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

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**FORM 8-K**

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

**Date of Report (Date of earliest event reported): July 16, 2019**

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**AVROBIO, INC.**

(Exact name of registrant as specified in its charter)

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**Delaware**  
(State or other jurisdiction  
of incorporation)

**001-38537**  
(Commission  
File Number)

**81-0710585**  
(I.R.S. Employer  
Identification No.)

**One Kendall Square  
Building 300, Suite 201  
Cambridge, MA 02139**  
(Address of principal executive offices, including zip code)

**(617) 914-8420**  
(Registrant's telephone number, including area code)

**Not Applicable**  
(Former Name or Former Address, if Changed Since Last Report)

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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:

- 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
<b>Common Stock, \$0.0001 par value per share</b>	<b>AVRO</b>	<b>Nasdaq Global Select Market</b>

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.

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**Item 1.01 Entry into a Material Definitive Agreement.**

On July 16, 2019, AVROBIO, Inc., a Delaware corporation (the “Company”), entered into an underwriting agreement (the “Underwriting Agreement”) with Morgan Stanley & Co. LLC and Cowen and Company, LLC, as representatives of the several underwriters listed therein (the “Underwriters”), related to an underwritten public offering (the “Offering”) of 6,500,000 shares (the “Shares”) of the Company’s common stock, par value \$0.0001 per share (the “Common Stock”), at a public offering price of \$18.50 per Share, before underwriting discounts and commissions. Pursuant to the terms of the Underwriting Agreement, the Company granted the Underwriters an option, exercisable for 30 days, to purchase up to an additional 975,000 shares of Common Stock. The gross proceeds to the Company, before deducting the underwriting discounts and commissions and estimated expenses associated with the Offering payable by the Company, are expected to be approximately \$120.25 million (assuming the Underwriters do not exercise their option to purchase additional shares). If the Underwriters exercise their option in full, the gross proceeds to the Company, before deducting the underwriting discounts and commissions and estimated expenses, are expected to be approximately \$138.3 million. The closing of the Offering is expected to occur on or about July 19, 2019, subject to the satisfaction of customary closing conditions.

The Shares are being offered and sold pursuant to a prospectus dated July 10, 2019 and a prospectus supplement dated July 16, 2019 (the “Prospectus Supplement”), in connection with a takedown from the Company’s shelf registration statement on Form S-3 (Registration No. 333-232489) (the “Registration Statement”), which the U.S. Securities and Exchange Commission declared effective on July 10, 2019.

The Underwriting Agreement contains customary representations, warranties, covenants, conditions to closing, indemnification and other obligations of the parties and termination provisions.

A copy of the legal opinion of Goodwin Procter LLP, relating to the validity of the Shares issued in the Offering, is filed as Exhibit 5.1 to this Current Report on Form 8-K and is filed with reference to, and is hereby incorporated by reference into, the Registration Statement.

The foregoing description of the Underwriting Agreement does not purport to be complete and is qualified in its entirety by reference to the text of the Underwriting Agreement, which is included as Exhibit 1.1 to this Current Report on Form 8-K and incorporated by reference herein.

The Underwriting Agreement has been filed with this Current Report on Form 8-K to provide investors and security holders with information regarding its terms. It is not intended to provide any other factual information about the Company. The representations, warranties and covenants contained in the Underwriting Agreement were made only for purposes of such agreement and as of specific dates, and were solely for the benefit of the parties to such agreement.

**Item 2.02 Results of Operations and Financial Condition.**

In connection with the Offering, the Company filed the Prospectus Supplement, which contains certain information regarding the Company’s results of operations or financial condition for the quarterly period ended June 30, 2019, as set forth below.

The Company’s cash, cash equivalents and available-for-sale investments was approximately \$90.3 million at June 30, 2019, as compared to \$108.5 million at March 31, 2019. This financial data as of June 30, 2019 is preliminary and may change, and is based on information available to management as of the date of the Prospectus Supplement and is subject to completion by management of the Company’s financial statements as of and for the quarter ended June 30, 2019. There can be no assurance that the Company’s final results of operations for this period or cash position as of June 30, 2019 will not differ from these estimates, including as a result of review adjustments and any such changes could be material. The Company’s independent registered public accountants have not audited, reviewed or performed any procedures with respect to such preliminary financial data and accordingly do not express an opinion or any other form of assurance with respect thereto. These results could change as a result of further review. Complete quarterly results will be included in the Company’s Quarterly Report on Form 10-Q for the quarter ended June 30, 2019.

Pursuant to General Instruction B.2 to Form 8-K, the information set forth in this Item 2.02 shall not be deemed “filed” for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liabilities of that section, nor shall it be incorporated by reference in any filing under the Securities Act of 1933, as amended, or the Exchange Act, except as expressly set forth by specific reference in such a filing.

**Item 8.01 Other Events.**

On July 16, 2019, the Company issued a press release announcing the commencement of the Offering. A copy of the press release is attached hereto as Exhibit 99.1 and is incorporated herein by reference.

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On July 16, 2019, the Company issued a press release announcing its entry into the Underwriting Agreement. A copy of the press release is attached hereto as Exhibit 99.2 and is incorporated herein by reference.

**Item 9.01 Financial Statements and Exhibits.**

(d) Exhibits

- 1.1 [Underwriting Agreement, dated July 16, 2019, between AVROBIO, Inc. Morgan Stanley & Co. LLC and Cowen and Company, LLC, as representatives of the several underwriters named therein.](#)
- 5.1 [Opinion of Goodwin Procter LLP.](#)
- 23.1 [Consent of Goodwin Procter LLP \(included in its opinion filed as Exhibit 5.1\).](#)
- 99.1 [Press release dated July 16, 2019.](#)
- 99.2 [Press release dated July 16, 2019.](#)

**Forward Looking Statements**

This Current Report on Form 8-K and certain of the materials furnished or filed herewith contains forward-looking statements, including statements made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. These statements may be identified by words such as “aims,” “anticipates,” “believes,” “could,” “estimates,” “expects,” “forecasts,” “goal,” “intends,” “may,” “plans,” “possible,” “potential,” “seeks,” “will,” and variations of these words or similar expressions that are intended to identify forward-looking statements. These forward-looking statements include, without limitation, statements regarding the Company’s financial data, the completion, timing and anticipated size of the proposed offering and the anticipated use of proceeds therefrom. Any such statements that are not statements of historical fact may be deemed to be forward-looking statements.

Any forward-looking statements are based on AVROBIO’s current expectations, estimates and projections only as of the date of this release and are subject to a number of risks and uncertainties that could cause actual results to differ materially and adversely from those set forth in or implied by such forward-looking statements. These risks and uncertainties include, but are not limited to, completion of the proposed public offering on the anticipated terms, or at all, market conditions and the satisfaction of customary closing conditions related to the proposed public offering. For a discussion of these and other risks and uncertainties, and other important factors, any of which could cause AVROBIO’s actual results to differ materially and adversely from those contained in the forward-looking statements, see the section entitled “Risk Factors” in AVROBIO’s Annual Report on Form 10-K for the fiscal year ended December 31, 2018 and our subsequent periodic reports on Form 10-Q, as well as discussions of potential risks, uncertainties, and other important factors in our other filings with the SEC, including those contained or incorporated by reference in the Prospectus Supplement relating to the Offering filed with the SEC. AVROBIO explicitly disclaims any obligation to update any forward-looking statements except to the extent required by law.

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**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.

Date: July 17, 2019

AVROBIO, INC.

By: /s/ Geoff MacKay  
Geoff MacKay  
President and Chief Executive Officer

**6,500,000 Shares**  
**AVROBIO, INC.**  
**COMMON STOCK, PAR VALUE \$0.0001 PER SHARE**  
**UNDERWRITING AGREEMENT**

July 16, 2019

Morgan Stanley & Co. LLC  
Cowen and Company, LLC  
As Representatives of the several Underwriters  
named in Schedule I hereto

c/o Morgan Stanley & Co. LLC  
1585 Broadway  
New York, New York 10036

c/o Cowen and Company, LLC  
599 Lexington Avenue, 25th Floor  
New York, New York 10022

Ladies and Gentlemen:

AVROBIO, Inc., a Delaware corporation (the “**Company**”), proposes to issue and sell to the several Underwriters named in Schedule I hereto (the “**Underwriters**”), for whom Morgan Stanley & Co. LLC and Cowen and Company, LLC are acting as representatives (the “**Representatives**”), 6,500,000 shares of its common stock, par value \$0.0001 per share (the “**Firm Shares**”). The Company also proposes to issue and sell to the Underwriters not more than an additional 975,000 shares of its common stock, par value \$0.0001 per share (the “**Additional Shares**”), if and to the extent that the Representatives shall have determined to exercise, on behalf of the Underwriters, the right to purchase such shares of common stock granted to the Underwriters in Section 2 hereof. The Firm Shares and the Additional Shares are hereinafter collectively referred to as the “**Shares**.” The shares of common stock, par value \$0.0001 per share, of the Company to be outstanding after giving effect to the sales contemplated hereby are hereinafter referred to as the “**Common Stock**.”

The Company has filed with the Securities and Exchange Commission (the “**Commission**”) a registration statement on Form S-3 (File No. 333-232489), including a prospectus, relating to certain securities of the Company (the “**Shelf Securities**”), including the Shares, to be issued from time to time by the Company. The registration statement as amended at the time of effectiveness, including the information (if any) deemed to be part of the registration statement pursuant to Rule 430A or Rule 430B under the Securities Act of 1933, as amended (the “**Securities Act**”), is hereinafter referred to as the “**Registration Statement**”, and the related preliminary prospectus covering the Shelf Securities is hereinafter referred to as the “**Basic Prospectus**.” The Basic Prospectus, as supplemented by the prospectus supplement specifically related to the Shares in the form first used to confirm sales of the Shares (or in the form first made available to the Underwriters by the Company to meet requests of purchasers pursuant to Rule 173 under the Securities Act) is hereinafter referred to as the “**Prospectus**,” and the term “**preliminary prospectus**” means any preliminary form of the Prospectus.

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If the Company has filed an abbreviated registration statement to register additional shares of Common Stock pursuant to Rule 462(b) under the Securities Act (a “**Rule 462 Registration Statement**”), then any reference herein to the term “**Registration Statement**” shall be deemed to include such Rule 462 Registration Statement.

For purposes of this Agreement, “**free writing prospectus**” has the meaning set forth in Rule 405 under the Securities Act, “**Time of Sale Prospectus**” means the Basic Prospectus and the preliminary prospectus together with the documents, pricing information and free writing prospectuses, if any, each as set forth in Schedule II hereto, and “**broadly available road show**” means a “bona fide electronic road show” as defined in Rule 433(h)(5) under the Securities Act that has been made available without restriction to any person. As used herein, the terms “Registration Statement,” “preliminary prospectus,” “Time of Sale Prospectus” and “Prospectus” shall include the documents, if any, incorporated by reference therein as of the date hereof.

1. *Representations and Warranties.* The Company represents and warrants to and agrees with each of the Underwriters that:

(a) The Registration Statement has become effective; no stop order suspending the effectiveness of the Registration Statement is in effect, and no proceedings for such purpose are pending before or, to the Company’s knowledge, threatened by the Commission.

(b) (i) The Registration Statement, when it became effective, did not contain and, as amended or supplemented, if applicable, as of the date of such amendment or supplement, will not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading, (ii) the Registration Statement and the Prospectus comply and, as amended or supplemented, if applicable, as of the date of such amendment or supplement, will comply in all material respects with the Securities Act and the applicable rules and regulations of the Commission thereunder, (iii) the Time of Sale Prospectus does not, and at the time of each sale of the Shares in connection with the offering when the Prospectus is not yet available to prospective purchasers and at the Closing Date (as defined in Section 4), the Time of Sale Prospectus, as then amended or supplemented by the Company, if applicable, 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, (iv) each broadly available road show, if any, when considered together with the Time of Sale Prospectus, does 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 and (v) the Prospectus, as of its date, does not contain and, as amended or supplemented, if applicable, as of the date of such amendment or supplement, and as of the Closing Date, 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

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circumstances under which they were made, not misleading, except that the representations and warranties set forth in this paragraph do not apply to statements or omissions in the Registration Statement, the Time of Sale Prospectus or the Prospectus based upon information relating to any Underwriter furnished to the Company in writing by such Underwriter through the Representatives expressly for use therein.

