the Company following such exercise, or (ii) the combined voting power of the securities of the Company beneficially owned by the Holder and its Affiliates and any other Persons who are members of a Section 13(d) group with such Holder or its Affiliates to exceed the Maximum Percentage of the combined voting power of all of the securities of the Company then outstanding following such exercise. For purposes of this paragraph, beneficial ownership and whether a holder is a member of a Section 13(d) group shall be calculated and determined in accordance with Section 13(d) of the Exchange Act and the rules promulgated thereunder. For purposes of this Warrant, in determining the number of outstanding shares of Common Stock, the Holder may rely on the number of outstanding shares of Common Stock as reflected in (x) the Company’s most recent Quarterly Report on Form 10-Q or Annual Report on Form 10-K, as the case may be, filed with the Commission prior to the date hereof, (y) a more recent public announcement by the Company or (z) any other notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written request of the Holder, the Company shall within five (5) Trading Days confirm in writing or by electronic mail to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder since the date as of which such number of outstanding shares of Common Stock was reported. By written notice to the Company, the Holder may from time to time increase or decrease the Maximum Percentage to any other percentage specified not in excess of 19.99% specified in such notice; provided that any such increase will not be effective until the sixty-first (61st) day after such notice is delivered to the Company. For purposes of this Section 11(a), the aggregate number of shares of Common Stock or voting securities beneficially owned by the Holder and its Affiliates and any other Persons who are members of a Section 13(d) group with such Holder or its Affiliates shall include the shares of Common Stock issuable upon (x) the exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of shares of Common Stock which would be issuable upon exercise of the remaining unexercised and non-cancelled portion of this Warrant by the Holder and (y) the exercise or conversion of the unexercised, non-converted or non-cancelled portion of any other securities of the Company that do not have voting power (including without limitation any securities of the Company which would entitle the holder thereof to acquire at any time Common Stock, including without limitation any debt, preferred stock, right, option, warrant or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock), is subject to a limitation on conversion or exercise analogous to the limitation contained herein and is beneficially owned by the Holder or any of its Affiliates and other Persons who are members of a Section 13(d) group with such Holder or its Affiliates.

(b) This Section 11 shall not restrict the number of shares of Common Stock which a Holder may receive or beneficially own in order to determine the amount of securities or other consideration that such Holder may receive in the event of a Fundamental Transaction as contemplated in Section 9(c) of this Warrant.

12. No Fractional Shares. No fractional Warrant Shares will be issued in connection with any exercise of this Warrant. In lieu of any fractional shares that would otherwise be issuable, the number of Warrant Shares to be issued shall be rounded down to the next whole number and the Company shall pay the Holder in cash the fair market value (based on the Closing Sale Price) for any such fractional shares.

13. Notices. Any and all notices or other communications or deliveries hereunder (including, without limitation, any Exercise Notice) shall be in writing and shall be deemed given and effective on the earliest of (i) the date of transmission, if such notice or communication is delivered via facsimile or e-mail at the facsimile number or e-mail address specified in the books and records of the Transfer Agent prior to 5:30 P.M., New York City time, on a Trading Day so long as the sender of an e-mail has not received an automated notice of delivery failure from the proposed recipient's computer server, (ii) the next Trading Day after the date of transmission, if such notice or communication is delivered via facsimile or e-mail at the facsimile number or e-mail address specified in the books and records of the Transfer Agent on a day that is not a Trading Day or later than 5:30 P.M., New York City time, on any Trading Day so long as the sender of an e-mail has not received an automated notice of delivery failure from the proposed recipient's computer server, (iii) the Trading Day following the date of mailing, if sent by nationally recognized overnight courier service specifying next business day delivery, or (iv) upon actual receipt by the Person to whom such notice is required to be given, if by hand delivery.

14. Warrant Agent. The Company shall initially serve as warrant agent under this Warrant. Upon thirty (30) days' notice to the Holder, the Company may appoint a new warrant agent. Any corporation into which the Company or any new warrant agent may be merged or any corporation resulting from any consolidation to which the Company or any new warrant agent shall be a party or any corporation to which the Company or any new warrant agent transfers substantially all of its corporate trust or shareholders services business shall be a successor warrant agent under this Warrant without any further act. Any such successor warrant agent shall promptly cause notice of its succession as warrant agent to be mailed (by first class mail, postage prepaid) to the Holder at the Holder's last address as shown on the Warrant Register.

15. Miscellaneous.

(a) No Rights as a Stockholder. The Holder, solely in such Person's capacity as a holder of this Warrant, shall not be entitled to vote or receive dividends or be deemed the holder of share capital of the Company for any purpose, nor shall anything contained in this Warrant be construed to confer upon the Holder, solely in such Person's capacity as the Holder of this Warrant, any of the rights of a stockholder of the Company or any right to vote, give or withhold consent to any corporate action (whether any reorganization, issue of stock, reclassification of stock, consolidation, merger, amalgamation, conveyance or otherwise), receive notice of meetings, receive dividends or subscription rights, or otherwise, prior to the issuance to the Holder of the Warrant Shares which such Person is then entitled to receive upon the due exercise of this Warrant. In addition, nothing contained in this Warrant shall be construed as imposing any liabilities on the Holder to purchase any securities (upon exercise of this Warrant or otherwise) or as a stockholder of the Company, whether such liabilities are asserted by the Company or by creditors of the Company.

(b) Authorized Shares. (i) Except and to the extent as waived or consented to by the Holder, the Company shall not by any action, including, without limitation, amending its certificate or articles of incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue or sale of securities or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of Holder as set forth in this Warrant against impairment. Without limiting the generality of the foregoing, the Company will (a) not increase the par value of any Warrant Shares above the amount payable therefor upon such exercise immediately prior to such increase in par value, (b) take all such action as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and non-assessable Warrant Shares upon the exercise of this Warrant, and (c) use commercially reasonable efforts to obtain all such authorizations, exemptions or consents from any public regulatory body having jurisdiction thereof as may be necessary to enable the Company to perform its obligations under this Warrant.

(ii) Before taking any action which would result in an adjustment in the number of Warrant Shares for which this Warrant is exercisable or in the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

(c) Successors and Assigns. Subject to the restrictions on transfer set forth in this Warrant and compliance with applicable securities laws, this Warrant may be assigned by the Holder. This Warrant may not be assigned by the Company without the written consent of the Holder, except to a successor in the event of a Fundamental Transaction. This Warrant shall be binding on and inure to the benefit of the Company and the Holder and their respective successors and assigns. Subject to the preceding sentence, nothing in this Warrant shall be construed to give to any Person other than the Company and the Holder any legal or equitable right, remedy or cause of action under this Warrant. This Warrant may be amended only in writing signed by the Company and the Holder, or their successors and assigns.

(d) Amendment and Waiver. Except as otherwise provided herein, the provisions of the Warrants may be amended and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company has obtained the written consent of the Holder or those registered holders of the Warrants representing no less than a majority of the Warrant Shares obtainable upon exercise of the Warrants then outstanding.

(e) Acceptance. Receipt of this Warrant by the Holder shall constitute acceptance of and agreement to all of the terms and conditions contained herein.

(f) Governing Law; Jurisdiction. ALL QUESTIONS CONCERNING THE CONSTRUCTION, VALIDITY, ENFORCEMENT AND INTERPRETATION OF THIS WARRANT SHALL BE GOVERNED BY AND CONSTRUED AND ENFORCED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK WITHOUT REGARD TO THE PRINCIPLES OF CONFLICTS OF LAW THEREOF. EACH OF THE COMPANY AND THE HOLDER HEREBY IRREVOCABLY SUBMITS TO THE EXCLUSIVE JURISDICTION OF THE STATE AND FEDERAL COURTS SITTING IN THE CITY OF NEW YORK, BOROUGH OF MANHATTAN, FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION HERewith OR WITH ANY TRANSACTION CONTEMPLATED HEREBY OR DISCUSSED HEREIN (INCLUDING WITH RESPECT TO THE ENFORCEMENT OF ANY OF THE TRANSACTION DOCUMENTS), AND HEREBY IRREVOCABLY WAIVES, AND AGREES NOT TO ASSERT IN ANY SUIT, ACTION OR PROCEEDING, ANY CLAIM THAT IT IS NOT PERSONALLY SUBJECT TO THE JURISDICTION OF ANY SUCH COURT. EACH OF THE COMPANY AND THE HOLDER HEREBY IRREVOCABLY WAIVES PERSONAL SERVICE OF PROCESS AND CONSENTS TO PROCESS BEING SERVED IN ANY SUCH SUIT, ACTION OR PROCEEDING BY MAILING A COPY THEREOF VIA REGISTERED OR CERTIFIED MAIL OR OVERNIGHT DELIVERY (WITH EVIDENCE OF DELIVERY) TO SUCH PERSON AT THE ADDRESS IN EFFECT FOR NOTICES TO IT AND AGREES THAT SUCH SERVICE SHALL CONSTITUTE GOOD AND SUFFICIENT SERVICE OF PROCESS AND NOTICE THEREOF. NOTHING CONTAINED HEREIN SHALL BE DEEMED TO LIMIT IN ANY WAY ANY RIGHT TO SERVE PROCESS IN ANY MANNER PERMITTED BY LAW. EACH OF THE COMPANY AND THE HOLDER HEREBY WAIVES ALL RIGHTS TO A TRIAL BY JURY.