(c) The Company is not an “ineligible issuer” in connection with the offering pursuant to Rules 164, 405 and 433 under the Securities Act. Any free writing prospectus that the Company is required to file pursuant to Rule 433(d) under the Securities Act has been, or will be, filed with the Commission in accordance with the requirements of the Securities Act and the applicable rules and regulations of the Commission thereunder. Each free writing prospectus that the Company has filed, or is required to file, pursuant to Rule 433(d) under the Securities Act or that was prepared by or on behalf of or used or referred to by the Company complies or will comply in all material respects with the requirements of the Securities Act and the applicable rules and regulations of the Commission thereunder. Except for the free writing prospectuses, if any, identified in Schedule II hereto, and electronic road shows, if any, each furnished to each of the Representatives before first use, the Company has not prepared, used or referred to, and will not, without the prior consent of each of the Representatives, prepare, use or refer to, any free writing prospectus.

(d) The Company has been duly incorporated, is validly existing as a corporation in good standing under the laws of the jurisdiction of its incorporation, has the corporate power and authority to own or lease its property and to conduct its business as described in the Time of Sale Prospectus and is duly qualified to transact business and is in good standing in each jurisdiction in which the conduct of its business or its ownership or leasing of property requires such qualification, except to the extent that the failure to be so qualified or be in good standing would not reasonably be likely to have a material adverse effect on the Company and the Subsidiaries (as defined in Section 1(e)), taken as a whole.

(e) Each of AVROBIO Inc., a Canadian corporation, AVROBIO Australia Pty Ltd, an Australian company, and AVROBIO Securities Corporation, a Massachusetts corporation, (each a “**Subsidiary**” and together, the “**Subsidiaries**”) has been duly incorporated, is validly existing as a corporation in good standing under the laws of the jurisdiction of its incorporation, has the corporate power and authority to own or lease its property and to conduct its business as described in the Time of Sale Prospectus and is duly qualified to transact business and is in good standing in each jurisdiction in which the conduct of its business or its ownership or leasing of property requires such qualification, except to the extent that the failure to be so qualified or be in good standing would not reasonably be likely to have a material adverse effect on the Company and the Subsidiaries, taken as a whole. All of the issued shares of capital stock of each Subsidiary have been duly and validly authorized and issued, are fully paid and non-assessable (to the extent that such concepts are applicable in such jurisdiction) and are owned directly by the Company, free and clear of all liens, encumbrances, equities or claims, other than as disclosed in the Registration Statement.



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

(g) The authorized capital stock of the Company conforms as to legal matters to the description thereof contained in each of the Time of Sale Prospectus and the Prospectus.

(h) The shares of Common Stock outstanding prior to the issuance of the Shares have been duly authorized and are validly issued, fully paid and non-assessable.

(i) The Shares have been duly authorized and, when issued, delivered and paid for in accordance with the terms of this Agreement, will be validly issued, fully paid and non-assessable, and the issuance of such Shares will not be subject to any preemptive or similar rights that have not been validly waived.

(j) The execution and delivery by the Company of, and the performance by the Company of its obligations under, this Agreement will not contravene any provision of (i) applicable law, (ii) the certificate of incorporation or by-laws of the Company, (iii) any agreement or other instrument binding upon the Company or any Subsidiary that is material to the Company and the Subsidiaries, taken as a whole, or (iv) any judgment, order or decree of any governmental body, agency or court having jurisdiction over the Company or the Subsidiaries, except, in the case of clauses (i), (iii) and (iv), as would not, individually or in the aggregate, reasonably be expected to have a material adverse effect on the Company and its Subsidiaries, taken as a whole, or on the power and ability of the Company to perform its obligations under this Agreement. No consent, approval, authorization or order of, or qualification with, any governmental body or agency is required for the performance by the Company of its obligations under this Agreement, except such as may be required by the securities or Blue Sky laws of the various states or foreign jurisdictions or the rules and regulations of the Financial Industry Regulatory Authority (“FINRA”) or The Nasdaq Global Select Market (the “Exchange”) in connection with the offer and sale of the Shares.

(k) There has not occurred any material adverse change, or any development that, singly or in the aggregate, would reasonably be expected to result in a material adverse change in the condition, financial or otherwise, or in the earnings, business, prospects or operations of the Company and the Subsidiaries, taken as a whole, from that set forth in the Time of Sale Prospectus.

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(l) There are no legal or governmental proceedings pending or, to the knowledge of the Company, threatened to which the Company or any Subsidiary is a party or to which any of the properties of the Company or any Subsidiary is subject (i) other than proceedings accurately described in all material respects in the Time of Sale Prospectus and proceedings that would not reasonably be expected to have a material adverse effect on the Company and the Subsidiaries, taken as a whole, or on the power or ability of the Company to perform its obligations under this Agreement or to consummate the transactions contemplated by the Time of Sale Prospectus or (ii) that are required to be described in the Registration Statement or the Prospectus and are not so described in all material respects. There are no statutes, regulations, contracts or other documents that are required to be described in the Registration Statement or the Prospectus or to be filed as exhibits to the Registration Statement that are not described in all material respects or filed as required.

(m) Each preliminary prospectus filed as part of the Registration Statement as originally filed or as part of any amendment thereto, or filed pursuant to Rule 424 under the Securities Act, complied when so filed in all material respects with the Securities Act and the applicable rules and regulations of the Commission thereunder.

(n) The Company is not, and after giving effect to the offering and sale of the Shares and the application of the proceeds thereof as described in the Prospectus will not be, required to register as an "investment company" as such term is defined in the Investment Company Act of 1940, as amended.

(o) The Company and the Subsidiaries (i) are in compliance with any and all applicable foreign, federal, state and local laws and regulations relating to the protection of human health and safety, the environment or hazardous or toxic substances or wastes, pollutants or contaminants ("**Environmental Laws**"), (ii) have received all permits, licenses or other approvals required of them under applicable Environmental Laws to conduct their respective businesses and (iii) are in compliance with all terms and conditions of any such permit, license or approval, except where such noncompliance with Environmental Laws, failure to receive required permits, licenses or other approvals or failure to comply with the terms and conditions of such permits, licenses or approvals would not, singly or in the aggregate, reasonably be expected to have a material adverse effect on the Company and the Subsidiaries, taken as a whole.

(p) There are no costs or liabilities associated with Environmental Laws (including, without limitation, any capital or operating expenditures required for clean-up, closure of properties or compliance with Environmental Laws or any permit, license or approval, any related constraints on operating activities and any potential liabilities to third parties) which would, singly or in the aggregate, reasonably be expected to have a material adverse effect on the Company and the Subsidiaries, taken as a whole.

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(q) Except as described in the Time of Sale Prospectus and the Prospectus or as have been waived with respect to the Registration Statement, there are no contracts, agreements or understandings between the Company and any person granting such person the right to require the Company to file a registration statement under the Securities Act with respect to any securities of the Company or to require the Company to include such securities with the Shares registered pursuant to the Registration Statement.

(r) Neither the Company nor the Subsidiaries or the Company's controlled affiliates, nor any director, officer or employee thereof, nor, to the Company's knowledge, any agent or representative of the Company, the Subsidiaries or controlled affiliates, has taken or will take any action in furtherance of an offer, payment, promise to pay or authorization or approval of the payment, giving or receipt of money, property, gifts or anything else of value, directly or indirectly, to any government official (including any officer or employee of a government or government-owned or controlled entity 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) in order to influence official action, or to any person in violation of any applicable anti-corruption laws. The Company, the Subsidiaries and the Company's controlled affiliates have conducted their businesses in compliance with applicable anti-corruption laws and have instituted and maintained and will continue to maintain policies and procedures reasonably designed to promote and achieve compliance with such laws and with the representations and warranties contained herein. Neither the Company nor the Subsidiaries will use, directly or indirectly, the proceeds of the offering in furtherance of an offer, payment, promise to pay or authorization of the payment or giving of money, or anything else of value, to any person in violation of any applicable anti-corruption laws.

(s) The operations of the Company and the Subsidiaries are and have been conducted at all times in material compliance with all applicable financial recordkeeping and reporting requirements, including those of the Bank Secrecy Act, as amended by Title III of the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 (USA PATRIOT Act), and the applicable anti-money laundering statutes of jurisdictions where the Company or any Subsidiary conduct business, the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any governmental agency (collectively, the "**Anti-Money Laundering Laws**"), and no action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company or any Subsidiary with respect to the Anti-Money Laundering Laws is pending or, to the knowledge of the Company, threatened.

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(t) (i) None of the Company, the Subsidiaries or any director, officer or employee thereof, or, to the Company's knowledge, any agent, affiliate or representative of the Company or any Subsidiary, is an individual or entity ("**Person**") that is, or is owned or controlled by one or more Persons that are:

(A) the subject of any sanctions administered or enforced by the U.S. Department of the Treasury's Office of Foreign Assets Control, the United Nations Security Council, the European Union, Her Majesty's Treasury or other relevant sanctions authority (collectively, "**Sanctions**"), or

(B) located, organized or resident in a country or territory that is the subject of Sanctions (including, without limitation, Crimea, Cuba, Iran, North Korea, Sudan and Syria).

(ii) The Company will not, directly or indirectly, use the proceeds of the offering, or lend, contribute or otherwise make available such proceeds to any direct or indirect subsidiary, joint venture partner or other Person:

(A) to fund or facilitate any activities or business of or with any Person or in any country or territory that, at the time of such funding or facilitation, is the subject of Sanctions; or

(B) in any other manner that will result in a violation of Sanctions by any Person (including any Person participating in the offering, whether as underwriter, advisor, investor or otherwise).

(iii) The Company and the Subsidiaries have not knowingly engaged in, are not now knowingly engaged in, and will not engage in, any dealings or transactions with any Person, or in any country or territory, that at the time of the dealing or transaction is or was the subject of Sanctions.

(u) Subsequent to the respective dates as of which information is given in each of the Registration Statement, the Time of Sale Prospectus and the Prospectus, (i) the Company and the Subsidiaries have not incurred any material liability or obligation, direct or contingent, nor entered into any material transaction; (ii) the Company has not purchased any of its outstanding capital stock (other than from its employees or other service providers in connection with the termination of their service pursuant to equity compensation plans or agreements, as applicable, described in the Time of Sale Prospectus), nor declared, paid or otherwise made any dividend or distribution of any kind on its capital stock other than ordinary and customary dividends; and (iii) there has not been any material change in the capital stock, short-term debt or long-term debt of the Company and the Subsidiaries, except in each case as described in each of the Registration Statement, the Time of Sale Prospectus and the Prospectus, respectively.

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(v) The Company and the Subsidiaries do not own any real property. The Company and the Subsidiaries have good and marketable title to all personal property owned by them which is material to the business of the Company and the Subsidiaries, in each case free and clear of all liens, encumbrances and defects except such as are described in the Time of Sale Prospectus or such as do not materially affect the value of such property and do not interfere with the use made and proposed to be made of such property by the Company and the Subsidiaries. Any real property and buildings held under lease by the Company or any Subsidiary are held by them, as applicable, under valid, subsisting and, to the Company's knowledge, enforceable leases with such exceptions as are not material and do not materially interfere with the use made and proposed to be made of such property and buildings by the Company and the Subsidiaries, in each case except as described in the Time of Sale Prospectus.

(w) The Company and the Subsidiaries have valid, binding and enforceable rights or licenses under all patents, patent applications, patent rights, licenses, inventions, copyrights, know-how (including trade secrets and other unpatented and/or unpatentable proprietary or confidential information, systems or procedures), trademarks, service marks, trade names and other intellectual property used in or necessary for the conduct of the business of the Company and the Subsidiaries in the manner described in the Time of Sale Prospectus (collectively, the "**Intellectual Property**"), except as enforceability of any licenses may be limited by bankruptcy and other similar laws affecting the rights of creditors generally and general principles of equity. To the knowledge of the Company, the patents, trademarks and copyrights, if any, included within the Intellectual Property are valid, enforceable and subsisting, other than as disclosed in the Time of Sale Prospectus. (i) Except as disclosed in the Time of Sale Prospectus, neither the Company nor any Subsidiary is obligated to pay a material royalty, grant a license to or provide other material consideration to any third party in connection with the Intellectual Property; (ii) neither the Company nor any Subsidiary has received any notice of any claim of infringement, misappropriation of or conflict with asserted rights of others with respect to any of the Company's or any Subsidiary's product candidates, processes or Intellectual Property; (iii) no action, suit, claim or other proceeding is pending or, to the knowledge of the Company, is threatened, challenging the Company's or any Subsidiary's rights in or to any Intellectual Property or challenging the validity, enforceability or scope of any Intellectual Property; (iv) except as disclosed in the Time of Sale Prospectus, none of the development, manufacture, sale or use of any of the discoveries, inventions, product candidates or processes of the Company referred to in the Time of Sale Prospectus do or will infringe or violate any right or issued patent claim of any third party in any material respect; (v) no third party has any ownership right in or to any Intellectual Property that is owned by the Company other than any co-owner of any patent constituting Intellectual Property who is listed on the records of the U.S. Patent and Trademark Office and any co-owner of any patent application constituting Intellectual Property who is named in such patent application; (vi) except as disclosed in the Time of Sale Prospectus or as would not, singly or in the aggregate, have a material adverse effect on the Company and the Subsidiaries, taken as a whole, the Intellectual Property owned by the Company or any

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Subsidiary is free and clear of all liens or encumbrances; (vii) none of the technology employed by the Company or any Subsidiary in the conduct of the business in the manner described in the Time of Sale Prospectus has been obtained or is being used by the Company or any Subsidiary in material violation of any contractual obligation binding on the Company or, to the knowledge of the Company, upon any of its officers, consultants, directors or employees and (viii) the Company has taken reasonable measures to protect its confidential information and trade secrets and to maintain and safeguard the Intellectual Property.

(x) To the knowledge of the Company, all patent and patent applications licensed to the Company or any Subsidiary have been duly and properly filed, prosecuted and maintained in all material respects.

(y) The Company and the Subsidiaries have operated and currently are in compliance in all material respects with all applicable laws, rules and regulations of the jurisdictions in which they are conducting business. The Company and each Subsidiary (i) is and at all times has been in material compliance with all statutes, rules or regulations applicable to the ownership, testing, development, manufacture, packaging, processing, use, distribution, marketing, labeling, promotion, sale, offer for sale, storage, import, export or disposal of any product candidate under development, manufactured or distributed by the Company (“**Applicable Laws**”); (ii) has not received any FDA Form 483, notice of adverse finding, warning letter, untitled letter or other written correspondence or notice from the U.S. Food and Drug Administration (the “**FDA**”) or any other federal, state, local or foreign governmental or regulatory authority alleging or asserting material noncompliance with any Applicable Laws or any licenses, certificates, approvals, clearances, authorizations, permits and supplements or amendments thereto required by any Applicable Laws to conduct the Company’s business as described in Time of Sale Prospectus (“**Authorizations**”); (iii) possesses all material Authorizations and such Authorizations are valid and in full force and effect and neither the Company nor any Subsidiary is in material violation of any such Authorizations; (iv) has not received notice of any pending or completed claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from the FDA or any other federal, state, local or foreign governmental or regulatory authority or third party alleging that any product candidate operation or activity is in material violation of any Applicable Laws or Authorizations and the Company has no knowledge that the FDA or any other federal, state, local or foreign governmental or regulatory authority or third party is considering any such claim, litigation, arbitration, action, suit, investigation or proceeding; (v) has not received notice that the FDA or any other federal, state, local or foreign governmental or regulatory authority has taken, is taking or intends to take action to limit, suspend, modify or revoke any material Authorizations and has no knowledge that the FDA or any other federal, state, local or foreign governmental or regulatory authority is considering such action; (vi) has filed, obtained, maintained or submitted all material reports, documents, forms, notices, applications, records, claims,

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submissions and supplements or amendments as required by any Applicable Laws or Authorizations and all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were materially complete and correct on the date filed (or were corrected or supplemented by a subsequent submission) and (vii) has not, either voluntarily or involuntarily, initiated, conducted or issued or caused to be initiated, conducted or issued, any recall, market withdrawal or replacement, safety alert, "dear doctor" letter or other notice or action relating to the alleged lack of safety or efficacy of any product candidate or any alleged product candidate defect or violation and, to the Company's knowledge, no third party has initiated, conducted or intends to initiate any such notice or action.

(z) The studies, tests and preclinical and clinical trials conducted by the Company that are described in the Registration Statement, the Time of Sale Prospectus and the Prospectus, and, to the Company's knowledge, those studies, tests and preclinical and clinical trials conducted on behalf of the Company, were and, if still pending, are being conducted in all material respects in accordance with experimental protocols, procedures and controls pursuant to accepted professional scientific standards and all Applicable Laws and Authorizations, including, without limitation, the Federal Food, Drug and Cosmetic Act and the rules and regulations promulgated thereunder. The descriptions of the results of such studies, tests and trials contained in the Registration Statement, the Time of Sale Prospectus and the Prospectus are accurate and complete and fairly present the data derived from such studies, tests and trials in all material respects. The Company is not aware of any studies, tests or trials, the results of which the Company believes are materially inconsistent with the study, test or trial results described or referred to in the Registration Statement, the Time of Sale Prospectus and the Prospectus when viewed in the context in which such results are described and the clinical state of development. The Company has not received any notices or written correspondence from the FDA or any other federal, state, local or foreign governmental or regulatory authority requiring the termination, suspension or material modification of any studies, tests or preclinical or clinical trials conducted by or on behalf of the Company.

(aa) The Company and each Subsidiary has filed and received approval of all Authorizations issued by, and have made all declarations and filings with, the FDA or any other federal, state, local or foreign governmental or regulatory authority that are necessary for the ownership or lease of their respective properties or the conduct of their respective businesses as described in the Time of Sale Prospectus, or to permit all clinical and nonclinical studies and trials conducted by or on behalf of the Company or any Subsidiary, including, without limitation, all necessary FDA and applicable foreign regulatory agency approvals. The Company and each Subsidiary is in compliance with and are not in violation of, or in default under, any such Authorization. To the knowledge of the Company, no event has occurred which allows, or after notice or lapse of time would allow, revocation, termination or modification of any Authorization or result in any other material impairment of the rights of the holder of any Authorization and the Company does not have any reason to believe that any Authorization will not be renewed in the ordinary course. All Authorizations are in full force and effect.

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(bb) Neither the Company nor, to the knowledge of the Company, any of its officers, directors or managing employees (as defined in 42 U.S.C. § 1320a-5(b)) is or has been excluded, suspended or debarred from participation in any state or federal health care program, or made subject to any pending or, to the Company's knowledge, threatened or contemplated action which could reasonably be expected to result in such exclusion, suspension or debarment.

(cc) To the knowledge of the Company, the manufacturing facilities and operations of its suppliers are operated in compliance in all material respects with all Applicable Laws.

(dd) None of the Company's or any Subsidiary's product candidates have received marketing approval from the FDA or any other federal, state, local or foreign governmental or regulatory authority.

(ee) No material labor dispute with the employees of the Company or any Subsidiary exists, except as described in the Time of Sale Prospectus, or, to the knowledge of the Company, is imminent. The Company is not aware of any existing, threatened or imminent labor disturbance by the employees of any of its principal suppliers, manufacturers or contractors that could have a material adverse effect on the Company and the Subsidiaries, taken as a whole.

(ff) Except (i) as described in the Time of Sale Prospectus or (ii) as would not, singly or in the aggregate, have, or reasonably be expected to have, a material adverse effect on the Company and the Subsidiaries, taken as a whole, each employee benefit plan, within the meaning of Section 3(3) of the Employee Retirement Income Security Act of 1974, as amended ("**ERISA**"), that the Company or any member of its "Controlled Group" (defined as any organization which is under common control with the Company within the meaning of Section 414 of the Internal Revenue Code of 1986, as amended (the "**Code**")) sponsors or maintains 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.

(gg) The Company and each Subsidiary is insured by insurers of recognized financial responsibility against such losses and risks and in such amounts as, in the Company's reasonable judgment, are prudent and customary in the businesses in which they are engaged. Neither the Company nor any Subsidiary has been refused any insurance coverage sought or applied for. Neither the Company nor any Subsidiary has 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 from similar insurers as may be necessary to continue its business at a cost that would not reasonably be expected to have a material adverse effect on the Company and the Subsidiaries, taken as a whole, except as described in the Time of Sale Prospectus.



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(hh) The Company and the Subsidiaries possess all certificates, authorizations and permits issued by the appropriate federal, state or foreign regulatory authorities necessary to conduct their respective businesses, except where the failure to possess such certificates, authorizations or permits, individually or in the aggregate, would not reasonably be expected to have a material adverse effect on the Company and the Subsidiaries, taken as a whole, and neither the Company nor any Subsidiary has received any notice of proceedings relating to the revocation or modification of any such certificate, authorization or permit which, singly or in the aggregate, if the subject of an unfavorable decision, ruling or finding, would reasonably be expected to have a material adverse effect on the Company and the Subsidiaries, taken as a whole, except as described in the Time of Sale Prospectus.

(ii) Ernst & Young LLP, which has certified certain financial statements of the Company and the Subsidiaries, is an independent public accountant as required by the Securities Act and the rules and regulations of the Commission thereunder and the rules and regulations of the Public Company Accounting Oversight Board (United States).

(jj) The consolidated financial statements of the Company included or incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus, together with the related notes, present fairly in all material respects the financial position of the Company and its consolidated Subsidiaries at the dates indicated therein and, in the case of the statements of operations, stockholders' equity and cash flows of the Company and its consolidated Subsidiaries, for the periods specified therein. The consolidated financial statements of the Company included or incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus comply in all material respects with the applicable requirements of the Securities Act and have been prepared in conformity with U.S. generally accepted accounting principles ("GAAP") applied on a consistent basis throughout the periods involved except (i) the unaudited, interim financial statements, which are subject to normal year-end adjustments and do not contain certain footnotes as permitted by the applicable rules of the Commission and (ii) as otherwise disclosed therein. Except as included therein, no historical or pro forma financial statements or supporting schedules are required to be included or incorporated by reference in the Registration Statement, the Time of Sale Prospectus or the Prospectus under the Securities Act and the rules and regulations of the Commission thereunder. To the extent included in the Registration Statement, the Time of Sale Prospectus and the Prospectus, the pro forma financial information and the related notes thereto included or incorporated by reference therein have been prepared in accordance with the applicable requirements of the Securities Act and comply with Regulation G of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and Item 10 of Regulation S-K of the Securities Act, to the

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extent applicable, and the assumptions underlying such pro forma financial information are reasonable and are set forth in the Registration Statement, the Time of Sale Prospectus and the Prospectus in all material respects. All other information regarding the financial condition or results of operations of the Company or the Subsidiaries included or incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus has been derived from the accounting records of the Company and its consolidated Subsidiaries and presents fairly in all material respects the information shown thereby.

(kk) The Company and each Subsidiary maintain a system of 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) the interactive data in eXtensible Business Reporting Language included or incorporated by reference in the Registration Statement is accurate in all material respects. Except as described in the Time of Sale Prospectus, since the end of the Company's most recent audited fiscal year, there has been (i) no material weakness in the Company's internal control over financial reporting (whether or not remediated) and (ii) no change in the Company's internal control over financial reporting that has materially adversely affected, or is reasonably likely to materially adversely affect, the Company's internal control over financial reporting.