(g) Headings. The headings herein are for convenience only, do not constitute a part of this Warrant and shall not be deemed to limit or affect any of the provisions hereof.

(h) Severability. In case any one or more of the provisions of this Warrant shall be invalid or unenforceable in any respect, the validity and enforceability of the remaining terms and provisions of this Warrant shall not in any way be affected or impaired thereby, and the Company and the Holder will attempt in good faith to agree upon a valid and enforceable provision which shall be a commercially reasonable substitute therefor, and upon so agreeing, shall incorporate such substitute provision in this Warrant.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the Company has caused this Warrant to be duly executed by its authorized officer as of the date first indicated above.

OTONOMY, INC.

By: _____
Name:
Title:

SCHEDULE 1

FORM OF EXERCISE NOTICE

[To be executed by the Holder to purchase shares of Common Stock under the Warrant]

Ladies and Gentlemen:

(1) The undersigned is the Holder of Warrant No. ___ (the "*Warrant*") issued by Otonomy, Inc. , a Delaware corporation (the "*Company*"). Capitalized terms used herein and not otherwise defined herein have the respective meanings set forth in the Warrant.

(2) The undersigned hereby exercises its right to purchase Warrant Shares pursuant to the Warrant.

(3) The Holder intends that payment of the Exercise Price shall be made as (check one):

Cash Exercise

"Cashless Exercise" under Section 10 of the Warrant

(4) If the Holder has elected a Cash Exercise, the Holder shall pay the sum of \$ in immediately available funds to the Company in accordance with the terms of the Warrant.

(5) Pursuant to this Exercise Notice, the Company shall deliver to the Holder Warrant Shares determined in accordance with the terms of the Warrant.

(6) By its delivery of this Exercise Notice, the undersigned represents and warrants to the Company that in giving effect to the exercise evidenced hereby the Holder will not beneficially own in excess of the number of shares of Common Stock (as determined in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended) permitted to be owned under Section 11(a) of the Warrant to which this notice relates.

Dated: _____

Name of Holder: _____

By: _____

Name: _____

Title: _____

(Signature must conform in all respects to name of Holder as specified on the face of the Warrant)



Wilson Sonsini Goodrich & Rosati
Professional Corporation
650 Page Mill Road
Palo Alto, California 94304-1050
O: 650.493.9300
F: 650.493.6811

April 7, 2021

Otonomy, Inc.
4796 Executive Drive
San Diego, California 92121

Ladies and Gentlemen:

We have acted as counsel to Otonomy, Inc., a Delaware corporation (the "Company"), in connection with the filing by the Company with the Securities and Exchange Commission (the "Commission") of a registration statement on Form S-3 (File No. 333-227269) under the Securities Act of 1933, as amended (the "Securities Act"), filed on September 10, 2018 and declared effective by the Commission on September 21, 2018 (the "Registration Statement"), the prospectus contained within the Registration Statement (the "Base Prospectus"), and the prospectus supplement to the Registration Statement, filed on April 7, 2021 (the "Prospectus Supplement" and together with the Base Prospectus, the "Prospectus").

The Prospectus Supplement relates to the offering of the Company of up to 15,410,000 shares of the Company's common stock, \$0.001 par value per share (the "Shares"), including up to 2,010,000 shares that may be sold pursuant to exercise of an option to purchase additional shares granted to the underwriters, and pre-funded warrants (the "Warrants") to purchase up to an aggregate of 7,111,110 shares of the Company's common stock (the "Warrant Shares"). The offering of the Shares and the Warrants is being made pursuant to that certain underwriting agreement, dated as of April 7, 2021, by and among the Company and Cowen and Company, LLC and Piper Sandler & Co., as representatives of the several underwriters named therein (the "Underwriting Agreement").

We have examined copies of the Registration Statement, together with the documents incorporated by reference therein, and the Prospectus. In addition, we have examined originals or copies, certified or otherwise identified to our satisfaction, of such other instruments, documents, certificates and records which we have deemed relevant and necessary for the basis of our opinion hereinafter expressed.