(ll) Except as disclosed in the Time of Sale Prospectus and the Prospectus, the Company maintains disclosure controls and procedures (as such term is defined in Rule 13a-15(e) under the Exchange Act) that comply with the requirements of the Exchange Act. Such disclosure controls and procedures have been designed to ensure that material information relating to the Company is made known to the Company's principal executive officer and principal financial officer by others within the Company. The Company has conducted evaluations of the effectiveness of its disclosure controls and procedures as required by Rule 13a-15 of the Exchange Act.

(mm) Except as described in the Time of Sale Prospectus, the Company has not sold, issued or distributed any shares of Common Stock during the six-month period preceding the date hereof, including any sales pursuant to Rule 144A under, or Regulations D or S of, the Securities Act, other than shares issued pursuant to employee benefit plans, qualified stock option plans or other employee compensation plans or pursuant to outstanding options, rights or warrants.

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(nn) To the knowledge of the Company, neither the Company nor any Subsidiary has any securities rated by any “nationally recognized statistical rating organization,” as such term is defined in Section 3(a)(62) of the Exchange Act.

(oo) The Company and each Subsidiary has filed all federal, state, local and foreign tax returns required to be filed by them through the date of this Agreement or have requested extensions thereof (except where the failure to file would not, individually or in the aggregate, reasonably be expected to have a material adverse effect) and have paid all taxes required to be paid thereon (except for cases in which the failure to file or pay would not have a material adverse effect, or, except as currently being contested in good faith and for which reserves required by GAAP have been created in the financial statements of the Company), and no tax deficiency has been determined adversely to the Company or any Subsidiary which has had (nor does the Company nor any Subsidiary have any notice or knowledge of any tax deficiency which could reasonably be expected to be determined adversely to the Company or the Subsidiaries and which could reasonably be expected to have) a material adverse effect.

(pp) The Company and each Subsidiary has complied, and are presently in compliance, with its cybersecurity and privacy policies, to the extent such policies exist, and the Company’s and each Subsidiary’s (as applicable) obligations to third parties that have been specifically identified and expressly agreed to in writing by the Company (and each Subsidiary, as applicable) regarding the collection, use, transfer, storage, protection, disposal and disclosure by the Company and each Subsidiary of personally identifiable information, except to the extent that the failure to do so would not reasonably be expected to have a material adverse effect.

(qq) 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.

(rr) The Company is subject to and in compliance in all material respects with the reporting requirements of Section 13 or Section 15(d) of the Exchange Act. The Common Stock is registered pursuant to Section 12(b) or 12(g) of the Exchange Act and is listed on the Exchange, and the Company has taken no action designed to, or reasonably likely to have the effect of, terminating the registration of the Common Stock under the Exchange Act or delisting the Common Stock from the Exchange, nor has the Company received any notification that the Commission or the Exchange is contemplating terminating such registration or listing.

(ss) Other than the Subsidiaries, the Company, directly or indirectly, owns no capital stock or other equity or ownership or proprietary interest in any corporation, partnership, association, trust or other entity.

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(tt) From the time of initial filing of the Registration Statement to the Commission (or, if earlier, the first date on which the Company engaged directly or through any person authorized to act on its behalf in any Testing-the-Waters Communication) through the date hereof, the Company has been and is an “emerging growth company,” as defined in Section 2(a) of the Securities Act (an “**Emerging Growth Company**”). “**Testing-the-Waters Communication**” means any oral or written communication with potential investors undertaken in reliance on Section 5(d) of the Securities Act.

(uu) The Company (i) has not alone engaged in any Testing-the-Waters Communication other than Testing-the-Waters Communications with the consent of each of the Representatives with entities that are qualified institutional buyers within the meaning of Rule 144A under the Securities Act or institutions that are accredited investors within the meaning of Rule 501 under the Securities Act and (ii) has not authorized anyone other than the Representatives to engage in Testing-the-Waters Communications. The Company reconfirms that the Representatives have been authorized to act on its behalf in undertaking Testing-the-Waters Communications. The Company has not distributed any Written Testing-the-Waters Communications other than those listed on Schedule III hereto. “**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.

(vv) As of the time of each sale of the Shares in connection with the offering when the Prospectus is not yet available to prospective purchasers, none of (i) the Time of Sale Prospectus, (ii) any free writing prospectus, when considered together with the Time of Sale Prospectus and (iii) any individual Written Testing-the-Waters Communication, when considered together with the Time of Sale Prospectus, included, includes or will include an untrue statement of a material fact or omitted, omits or will 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.

2. *Agreements to Sell and Purchase.* The Company hereby agrees to sell to the several Underwriters, and each Underwriter, upon the basis of the representations and warranties herein contained, but subject to the conditions hereinafter stated, agrees, severally and not jointly, to purchase from the Company the respective numbers of Firm Shares set forth in Schedule I hereto opposite its name at \$17.39 a share (the “**Purchase Price**”).

On the basis of the representations and warranties contained in this Agreement, and subject to its terms and conditions, the Company agrees to sell to the Underwriters the Additional Shares, and the Underwriters shall have the right to purchase, severally and not jointly, up to 975,000 Additional Shares at the Purchase Price, provided, however, that the amount paid by the Underwriters for any Additional Shares shall be reduced by an amount per share equal to any dividends declared by the Company and payable on the Firm Shares but not payable on such Additional Shares. The

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Representatives may exercise this right on behalf of the Underwriters in whole or from time to time in part by giving written notice to the Company not later than 30 days after the date of this Agreement. Any exercise notice shall specify the number of Additional Shares to be purchased by the Underwriters and the date on which such shares are to be purchased. Each purchase date must be at least one business day after the written notice is given and may not be earlier than the closing date for the Firm Shares nor later than ten business days after the date of such notice. Additional Shares may be purchased as provided in Section 4 hereof solely for the purpose of covering over-allotments made in connection with the offering of the Firm Shares. On each day, if any, that Additional Shares are to be purchased (an “**Option Closing Date**”), each Underwriter agrees, severally and not jointly, to purchase the number of Additional Shares (subject to such adjustments to eliminate fractional shares as the Representatives may determine) that bears the same proportion to the total number of Additional Shares to be purchased on such Option Closing Date as the number of Firm Shares set forth in Schedule I hereto opposite the name of such Underwriter bears to the total number of Firm Shares.

3. *Terms of Public Offering.* The Company is advised by the Representatives that the Underwriters propose to make a public offering of their respective portions of the Shares as soon after the Registration Statement and this Agreement have become effective as in the Representatives’ judgment is advisable. The Company is further advised by the Representatives that the Shares are to be offered to the public initially at \$18.50 a share (the “**Public Offering Price**”).

4. *Payment and Delivery.* Payment for the Firm Shares shall be made to the Company in Federal or other funds immediately available in New York City against delivery of such Firm Shares for the respective accounts of the several Underwriters at 10:00 a.m., New York City time, on July 19, 2019, or at such other time on the same or such other date, not later than July 26, 2019, as shall be designated in writing by the Representatives. The time and date of such payment are hereinafter referred to as the “**Closing Date**.”

Payment for any Additional Shares shall be made to the Company in Federal or other funds immediately available in New York City against delivery of such Additional Shares for the respective accounts of the several Underwriters at 10:00 a.m., New York City time, on the date specified in the corresponding notice described in Section 2 or at such other time on the same or on such other date, in any event not later than August 28, 2019, as shall be designated in writing by the Representatives.

The Firm Shares and Additional Shares shall be registered in such names and in such denominations as the Representatives shall request in writing not later than one full business day prior to the Closing Date or the applicable Option Closing Date, as the case may be. The Firm Shares and Additional Shares shall be delivered to the Representatives on the Closing Date or an Option Closing Date, as the case may be, for the respective accounts of the several Underwriters, with transfer taxes payable in connection with the transfer of the Shares to the Underwriters, if any, duly paid, against payment of the Purchase Price therefor.

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5. *Conditions to the Underwriters' Obligations.* The obligations of the Company to sell the Shares to the Underwriters and the several obligations of the Underwriters to purchase and pay for the Shares on the Closing Date are subject to the condition that the Registration Statement shall have become effective not later than 6:30 p.m., New York City time, on the date hereof.

The several obligations of the Underwriters are subject to the following further conditions:

(a) Subsequent to the execution and delivery of this Agreement and prior to the Closing Date, there shall not have occurred any change, or any development involving a prospective change, in the condition, financial or otherwise, or in the earnings, business, prospects or operations of the Company and the Subsidiaries, taken as a whole, from that set forth in the Time of Sale Prospectus that, in the Representatives' judgment, is material and adverse and that makes it, in the Representatives' judgment, impracticable to market the Shares on the terms and in the manner contemplated in the Time of Sale Prospectus.

(b) The Underwriters shall have received on the Closing Date a certificate, dated the Closing Date and signed by an executive officer of the Company, to the effect that the representations and warranties of the Company contained in this Agreement are true and correct as of the Closing Date and that the Company has complied with all of the agreements and satisfied all of the conditions on its part to be performed or satisfied hereunder on or before the Closing Date.

The officer signing and delivering such certificate may rely upon the best of his or her knowledge as to proceedings threatened.

(c) The Underwriters shall have received on the Closing Date an opinion and negative assurance letter of Goodwin Procter LLP, outside counsel for the Company, dated the Closing Date, in form and substance reasonably satisfactory to the Underwriters.

(d) The Underwriters shall have received on the Closing Date an opinion and negative assurance letter of Clark + Elbing LLP, special counsel to the Company with respect to certain intellectual property matters, dated the Closing Date, in form and substance reasonably satisfactory to the Underwriters.

(e) The Underwriters shall have received on the Closing Date an opinion and negative assurance letter of Ropes & Gray LLP, counsel for the Underwriters, dated the Closing Date, in form and substance reasonably satisfactory to the Underwriters.

With respect to Sections 5(c) and 5(e) above, Goodwin Procter LLP and Ropes & Gray LLP may state that their opinions and beliefs are based upon their participation in the preparation of the Registration Statement, the Time of Sale Prospectus and the Prospectus and any amendments or supplements thereto and review and discussion of the contents thereof, but are without independent check or verification, except as specified.

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The opinions of Goodwin Procter LLP and Clark + Elbing LLP described in Section 5(c) and 5(d) above shall be rendered to the Underwriters at the request of the Company and shall so state therein.

(f) The Underwriters shall have received, on each of the date hereof and the Closing Date, a letter dated the date hereof or the Closing Date, as the case may be, in form and substance satisfactory to the Underwriters, from Ernst & Young LLP, independent public accountants, containing statements and information of the type ordinarily included in accountants' "comfort letters" to underwriters with respect to the financial statements and certain financial information contained or incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus; *provided* that the letter delivered on the Closing Date shall use a "cut-off date" not earlier than the date hereof.

(g) The Underwriters shall have received, on each of the date hereof and the Closing Date, a certificate dated the date hereof or the Closing Date, as the case may be, in form and substance satisfactory to the Representatives, from the Chief Financial Officer of the Company.

(h) The "lock-up" agreements, each substantially in the form of Exhibit A hereto, among the Representatives and certain shareholders, officers and directors of the Company relating to sales and certain other dispositions of shares of Common Stock or certain other securities, delivered to the Representatives on or before the date hereof (the "**Lock-up Agreements**"), shall be in full force and effect on the Closing Date.

(i) The several obligations of the Underwriters to purchase Additional Shares hereunder are subject to the delivery to the Underwriters on the applicable Option Closing Date of the following:

(i) a certificate, dated the Option Closing Date and signed by an executive officer of the Company, confirming that the certificate delivered on the Closing Date pursuant to Section 5(b) hereof remains true and correct as of such Option Closing Date;

(ii) an opinion and negative assurance letter of Goodwin Procter LLP, outside counsel for the Company, dated the Option Closing Date, relating to the Additional Shares to be purchased on such Option Closing Date and otherwise to the same effect as the opinion required by Section 5(c) hereof;

(iii) an opinion and negative assurance letter of Clark + Elbing LLP, special counsel to the Company with respect to certain intellectual property matters, dated the Option Closing Date and otherwise to the same effect as the opinion required by Section 5(d) hereof;

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(iv) an opinion and negative assurance letter of Ropes & Gray LLP, counsel for the Underwriters, dated the Option Closing Date, relating to the Additional Shares to be purchased on such Option Closing Date and otherwise to the same effect as the opinion required by Section 5(e) hereof;

(v) a letter dated the Option Closing Date, in form and substance satisfactory to the Underwriters, from Ernst & Young LLP, independent public accountants, substantially in the same form and substance as the letter furnished to the Underwriters pursuant to Section 5(f) hereof; *provided* that the letter delivered on the Option Closing Date shall use a “cut-off date” not earlier than two business days prior to such Option Closing Date;

(vi) a certificate dated the Option Closing Date, in form and substance satisfactory to the Underwriters, from the Chief Financial Officer of the Company; and

(vii) such other documents as the Representatives may reasonably request with respect to the good standing of the Company, the due authorization and issuance of the Additional Shares to be sold on such Option Closing Date and other matters related to the issuance of such Additional Shares.

6. *Covenants of the Company.* The Company covenants with each Underwriter as follows:

(a) To furnish to the Representatives, without charge, five conformed copies of the Registration Statement (including exhibits thereto) and for delivery to each other Underwriter a conformed copy of the Registration Statement (without exhibits thereto) and to furnish to the Representatives in New York City, without charge, prior to 10:00 a.m. New York City time on the business day next succeeding the date of this Agreement and during the period mentioned in Section 6(e) or 6(f) below, as many copies of the Time of Sale Prospectus, the Prospectus and any supplements and amendments thereto or to the Registration Statement as the Representatives may reasonably request.

(b) Before amending or supplementing the Registration Statement, the Time of Sale Prospectus or the Prospectus, to furnish to the Representatives a copy of each such proposed amendment or supplement and not to file any such proposed amendment or supplement to which the Representatives reasonably object, and to file with the Commission within the applicable period specified in Rule 424(b) under the Securities Act any prospectus required to be filed pursuant to such rule.

(c) To furnish to the Representatives a copy of each proposed free writing prospectus to be prepared by or on behalf of, used by, or referred to by the Company and not to use or refer to any proposed free writing prospectus to which the Representatives reasonably object.



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(d) Not to take any action that would result in an Underwriter or the Company being required to file with the Commission pursuant to Rule 433(d) under the Securities Act a free writing prospectus prepared by or on behalf of the Underwriter that the Underwriter otherwise would not have been required to file thereunder.

(e) If the Time of Sale Prospectus is being used to solicit offers to buy the Shares at a time when the Prospectus is not yet available to prospective purchasers and any event shall occur or condition exist as a result of which it is necessary to amend or supplement the Time of Sale Prospectus in order to make the statements therein, in the light of the circumstances, not misleading, or if any event shall occur or condition exist as a result of which the Time of Sale Prospectus conflicts with the information contained in the Registration Statement then on file, or if, in the opinion of counsel for the Underwriters, it is necessary to amend or supplement the Time of Sale Prospectus to comply with applicable law, forthwith to prepare, file with the Commission and furnish, at its own expense, to the Underwriters and to any dealer upon request, either amendments or supplements to the Time of Sale Prospectus so that the statements in the Time of Sale Prospectus as so amended or supplemented will not, in the light of the circumstances when the Time of Sale Prospectus is delivered to a prospective purchaser, be misleading or so that the Time of Sale Prospectus, as amended or supplemented, will no longer conflict with the Registration Statement, or so that the Time of Sale Prospectus, as amended or supplemented, will comply with applicable law.

(f) If, during such period after the first date of the public offering of the Shares as in the opinion of counsel for the Underwriters the Prospectus (or in lieu thereof the notice referred to in Rule 173(a) of the Securities Act) is required by law to be delivered in connection with sales by an Underwriter or dealer, any event shall occur or condition exist as a result of which it is necessary to amend or supplement the Prospectus in order to make the statements therein, in the light of the circumstances when the Prospectus (or in lieu thereof the notice referred to in Rule 173(a) of the Securities Act) is delivered to a purchaser, not misleading, or if, in the opinion of counsel for the Underwriters, it is necessary to amend or supplement the Prospectus to comply with applicable law, forthwith to prepare, file with the Commission and furnish, at its own expense, to the Underwriters and to the dealers (whose names and addresses the Representatives will furnish to the Company) to which Shares may have been sold by the Representatives on behalf of the Underwriters and to any other dealers upon request, either amendments or supplements to the Prospectus so that the statements in the Prospectus as so amended or supplemented will not, in the light of the circumstances when the Prospectus (or in lieu thereof the notice referred to in Rule 173(a) of the Securities Act) is delivered to a purchaser, be misleading or so that the Prospectus, as amended or supplemented, will comply with applicable law.

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(g) To endeavor to qualify the Shares for offer and sale under the securities or Blue Sky laws of such jurisdictions as the Representatives shall reasonably request; *provided, however*, that nothing contained herein shall require the Company to qualify to do business in any jurisdiction, to execute a general consent to service of process in any jurisdiction or to subject itself to taxation in any jurisdiction in which it is not otherwise subject.

(h) To make generally available to the Company's security holders and to the Representatives as soon as practicable an earnings statement covering a period of at least twelve months beginning with the first fiscal quarter of the Company occurring after the date of this Agreement which shall satisfy the provisions of Section 11(a) of the Securities Act and the rules and regulations of the Commission thereunder; *provided* that the Company will be deemed to have furnished such statement to its security holders to the extent it is filed on the Commission's Electronic Data Gathering, Analysis and Retrieval System.

(i) Whether or not the transactions contemplated in this Agreement are consummated or this Agreement is terminated, the Company agrees to pay or cause to be paid all expenses incident to the performance of its obligations under this Agreement, including: (i) the fees, disbursements and expenses of the Company's counsel and the Company's accountants in connection with the registration and delivery of the Shares under the Securities Act and all other fees or expenses in connection with the preparation and filing of the Registration Statement, any preliminary prospectus, the Time of Sale Prospectus, the Prospectus, any free writing prospectus prepared by or on behalf of, used by, or referred to by the Company and amendments and supplements to any of the foregoing, including all printing costs associated therewith, and the mailing and delivering of copies thereof to the Underwriters and dealers, in the quantities hereinabove specified, (ii) all costs and expenses related to the transfer and delivery of the Shares to the Underwriters, including transfer or other taxes, if any, payable thereon, (iii) the cost of printing or producing any Blue Sky or Legal Investment memorandum in connection with the offer and sale of the Shares under state securities laws and all expenses in connection with the qualification of the Shares for offer and sale under state securities laws as provided in Section 6(g) hereof, including filing fees and the reasonably incurred and documented fees and disbursements of counsel for the Underwriters in connection with such qualification and in connection with the Blue Sky or Legal Investment memorandum (*provided*, that, the amount payable by the Company with respect to fees and disbursements of counsel for the Underwriters pursuant to this subsection (iii) shall not exceed \$10,000), (iv) all filing fees and the reasonable fees and disbursements of counsel to the Underwriters incurred in connection with the review and qualification of the offering of the Shares by FINRA (*provided*, that, the amount payable by the Company with respect to fees and disbursements of counsel for the Underwriters pursuant to this subsection (iv) shall not exceed \$30,000), (v) the cost of printing certificates representing the Shares, (vi) the costs and charges of any transfer agent, registrar or depository, (vii) the costs and expenses of the Company relating to investor presentations on any "road show"

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undertaken in connection with the marketing of the offering of the Shares, 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 representatives and officers of the Company and any such consultants, and 50% of the cost of any aircraft chartered in connection with the road show (the remaining 50% of the cost of such aircraft, as well as any other travel and lodging expenses of the Underwriters in connection with the road show, to be paid by the Underwriters), (viii) the document production charges and expenses associated with printing this Agreement and (x) all other costs and expenses incident to the performance of the obligations of the Company hereunder for which provision is not otherwise made in this Section. It is understood, however, that except as provided in this Section, Section 8 entitled "Indemnity and Contribution" and the last paragraph of Section 11 below, the Underwriters will pay all of their costs and expenses, including fees and disbursements of their counsel, stock transfer taxes payable on resale of any of the Shares by them and any advertising expenses connected with any offers they may make.

(j) The Company will promptly notify the Representatives if the Company ceases to be an Emerging Growth Company at any time prior to the later of (i) completion of the distribution of the Shares within the meaning of the Securities Act and (ii) completion of the Restricted Period (as defined in this Section 6).

(k) If at any time following the distribution of any Written Testing-the-Waters Communication there occurred or occurs an event or development as a result of which such Written Testing-the-Waters Communication included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances existing at that subsequent time, not misleading, the Company will promptly notify the Representatives and will promptly amend or supplement, at its own expense, such Written Testing-the-Waters Communication to eliminate or correct such untrue statement or omission.

(l) The Company will deliver to each Underwriter (or its agent), on the date of execution of this Agreement, a properly completed and executed Certification Regarding Beneficial Owners of Legal Entity Customers, together with copies of identifying documentation, and the Company undertakes to provide such additional supporting documentation as each Underwriter may reasonably request in connection with the verification of the foregoing Certification.

The Company also covenants with each Underwriter that, without the prior written consent of each of Morgan Stanley & Co. LLC and Cowen and Company, LLC, on behalf of the Underwriters, it will not, during the period ending 90 days after the date of the Prospectus (the "**Restricted Period**"), (1) offer, pledge, sell, contract to sell, sell

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any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, 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 or (2) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of the Common Stock, 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 or (3) file any registration statement with the Commission relating to the offering of any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock.

The restrictions contained in the preceding paragraph shall not apply to (a) the Shares to be sold hereunder, (b) the issuance by the Company of shares of Common Stock upon the exercise of an option pursuant to stock plans or a warrant or the conversion of a security outstanding on the date hereof, in each case disclosed in the Time of Sale Prospectus or pursuant to any qualifying inducement award under Nasdaq rules, (c) the establishment of a trading plan pursuant to Rule 10b5-1 under the Exchange Act for the transfer of shares of Common Stock, *provided* that (i) such plan does not provide for the transfer of shares of Common Stock during the Restricted Period and (ii) to the extent a public announcement or filing under the Exchange Act is required of or voluntarily made by the Company regarding the establishment of such plan, such announcement or filing shall include a statement to the effect that no transfer of shares of Common Stock may be made under such plan during the Restricted Period, (d) the grant or issuance by the Company, or exercise or settlement (in cash, shares of Common Stock or otherwise), of options, restricted stock awards, restricted stock units or any other type of equity award to employees, officers, directors, advisors or consultants of the Company pursuant to employee benefit plans described in the Time of Sale Prospectus or pursuant to any qualifying inducement award under Nasdaq rules, (e) the filing by the Company of a registration statement with the Commission on Form S-8 with respect to employee benefit plans issued under stock plans described in the Time of Sale Prospectus, or (f) the sale or issuance of or entry into an agreement to sell or issue shares of Common Stock or securities convertible into or exercisable for Common Stock in connection with any (i) merger, (ii) acquisition of securities, businesses, property or any other assets, (iii) joint ventures, (iv) strategic alliances, (v) equipment leasing arrangements or (vi) debt financing, provided that the aggregate number of shares of Common Stock or securities convertible into or exercisable for Common Stock (on an as-converted or as exercised basis, as the case may be) that the Company may sell or issue or agree to sell or issue pursuant to this clause (f) shall not exceed 5% of the total number of shares of the Company's Common Stock issued and outstanding immediately following the completion of the transactions contemplated by this Agreement, and provided further, that each recipient of shares of Common Stock or securities convertible into or exercisable for Common Stock pursuant to clauses (d) and (f) shall execute a lock-up agreement substantially in the form of Exhibit A hereto.