In such examination, we have assumed (i) the authenticity of original documents and the genuineness of all signatures, (ii) the conformity to the originals of all documents submitted to us as copies, (iii) the truth, accuracy, and completeness of the information, representations and warranties contained in the records, documents, instruments and certificates we have reviewed, (iv) that the Underwriting Agreement has been duly authorized and validly executed and delivered by the parties thereto (other than the Company), (v) that the Shares, the Warrants and the Warrant Shares will be issued and sold in compliance with applicable U.S. federal and state securities laws and in the manner stated in the Registration Statement and the Prospectus, and (vi) the legal capacity of all natural persons.

Based on and subject to the foregoing, we are of the opinion that (i) the Shares have been duly authorized by the Company and, when issued and delivered by the Company against payment therefor in accordance with the terms of the Underwriting Agreement, will be validly issued, fully paid and nonassessable; (ii) the Warrants have been duly authorized by the Company and, when issued, delivered and paid for in accordance with the terms of the Underwriting Agreement, will constitute valid and legally binding obligations of the Company; and (iii) the Warrant Shares have been duly authorized by the Company and, when issued and delivered by the Company upon exercise of the Warrants in accordance with the terms of the Warrants, will be validly issued, fully paid and non-assessable.

We express no opinion herein as to the laws of any state or jurisdiction other than the federal laws of the United States of America and the General Corporation Law of the State of Delaware (including the statutory provisions and all applicable judicial decisions interpreting those laws).

We express no opinion as to (i) the effect of any bankruptcy, insolvency, reorganization, arrangement, fraudulent conveyance, moratorium or other similar laws relating to or affecting the rights of creditors generally, (ii) rights to indemnification and contribution which may be limited by applicable law or equitable principles, or (iii) the effect of general principles of equity, including, without limitation, concepts of materiality, reasonableness, good faith and fair dealing, the effect of judicial discretion and the possible unavailability of specific performance, injunctive relief or other equitable relief, and the limitations on rights of acceleration, whether considered in a proceeding in equity or at law.

We hereby consent to the use of this opinion as an exhibit to the Company's Current Report on Form 8-K filed on or about the date hereof, for incorporation by reference into the Registration Statement and to the use of our name under the caption "Legal Matters" in the Prospectus forming part of the Registration Statement. In giving such consent, we do not believe that we are "experts" within the meaning of such term as used in the Securities Act of 1933, as amended, or the rules and regulations of the Commission issued thereunder with respect to any part of the Registration Statement, including this opinion as an exhibit or otherwise.

Very truly yours,

/s/ WILSON SONSINI GOODRICH & ROSATI

WILSON SONSINI GOODRICH & ROSATI
Professional Corporation



FOR IMMEDIATE RELEASE

Otonomy Announces Proposed Public Offering

SAN DIEGO, April 7, 2021 - Otonomy, Inc. (Nasdaq: OTIC), a biopharmaceutical company dedicated to the development of innovative therapeutics for neurotology, today announced that it has commenced an underwritten public offering of its common stock. All shares of common stock to be sold in the offering will be offered by Otonomy. Otonomy may, in lieu of common stock, offer and sell to certain investors pre-funded warrants to purchase shares of its common stock in the underwritten public offering. In addition, Otonomy expects to grant the underwriters a 30-day option to purchase up to an additional 15% of the shares of common stock offered in this public offering. The offering is subject to market and other conditions, and there can be no assurance as to whether or when the offering may be completed, or as to the actual size or terms of the offering.

Cowen and Piper Sandler are acting as joint book-running managers in the offering.

A shelf registration statement (File No. 333-227269) was previously filed with the Securities and Exchange Commission (SEC) on September 9, 2018 and became effective on September 21, 2018. A preliminary prospectus supplement relating to and describing the terms of the offering will be filed with the SEC and will be available on the SEC's website at www.sec.gov. When available, copies of the preliminary prospectus supplement and the accompanying prospectus relating to these securities may also be obtained by contacting one of the following: Cowen and Company, LLC, c/o Broadridge Financial Solutions, 1155 Long Island Avenue, Edgewood, NY, 11717, Attn: Prospectus Department, by telephone at (833) 297-2926, or by email at PostSaleManualRequests@broadridge.com; or Piper Sandler & Co., 800 Nicollet Mall, J12S03, Minneapolis, MN 55402, Attn: Prospectus Department, by telephone at (800) 747-3924, or by email at prospectus@psc.com. The final terms of the offering will be disclosed in a final prospectus supplement to be filed with the SEC.