7. *Covenants of the Underwriters.* Each Underwriter severally covenants with the Company not to take any action that would result in the Company being required to file with the Commission under Rule 433(d) a free writing prospectus prepared by or on behalf of such Underwriter that otherwise would not be required to be filed by the Company thereunder, but for the action of the Underwriter.

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8. *Indemnity and Contribution.*

(a) The Company agrees to indemnify and hold harmless each Underwriter, each person, if any, who controls any Underwriter within the meaning of either Section 15 of the Securities Act or Section 20 of the Exchange Act and each affiliate of any Underwriter within the meaning of Rule 405 under the Securities Act from and against any and all losses, claims, damages and liabilities (including, without limitation, any legal or other expenses reasonably incurred in connection with defending or investigating any such action or claim) caused by any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement or any amendment thereof, any preliminary prospectus, the Time of Sale Prospectus or any amendment or supplement thereto, any issuer free writing prospectus as defined in Rule 433(h) under the Securities Act, any Company information that the Company has filed, or is required to file, pursuant to Rule 433(d) under the Securities Act, any road show as defined in Rule 433(h) under the Securities Act (a “**road show**”), the Prospectus or any amendment or supplement thereto, or any Written Testing-the-Waters Communication caused by any omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, except insofar as such losses, claims, damages or liabilities are caused by any such untrue statement or omission or alleged untrue statement or omission based upon information relating to any Underwriter furnished to the Company in writing by such Underwriter through the Representatives expressly for use therein.

(b) Each Underwriter agrees, severally and not jointly, to indemnify and hold harmless the Company, its directors, its officers who sign the Registration Statement and each person, if any, who controls the Company within the meaning of either Section 15 of the Securities Act or Section 20 of the Exchange Act to the same extent as the foregoing indemnity from the Company to such Underwriter, but only with reference to information relating to such Underwriter furnished to the Company in writing by such Underwriter through the Representatives expressly for use in the Registration Statement, any preliminary prospectus, the Time of Sale Prospectus, any issuer free writing prospectus, road show or the Prospectus or any amendment or supplement thereto.

(c) In case any proceeding (including any governmental investigation) shall be instituted involving any person in respect of which indemnity may be sought pursuant to Section 8(a) or 8(b) such person (the “**indemnified party**”) shall promptly notify the person against whom such indemnity may be sought (the “**indemnifying party**”) in writing and the indemnifying party, upon request of the indemnified party, shall retain counsel reasonably satisfactory to the indemnified party to represent the indemnified party and any others the indemnifying party may designate in such proceeding and shall pay the reasonably incurred and

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documented fees and disbursements of such counsel related to such proceeding. In any such proceeding, any indemnified party 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 party unless (i) the indemnifying party and the indemnified party shall have mutually agreed to the retention of such counsel or (ii) the named parties to any such proceeding (including any impleaded parties) include both the indemnifying party and the indemnified party and representation of both parties by the same counsel would be inappropriate due to actual or potential differing interests between them. It is understood that the indemnifying party shall not, in respect of the legal expenses of any indemnified party 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 such indemnified parties and that all such fees and expenses shall be reimbursed as they are incurred. Such firm shall be designated in writing by the Representatives, in the case of parties indemnified pursuant to Section 8(a), and by the Company, in the case of parties indemnified pursuant to Section 8(b). The indemnifying party 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 party agrees to indemnify the indemnified party from and against any loss or liability by reason of such settlement or judgment. Notwithstanding the foregoing sentence, if at any time an indemnified party shall have requested an indemnifying party to reimburse the indemnified party for fees and expenses of counsel as contemplated by the second and third sentences of this paragraph, the indemnifying party agrees that it shall be liable for any settlement of any proceeding effected without its written consent if (i) such settlement is entered into more than 30 days after receipt by such indemnifying party of the aforesaid request and (ii) such indemnifying party shall not have reimbursed the indemnified party in accordance with such request prior to the date of such settlement. No indemnifying party shall, without the prior written consent of the indemnified party, effect any settlement of any pending or threatened proceeding in respect of which any indemnified party is or could have been a party and indemnity could have been sought hereunder by such indemnified party, unless such settlement (i) includes an unconditional release of such indemnified party from all liability on claims that are the subject matter of such proceeding and (ii) does not include a statement admitting fault, culpability or a failure to act, by or on behalf of any indemnified party.

(d) To the extent the indemnification provided for in Section 8(a) or 8(b) is unavailable to an indemnified party or insufficient in respect of any losses, claims, damages or liabilities referred to therein, then each indemnifying party under such paragraph, in lieu of indemnifying such indemnified party thereunder, shall contribute to the amount paid or payable by such indemnified party 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 hand from the offering of the Shares or (ii) if the allocation provided by clause 8(d)(i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative

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benefits referred to in clause 8(d)(i) above but also the relative fault of the Company on the one hand and of the Underwriters on the other hand 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 hand in connection with the offering of the Shares shall be deemed to be in the same respective proportions as the net proceeds from the offering of the Shares (before deducting expenses) received by the Company and the total underwriting discounts and commissions received by the Underwriters, in each case as set forth in the table on the cover of the Prospectus, bear to the aggregate Public Offering Price of the Shares. The relative fault of the Company on the one hand and the Underwriters on the other hand 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. The Underwriters' respective obligations to contribute pursuant to this Section 8 are several in proportion to the respective number of Shares they have purchased hereunder, and not joint.

(e) The Company and the Underwriters agree that it would not be just or equitable if contribution pursuant to this Section 8 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 Section 8(d). The amount paid or payable by an indemnified party as a result of the losses, claims, damages and liabilities referred to in Section 8(d) shall be deemed to include, subject to the limitations set forth above, any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim. Notwithstanding the provisions of this Section 8, no Underwriter shall be required to contribute any amount in excess of the amount by which the total price at which the Shares underwritten by it and distributed to the public 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 remedies provided for in this Section 8 are not exclusive and shall not limit any rights or remedies which may otherwise be available to any indemnified party at law or in equity.

(f) The indemnity and contribution provisions contained in this Section 8 and the representations, warranties and other statements of the Company contained in this Agreement shall remain operative and in full force and effect regardless of (i) any termination of this Agreement, (ii) any investigation made by or on behalf of any Underwriter, any person controlling any Underwriter or any affiliate of any Underwriter or by or on behalf of the Company, its officers or directors or any person controlling the Company and (iii) acceptance of and payment for any of the Shares.

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9. *Reserved.*

10. *Termination.* The Underwriters may terminate this Agreement by notice given by the Representatives to the Company, if after the execution and delivery of this Agreement and prior to the Closing Date (i) trading generally shall have been suspended or materially limited on, or by, as the case may be, any of the New York Stock Exchange, the NYSE American, The Nasdaq Global Market, the Chicago Board of Options Exchange, the Chicago Mercantile Exchange or the Chicago Board of Trade, (ii) trading of any securities of the Company shall have been suspended on any exchange or in any over-the-counter market, (iii) a material disruption in securities settlement, payment or clearance services in the United States shall have occurred, (iv) any moratorium on commercial banking activities shall have been declared by Federal or New York State authorities or (v) there shall have occurred any outbreak or escalation of hostilities, or any change in financial markets or any calamity or crisis that, in the Representatives' judgment, is material and adverse and which, singly or together with any other event specified in this clause (v), makes it, in the Representatives' judgment, impracticable or inadvisable to proceed with the offer, sale or delivery of the Shares on the terms and in the manner contemplated in the Time of Sale Prospectus or the Prospectus.

11. *Effectiveness; Defaulting Underwriters.* This Agreement shall become effective upon the execution and delivery hereof by the parties hereto.

If, on the Closing Date or an Option Closing Date, as the case may be, any one or more of the Underwriters shall fail or refuse to purchase Shares that it has or they have agreed to purchase hereunder on such date, and the aggregate number of Shares which such defaulting Underwriter or Underwriters agreed but failed or refused to purchase is not more than one-tenth of the aggregate number of the Shares to be purchased on such date, the other Underwriters shall be obligated severally in the proportions that the number of Firm Shares set forth opposite their respective names in Schedule I bears to the aggregate number of Firm Shares set forth opposite the names of all such non-defaulting Underwriters, or in such other proportions as the Representatives may specify, to purchase the Shares which such defaulting Underwriter or Underwriters agreed but failed or refused to purchase on such date; *provided* that in no event shall the number of Shares that any Underwriter has agreed to purchase pursuant to this Agreement be increased pursuant to this Section 11 by an amount in excess of one-ninth of such number of Shares without the written consent of such Underwriter. If, on the Closing Date, any Underwriter or Underwriters shall fail or refuse to purchase Firm Shares and the aggregate number of Firm Shares with respect to which such default occurs is more than one-tenth of the aggregate number of Firm Shares to be purchased on such date, and arrangements satisfactory to the Representatives and the Company for the purchase of such Firm Shares are not made within 36 hours after such default, this Agreement shall terminate without liability on the part of any non-defaulting Underwriter or the Company. In any such case either the Representatives or the Company shall have the right to postpone the Closing Date, but in no event for longer than seven days, in



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order that the required changes, if any, in the Registration Statement, in the Time of Sale Prospectus, in the Prospectus or in any other documents or arrangements may be effected. If, on an Option Closing Date, any Underwriter or Underwriters shall fail or refuse to purchase Additional Shares and the aggregate number of Additional Shares with respect to which such default occurs is more than one-tenth of the aggregate number of Additional Shares to be purchased on such Option Closing Date, the non-defaulting Underwriters shall have the option to (i) terminate their obligation hereunder to purchase the Additional Shares to be sold on such Option Closing Date or (ii) purchase not less than the number of Additional Shares that such non-defaulting Underwriters would have been obligated to purchase in the absence of such default. Any action taken under this paragraph shall not relieve any defaulting Underwriter from liability in respect of any default of such Underwriter under this Agreement.

If this Agreement shall be terminated by the Underwriters, or any of them, because of any failure or refusal on the part of the Company to comply with the terms or to fulfill any of the conditions of this Agreement, or if for any reason the Company shall be unable to perform its obligations under this Agreement, other than by reason of a default by the Underwriters, the Company will reimburse the non-defaulting Underwriters or such Underwriters as have so terminated this Agreement with respect to themselves, severally, for all out-of-pocket expenses (including the reasonably incurred and documented fees and disbursements of their counsel) reasonably incurred by such non-defaulting Underwriters in connection with this Agreement or the offering contemplated hereunder.

*12. Entire Agreement.*

(a) This Agreement, together with any contemporaneous written agreements and any prior written agreements (to the extent not superseded by this Agreement) that relate to the offering of the Shares, represents the entire agreement between the Company and the Underwriters with respect to the preparation of any preliminary prospectus, the Time of Sale Prospectus, the Prospectus, the conduct of the offering, and the purchase and sale of the Shares.

(b) The Company acknowledges that in connection with the offering of the Shares: (i) the Underwriters have acted at arms length, are not agents of, and owe no fiduciary duties to, the Company or any other person, (ii) the Underwriters owe the Company only those duties and obligations set forth in this Agreement and prior written agreements (to the extent not superseded by this Agreement), if any, (iii) the Underwriters may have interests that differ from those of the Company and (iv) the Underwriters are not advising the Company or any other person as to any legal, tax, investment, accounting or regulatory matters in any jurisdiction. The Company waives to the full extent permitted by applicable law any claims it may have against the Underwriters arising from an alleged breach of fiduciary duty in connection with the offering of the Shares.

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

(b) 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.

For purposes of this Section a “**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.

14. *Counterparts.* This Agreement may be signed in two or more counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument.

15. *Applicable Law.* This Agreement shall be governed by and construed in accordance with the internal laws of the State of New York.

16. *Headings.* The headings of the sections of this Agreement have been inserted for convenience of reference only and shall not be deemed a part of this Agreement.