This press release shall not constitute an offer to sell or the solicitation of an offer to buy these securities, nor shall there be any sale of these securities in any state or jurisdiction in which such offer, solicitation or sale would be unlawful prior to the registration or qualification under the securities laws of such state or jurisdiction.

Forward-Looking Statements

This press release contains forward-looking statements within the meaning of the federal securities laws, including, but not limited to, statements Otonomy makes regarding its intention

to conduct an offering and sale of securities, the grant of the option to purchase additional shares and the ability to complete this offering. These statements involve risks and uncertainties that could cause actual results to differ materially, including, but not limited to, whether or not Otonomy will be able to raise capital through the sale of shares of common stock and pre-funded warrants or consummate the offering, the final terms of the offering, the satisfaction of customary closing conditions, prevailing market conditions, the anticipated use of the proceeds of the offering which could change as a result of market conditions or for other reasons, and the impact of general economic, industry or political conditions in the United States or internationally. Additional risks and uncertainties relating to the offering, Otonomy and its business can be found under the heading "Risk Factors" in Otonomy's most recent current, quarterly and annual reports filed with the SEC and in the preliminary prospectus supplement and accompanying prospectus relating to the offering to be filed with the SEC. Otonomy assumes no duty or obligation to update or revise any forward-looking statements for any reason.

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**FOR IMMEDIATE RELEASE****Otonomy Announces Pricing of \$30.1 Million Public Offering**

SAN DIEGO, April 7, 2021 — Otonomy, Inc. (Nasdaq: OTIC), a biopharmaceutical company dedicated to the development of innovative therapeutics for neurotology, today announced the pricing of an underwritten public offering of 6,288,890 shares of its common stock at a price to the public of \$2.25 per share and, to certain investors in lieu of common stock, pre-funded warrants to purchase up to an aggregate of 7,111,110 shares of its common stock at a purchase price of \$2.249 per each pre-funded warrant, which represents the per share public offering price for the common stock less the \$0.001 per share exercise price for each such pre-funded warrant. The aggregate gross proceeds from this offering are expected to be approximately \$30.1 million, before deducting underwriting discounts and commissions and other offering expenses payable by Otonomy. In addition, Otonomy has granted the underwriters a 30-day option to purchase up to an additional 2,010,000 shares of its common stock in connection with the public offering at the public offering price per share, less underwriting discounts and commissions. All of the shares of common stock and pre-funded warrants are being sold by Otonomy. The offering is expected to close on or about April 12, 2021, subject to customary closing conditions.

Cowen and Piper Sandler are acting as joint book-running managers in the offering.

A shelf registration statement (File No. 333-227269) was previously filed with the Securities and Exchange Commission (SEC) on September 10, 2018 and became effective on September 21, 2018. A preliminary prospectus supplement relating to and describing the terms of the offering was filed with the SEC on April 7, 2021. The final prospectus supplement relating to the offering will be filed with the SEC and will be available on the SEC's website at www.sec.gov. When available, copies of the final prospectus supplement and the accompanying prospectus relating to these securities may also be obtained by contacting one of the following: Cowen and Company, LLC, c/o Broadridge Financial Solutions, 1155 Long Island Avenue, Edgewood, NY, 11717, Attn: Prospectus Department, by telephone at (833) 297-2926, or by email at PostSaleManualRequests@broadridge.com; or Piper Sandler & Co., by mail at 800 Nicollet Mall, J12S03, Minneapolis, MN 55402, Attn: Prospectus Department, by telephone at (800) 747-3924, or by email at prospectus@psc.com.

This press release shall not constitute an offer to sell or the solicitation of an offer to buy these securities, nor shall there be any sale of these securities in any state or jurisdiction in which such offer, solicitation or sale would be unlawful prior to the registration or qualification under the securities laws of such state or jurisdiction.

Forward-Looking Statements

This press release contains forward-looking statements within the meaning of the federal securities laws. These statements involve risks and uncertainties that could cause actual results to differ materially, including, but not limited to, whether or not Otonomy will be able to consummate the offering, the satisfaction of customary closing conditions, prevailing market conditions, the anticipated use of the proceeds of the offering which could change as a result of market conditions or for other reasons, and the impact of general economic, industry or political conditions in the United States or internationally. Additional risks and uncertainties relating to the offering, Otonomy and its business can be found under the heading "Risk Factors" in Otonomy's most recent current, quarterly and annual reports filed with the SEC and in the preliminary prospectus supplement and accompanying prospectus relating to the offering to be filed with the SEC. Otonomy assumes no duty or obligation to update or revise any forward-looking statements for any reason.

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