17. *Notices.* All communications hereunder shall be in writing and effective only upon receipt and if to the Underwriters shall be delivered, mailed or sent to the Representatives at c/o Morgan Stanley & Co. LLC, 1585 Broadway, New York, New York 10036, Attention: Equity Syndicate Desk, with a copy to the Legal Department; c/o Cowen and Company, LLC, 599 Lexington Avenue, 25th Floor, New York, New York 10022; and, in each case, with a copy (which copy shall not constitute notice) to Ropes & Gray LLP, Prudential Tower, 800 Boylston Street, Boston, Massachusetts 02199, Attention: Patrick O’Brien; and if to the Company, shall be delivered, mailed or sent to One Kendall Square, Building 300, Suite 201, Cambridge, Massachusetts 02139, Attention: Geoff MacKay, President and Chief Executive Officer, with a copy (which copy shall not constitute notice) to Goodwin Procter LLP, 100 Northern Avenue, Boston, Massachusetts 02210, Attention: Arthur McGivern.

*[Remainder of page intentionally left blank]*

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Very truly yours,

AVROBIO, Inc.

By: /s/ Geoff MacKay

Name: Geoff MacKay

Title: President and Chief Executive Officer

Accepted as of the date hereof

Morgan Stanley & Co. LLC  
Cowen and Company, LLC

Acting severally on behalf of themselves and the several  
Underwriters named in Schedule I hereto.

By: Morgan Stanley & Co. LLC

By: /s/ Chris Rigoli

Name: Chris Rigoli

Title: Vice President

Cowen and Company, LLC

By: /s/ Bill Follis

Name: Bill Follis

Title: Managing Director

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**SCHEDULE I**

<b>Underwriter</b>	<b>Number of Firm Shares To Be Purchased</b>
Morgan Stanley & Co. LLC	2,697,500
Cowen and Company, LLC	1,787,500
Wells Fargo Securities, LLC	747,500
Guggenheim Securities, LLC	682,500
Wedbush Securities Inc.	455,000
H.C. Wainwright & Co., LLC	130,000
<b>Total:</b>	<b>6,500,000</b>

**Time of Sale Prospectus**

1. Basic Prospectus dated July 10, 2019.
2. Preliminary Prospectus dated July 16, 2019.
3. The information set forth on the pricing term sheet attached hereto as Exhibit B.

**Written Testing-the-Waters Communications**

None.

**FORM OF LOCK-UP LETTER**

**, 2019**

Morgan Stanley & Co. LLC  
Cowen and Company, LLC  
as Representatives of the several Underwriters

c/o Morgan Stanley & Co. LLC  
1585 Broadway  
New York, New York 10036

c/o Cowen and Company, LLC  
599 Lexington Avenue, 25th Floor  
New York, New York 10022

Ladies and Gentlemen:

The undersigned understands that Morgan Stanley & Co. LLC and Cowen and Company, LLC, as representatives (the "**Representatives**") of the several underwriters (the "**Underwriters**"), propose to enter into an underwriting agreement (the "**Underwriting Agreement**") with AVROBIO, Inc., a Delaware corporation (the "**Company**"), providing for the public offering (the "**Public Offering**") by the Underwriters, including the Representatives of shares (the "**Shares**") of the common stock, par value \$0.0001 per share, of the Company (the "**Common Stock**"). Capitalized terms used but not defined herein shall have the meanings assigned thereto in the Underwriting Agreement.

To induce the Underwriters that may participate in the Public Offering to continue their efforts in connection with the Public Offering, the undersigned hereby agrees that, without the prior written consent of each of the Representatives on behalf of the Underwriters, it will not, during the period commencing on the date hereof and ending 90 days after the date of the final prospectus relating to the Public Offering (the "**Restricted Period**"), (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, lend, or otherwise transfer or dispose of, directly or indirectly, any shares of Common Stock beneficially owned (as such term is used in Rule 13d-3 of the Securities Exchange Act of 1934, as amended (the "**Exchange Act**")), by the undersigned or any other securities so owned that are convertible into or exercisable or exchangeable for Common Stock or (2) enter into any swap or other arrangement that transfers to another, in whole or in part, any of the economic consequences of ownership of shares of Common Stock, whether any such transaction described in clause (1) or (2) above is to be settled by delivery of shares of Common Stock or such other securities, in cash or otherwise. The foregoing sentence shall not apply to:

(a) transactions relating to shares of Common Stock or other securities acquired in the Public Offering or in open market transactions after the completion of the Public Offering;

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(b) transfers of shares of Common Stock or any security convertible into or exercisable or exchangeable for Common Stock as a bona fide gift;

(c) distributions of shares of Common Stock or any security convertible into or exercisable or exchangeable for Common Stock to limited partners, stockholders, members, general partners, managers, directors, officers or employees or trust beneficiaries of the undersigned or of the undersigned's affiliates (as defined in Rule 405 promulgated under the Securities Act of 1933, as amended) or to any investment fund or other entity that is directly or indirectly controlling, controlled by, managing or managed by or under common control with the undersigned or the undersigned's affiliates;

(d) the establishment of a trading plan pursuant to Rule 10b5-1 under the Exchange Act for the transfer of shares of Common Stock, *provided* that such plan does not provide for the transfer of shares of Common Stock during the Restricted Period;

(e) transfers or dispositions of shares of Common Stock or other securities to any member of the immediate family of the undersigned or any trust for the direct or indirect benefit of the undersigned or the immediate family of the undersigned in a transaction not involving a disposition for value;

(f) transfers or dispositions of shares of Common Stock or any security convertible into or exercisable or exchangeable for Common Stock to any corporation, partnership, limited liability company or other entity that is directly or indirectly controlling, controlled by, managing or managed by or under common control with the undersigned or the undersigned's affiliates; including, for the avoidance of doubt, transfers or distributions of shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock to a fund managed by the same manager or managing member or general partner or management company or by an entity controlling, controlled by, or under common control with such manager or managing member or general partner or management company as the undersigned or who shares a common investment advisor with the undersigned, in a transaction not involving a disposition for value;

(g) transfers or dispositions of shares for Common Stock or other securities (x) by will, other testamentary document or intestate succession to the legal representative, heir, beneficiary or a member of the immediate family of the undersigned upon the death of the undersigned, or (y) by operation of law pursuant to a domestic order or negotiated divorce settlement;

(h) transfers or dispositions of shares of Common Stock or any security convertible into or exercisable or exchangeable for Common Stock to the Company pursuant to any contractual arrangement in effect prior to the date hereof and disclosed to the Representatives that provides for the repurchase of the undersigned's Common Stock or other securities by the Company or in connection with the termination of the undersigned's employment with or service to the Company, *provided* that the repurchase price for any such shares of Common Stock or other securities shall not exceed the



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original purchase price (subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization) paid by the undersigned to the Company for such shares or securities, and, *provided further* that any public announcement or public filing under Section 16(a) of the Exchange Act required to be made during the Restricted Period in connection with such transfer or disposition shall clearly indicate in the footnotes thereto or comments section thereof that such transfer or disposition was made solely to the Company pursuant to the circumstances described in this clause (h);

(i) the conversion of any convertible preferred stock described in the Prospectus and outstanding as of the date of the Prospectus into, or the exercise of any option or warrant described in the Prospectus and outstanding as of the date of the Prospectus for, shares of Common Stock, *provided* that any such shares of Common Stock received by the undersigned shall be subject to the terms of this letter; *provided, further*, that any public filing or public announcement under Section 16(a) of the Exchange Act required during the Restricted Period in connection with the conversion of such preferred stock or the exercise of such stock option or warrant shall clearly indicate in the footnotes thereto or comments section thereof that the filing relates to the conversion of preferred stock or the exercise of a stock option or warrant, as the case may be, that no shares of Common Stock were sold by the reporting person and that the shares of Common Stock received upon exercise of the stock option or warrant are subject to a lock-up agreement with the Underwriters of the Public Offering;

(j) transfers or dispositions of title to (but not beneficial ownership of) shares of Common Stock or other securities to a nominee or custodian of a person or entity to whom a disposition or transfer would be permissible under any of the foregoing clauses; *provided* that any such shares of Common Stock or other securities shall remain subject to the terms of this letter; or

(k) transfers or dispositions of shares of Common Stock or such other securities pursuant to a bona fide tender offer for shares of the Company's capital stock, merger, consolidation or other similar transaction made to all holders of the Company's securities involving a Change of Control (as defined below) of the Company (including without limitation, the entering into of any lock-up, voting or similar agreement pursuant to which the undersigned may agree to transfer, sell, tender or otherwise dispose of shares of Common Stock or other securities in connection with such transaction) that has been approved by the board of directors of the Company, provided that, in the event that such Change of Control transaction is not consummated, this clause (k) shall not be applicable and the undersigned's shares and other securities shall remain subject to the restrictions contained in this letter;

*provided* that, in the case of any transfer or distribution pursuant to clauses (b), (c), (e), (f) or (g), each transferee or distributee shall sign and deliver to each of the Representatives a lock-up letter substantially in the form of this letter; *provided further* that in the case of any transfer or distribution pursuant to clauses (a), (b), (c), (d), (e), (f), (g), or (j), no public announcement or public filing under Section 16(a) of the Exchange Act relating to such transfer or distribution shall be required or shall be voluntarily made during the Restricted Period.

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For purposes of this letter, “**immediate family**” shall mean any relationship by blood, marriage, domestic partnership or adoption, not more remote than first cousin, and “**Change of Control**” shall mean the transfer (whether by tender offer, merger, consolidation or other similar transaction), in one transaction or a series of related transactions, to a person or group of affiliated persons (other than an Underwriter pursuant to the Public Offering), of the Company’s voting securities if, after such transfer, such person or group of affiliated persons would hold at least 90% of the outstanding voting securities of the Company (or the surviving entity), provided that, for the avoidance of doubt, the Public Offering shall not constitute a Change of Control.

In addition, the undersigned agrees that, without the prior written consent of each of the Representatives, it will not, during the Restricted Period, make any demand for or exercise any right with respect to, the registration of any shares of Common Stock or any security convertible into or exercisable or exchangeable for Common Stock. The undersigned also agrees and consents to the entry of stop transfer instructions with the Company’s transfer agent and registrar against the transfer of the undersigned’s shares of Common Stock except in compliance with the foregoing restrictions.

The undersigned understands that the Company and the Underwriters are relying upon this letter in proceeding toward consummation of the Public Offering. The undersigned further understands that this letter is irrevocable and shall be binding upon the undersigned’s heirs, legal representatives, successors and assigns.

Whether or not the Public Offering actually occurs depends on a number of factors, including market conditions. Any Public Offering will only be made pursuant to an Underwriting Agreement, the terms of which are subject to negotiation between the Company and the Underwriters.

The undersigned understands that, if (i) the Representatives, on the one hand, or the Company, on the other hand, informs the other in writing, prior to the execution of the Underwriting Agreement, that it has determined not to proceed with the Public Offering, (ii) the Underwriting Agreement (other than the provisions thereof which survive termination) shall terminate or be terminated prior to payment for and delivery of the securities to be sold thereunder, (iii) the registration statement related to the Public Offering is withdrawn prior to execution of the Underwriting Agreement or (iv) the Underwriting Agreement is not executed on or before August 12, 2019 (which date may be extended for an additional three months by the Company upon written notice to the undersigned), then, in each case, this letter shall automatically, and without any action on the part of any other party, be of no further force and effect, and the undersigned shall be automatically released from all obligations under this letter.

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Very truly yours,

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(Name)

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(Address)

**AVROBIO, Inc.  
6,500,000 Shares**

Issuer:	AVROBIO, Inc.
Symbol:	AVRO
Size (Pre-Greenshoe):	\$120,250,000
Total Firm Shares Offered by Issuer:	6,500,000
Greenshoe Shares Offered by Issuer:	975,000
Price to Public:	\$18.50
Trade Date:	July 17, 2019
Closing Date:	July 19, 2019
CUSIP No:	05455M 100
Underwriters:	Morgan Stanley & Co. LLC Cowen and Company, LLC Wells Fargo Securities, LLC Guggenheim Securities, LLC Wedbush Securities Inc. H.C. Wainwright & Co., LLC

The issuer has filed a registration statement (including a base prospectus) and a preliminary prospectus supplement with the Securities and Exchange Commission (the "SEC") for the offering to which this communication relates, which has become effective by rule of the SEC. Before you invest, you should read the base prospectus and the preliminary prospectus supplement for more complete information about the issuer and this offering. You may get these documents for free by visiting EDGAR on the SEC web site at [www.sec.gov](http://www.sec.gov). Alternatively, you may request a copy of the base prospectus and the preliminary prospectus supplement from Morgan Stanley & Co. LLC, Attention: Prospectus Department, 180 Varick Street, 2nd Floor, New York, New York 10014, and Cowen and Company, LLC, c/o Broadridge Financial Solutions, 1155 Long Island Avenue, Edgewood, NY, 11717, Attn: Prospectus Department.

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

July 17, 2019

AVROBIO, Inc.  
One Kendall Square  
Building 300, Suite 201  
Cambridge, MA 02139

Re: Securities Registered under Registration Statement on Form S-3

Ladies and Gentlemen:

We have acted as counsel to you in connection with your filing of a Registration Statement on Form S-3 (File No. 333-232489) (as amended or supplemented, the "Registration Statement") filed on July 1, 2019 with the Securities and Exchange Commission (the "Commission") pursuant to the Securities Act of 1933, as amended (the "Securities Act"), relating to the registration of the offer by AVROBIO, Inc., a Delaware corporation (the "Company") of up to \$200,000,000 of any combination of securities of the types specified therein. The Registration Statement was declared effective by the Commission on July 10, 2019. Reference is made to our opinion letter dated July 1, 2019 and included as Exhibit 5.1 to the Registration Statement. We are delivering this supplemental opinion letter in connection with the prospectus supplement (the "Prospectus Supplement") filed on July 17, 2019 by the Company with the Commission pursuant to Rule 424 under the Securities Act. The Prospectus Supplement relates to the offering by the Company of up to 7,475,000 shares of the Company's Common Stock, par value \$0.0001 per share (the "Shares") covered by the Registration Statement. The Shares include an over-allotment option granted to the underwriters of the offering to purchase 975,000 Shares. The Shares are being sold to the several underwriters named in, and pursuant to, an underwriting agreement among the Company and such underwriters (the "Underwriting Agreement").

We have reviewed such documents and made such examination of law as we have deemed appropriate to give the opinion set forth below. We have relied, without independent verification, on certificates of public officials and, as to matters of fact material to the opinion set forth below, on certificates of officers of the Company.

The opinion set forth below is limited to the Delaware General Corporation Law.

Based on the foregoing, we are of the opinion that the Shares have been duly authorized and, upon issuance and delivery against payment therefor in accordance with the terms of the Underwriting Agreement, the Shares will be validly issued, fully paid and non-assessable.

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AVROBIO, Inc.  
July 17, 2019  
Page 2

We hereby consent to the inclusion of this opinion as Exhibit 5.1 to the Registration Statement and to the references to our firm under the caption "Legal Matters" in the Registration Statement. In giving our consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations thereunder.

Very truly yours,

/s/ GOODWIN PROCTER LLP

GOODWIN PROCTER LLP

**AVROBIO Announces Proposed Public Offering of Common Stock**

**CAMBRIDGE, Mass.**— July 16, 2019 – AVROBIO, Inc. (NASDAQ: AVRO) (the “Company”), a Phase 2 clinical-stage gene therapy company, today announced that it intends to offer and sell, subject to market and other conditions, \$100.0 million of its common stock in an underwritten public offering. The Company expects to grant the underwriters a 30-day option to purchase up to \$15.0 million of additional shares of its common stock (15%) offered in the public offering. All of the shares in the proposed offering are to be sold by the Company. 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.

Morgan Stanley and Cowen are acting as joint book-running managers for the offering.

The Company intends to use the net proceeds from the offering, in addition to its existing cash resources, to fund the support of the Company’s current programs in Fabry disease, Gaucher disease, cystinosis and Pompe disease, fund external and internal manufacturing and process development activities related to the Company’s programs and to fund research and development activities that relate to all of the Company’s clinical and preclinical activities, including the cost of research and development personnel, and the remainder for planned general and administrative expenses, working capital and other general corporate purposes.

The securities described may be offered pursuant to a shelf registration statement on Form S-3 (File No. 333-232489), including a base prospectus. The securities may be offered only by means of a prospectus. A preliminary prospectus supplement related to the offering and a final prospectus supplement related to the offering will be filed with the U.S. Securities and Exchange Commission (SEC) and will be available on the SEC’s website at [www.sec.gov](http://www.sec.gov). Copies of the preliminary prospectus supplement and the accompanying prospectus relating to the securities being offered may also be obtained by contacting: Morgan Stanley & Co. LLC, Attention: Prospectus Department, 180 Varick Street, 2<sup>nd</sup> Floor, New York, NY 10014 or Cowen and Company, LLC, Attention: Prospectus Department, c/o Broadridge Financial Solutions, 1155 Long Island Avenue, Edgewood, NY 11717, by telephone at (631) 274-2806.

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 registration or qualification under the securities laws of any such state or jurisdiction.

**About AVROBIO, Inc.**

AVROBIO, Inc., is a Phase 2 clinical-stage gene therapy company. AVROBIO is focused on the development of its investigational gene therapy, AVR-RD-01, in Fabry disease, as well as additional gene therapy programs in other lysosomal storage disorders including Gaucher disease, cystinosis and Pompe disease.

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**Forward-Looking Statements**

This press release contains forward-looking statements, including statements made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. These statements may be identified by words such as “aims,” “anticipates,” “believes,” “could,” “estimates,” “expects,” “forecasts,” “goal,” “intends,” “may,” “plans,” “possible,” “potential,” “seeks,” “will,” and variations of these words or similar expressions that are intended to identify forward-looking statements. These forward-looking statements include, without limitation, statements regarding completion, timing and anticipated size of the proposed offering and the anticipated use of proceeds therefrom. Any such statements in this press release that are not statements of historical fact may be deemed to be forward-looking statements. Results in preclinical or early stage clinical trials may not be indicative of results from later stage or larger scale clinical trials and do not ensure regulatory approval. You should not place undue reliance on these statements, or the scientific data presented.

Any forward-looking statements in this press release are based on AVROBIO’s current expectations, estimates and projections only as of the date of this release and are subject to a number of risks and uncertainties that could cause actual results to differ materially and adversely from those set forth in or implied by such forward-looking statements. These risks and uncertainties include, but are not limited to, completion of the proposed public offering on the anticipated terms, or at all, market conditions and the satisfaction of customary closing conditions related to the proposed public offering. For a discussion of these and other risks and uncertainties, and other important factors, any of which could cause AVROBIO’s actual results to differ materially and adversely from those contained in the forward-looking statements, see the section entitled “Risk Factors” in AVROBIO’s Annual Report on Form 10-K for the fiscal year ended December 31, 2018 and our subsequent periodic reports on Form 10-Q, as well as discussions of potential risks, uncertainties, and other important factors in our other filings with the SEC, including those contained or incorporated by reference in the preliminary prospectus supplement related to the proposed public offering to be filed with the SEC. AVROBIO explicitly disclaims any obligation to update any forward-looking statements except to the extent required by law.

**Investor Contact:**

Christopher F. Brinzey  
Westwicke Partners  
339-970-2843  
chris.brinzey@westwicke.com



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**Media Contact:**

Kathryn Morris  
The Yates Network  
914-204-6412  
[kathryn@theyatesnetwork.com](mailto:kathryn@theyatesnetwork.com)

**AVROBIO Announces Pricing of Underwritten Public Offering of \$120.25 Million of Common Stock**

**CAMBRIDGE, Mass.**— July 16, 2019 – AVROBIO, Inc. (NASDAQ: AVRO) (the “Company”), a Phase 2 clinical-stage gene therapy company, today announced the pricing of an underwritten public offering of 6,500,000 shares of its common stock at a public offering price of \$18.50 per share. Gross proceeds from the underwritten public offering totaled approximately \$120.25 million, before deducting underwriting discounts and commissions and other offering expenses payable by the Company. In addition, the Company has granted the underwriters a 30-day option to purchase up to 975,000 additional shares of its common stock at the public offering price, less underwriting discounts and commissions. All of the shares in the offering are to be sold by the Company. The offering is expected to close on or about July 19, 2019, subject to customary closing conditions.

Morgan Stanley, Cowen and Wells Fargo Securities are acting as joint book-running managers for the offering, Guggenheim Securities is acting as lead manager, and Wedbush PacGrow and H.C. Wainwright & Co. are acting as co-managers.

The Company intends to use the net proceeds from the offering, in addition to its existing cash resources, to fund the support of the Company’s current programs in Fabry disease, Gaucher disease, cystinosis and Pompe disease, fund external and internal manufacturing and process development activities related to the Company’s programs and to fund research and development activities that relate to all of the Company’s clinical and preclinical activities, including the cost of research and development personnel, and the remainder for planned general and administrative expenses, working capital and other general corporate purposes.

The securities described were offered pursuant to a shelf registration statement on Form S-3 (File No. 333-232489), including a base prospectus. The securities were offered only by means of a prospectus. A preliminary prospectus supplement related to the offering was filed with the Securities and Exchange Commission (SEC) on July 16, 2019 and is available on the SEC’s website at [www.sec.gov](http://www.sec.gov). A final prospectus supplement will be filed with the SEC. Copies of the final prospectus supplement and the accompanying prospectus relating to the securities being offered may also be obtained by contacting: Morgan Stanley & Co. LLC, Attention: Prospectus Department, 180 Varick Street, 2<sup>nd</sup> Floor, New York, NY 10014 or Cowen and Company, LLC, Attention: Prospectus Department, c/o Broadridge Financial Solutions, 1155 Long Island Avenue, Edgewood, NY 11717, by telephone at (631) 274-2806.

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 registration or qualification under the securities laws of any such state or jurisdiction.

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**About AVROBIO, Inc.**

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**Forward-Looking Statements**

This press release contains forward-looking statements, including statements made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. These statements may be identified by words such as “aims,” “anticipates,” “believes,” “could,” “estimates,” “expects,” “forecasts,” “goal,” “intends,” “may,” “plans,” “possible,” “potential,” “seeks,” “will,” and variations of these words or similar expressions that are intended to identify forward-looking statements. These forward-looking statements include, without limitation, statements regarding completion, timing and anticipated size of the offering and the anticipated use of proceeds therefrom. Any such statements in this press release that are not statements of historical fact may be deemed to be forward-looking statements. Results in preclinical or early stage clinical trials may not be indicative of results from later stage or larger scale clinical trials and do not ensure regulatory approval. You should not place undue reliance on these statements, or the scientific data presented.

Any forward-looking statements in this press release are based on AVROBIO’s current expectations, estimates and projections only as of the date of this release and are subject to a number of risks and uncertainties that could cause actual results to differ materially and adversely from those set forth in or implied by such forward-looking statements. These risks and uncertainties include, but are not limited to, completion of the proposed public offering on the anticipated terms, or at all, market conditions and the satisfaction of customary closing conditions related to the proposed public offering. For a discussion of these and other risks and uncertainties, and other important factors, any of which could cause AVROBIO’s actual results to differ materially and adversely from those contained in the forward-looking statements, see the section entitled “Risk Factors” in AVROBIO’s Annual Report on Form 10-K for the fiscal year ended December 31, 2018 and our subsequent periodic reports on Form 10-Q, as well as discussions of potential risks, uncertainties, and other important factors in our other filings with the SEC, including those contained or incorporated by reference in the preliminary prospectus supplement related to the public offering filed with the SEC. AVROBIO explicitly disclaims any obligation to update any forward-looking statements except to the extent required by law.

**Investor Contact:**

Christopher F. Brinzey  
Westwicke Partners  
339-970-2843  
chris.brinzey@westwicke.com

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**Media Contact:**

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