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

FORM 8-K

CURRENT REPORT

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

Date of Report (Date of earliest event reported): November 5, 2026

Precision BioSciences, Inc.

(Exact name of Registrant as Specified in Its Charter)

Delaware	**001-38841**	**20-4206017**
(State or Other Jurisdiction of Incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**
302 East Pettigrew St. Suite A-100 Durham, North Carolina		**27701**
(Address of Principal Executive Offices)		**(Zip Code)**

Registrant's Telephone Number, Including Area Code: 919 314-5512

(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

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

Title of each class	**Trading Symbol(s)**	**Name of each exchange on which registered**
Common Stock, par value $0.000005 per share	DTIL	The Nasdaq Capital Market

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

Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Item 8.01 Other Events.

On November 5, 2026, Precision BioSciences, Inc. (the "Company") entered into an underwriting agreement (the "Underwriting Agreement") with TD Securities (USA) LLC and Guggenheim Securities, LLC, as representatives of the several underwriters named therein (the "Underwriters"), in connection with the offering (the "Offering"), issuance and sale by the Company of 10,235,077 shares of its common stock, $0.000005 par value per share (the "Common Stock"), at a price of $7.75 per share and, in lieu of Common Stock to certain investors, pre-funded warrants to purchase up to 5,893,964 shares of its Common Stock at a price of $7.749995 per pre-funded warrant, which represents the per share offering price for the shares of Common Stock less the $0.000005 per share exercise price for each pre-funded warrant. The Company estimates the net proceeds from the Offering will be approximately $116.5 million, after deducting underwriting discounts and commissions and estimated offering expenses payable by the Company and excluding any proceeds the Company may receive upon exercise of the pre-funded warrants being sold in the Offering. The Company intends to use the net proceeds of the Offering to fund the continued research and development of PBGENE-HBV and PBGENE-DMD, and for working capital and general corporate purposes.

The shares of Common Stock and pre-funded warrants are being sold pursuant to an effective shelf registration statement on Form S-3 (Registration No. 333-292478). A prospectus supplement relating to the offer and sale of the Common Stock and pre-funded warrants has been filed with the Securities and Exchange Commission. The closing of the Offering is expected to occur on November 6, 2026, subject to customary closing conditions.

The pre-funded warrants are exercisable at any time after their original issuance and are subject to adjustment in the event of certain stock dividends and distributions, stock splits, stock combinations, reclassifications or similar events affecting the Common Stock and holders of the pre-funded warrants also are entitled to participate on an as-exercised basis with respect to the Company's stockholders. In the event of a fundamental transaction, a holder of the pre-funded warrants will be entitled to receive, upon exercise of the pre-funded warrants, the kind and amount of securities, cash or other property that such holder would have received had they exercised the pre-funded warrants immediately prior to such fundamental transaction, without regard to any limitations on exercise contained in the pre-funded warrants. The pre-funded warrants do not entitle the holders thereof to any voting rights or any of the other rights or privileges to which holders of Common Stock are entitled.

A holder of a pre-funded warrant will not be entitled to exercise any portion of such pre-funded warrant that, upon giving effect to such exercise, would cause the aggregate number of shares of Common Stock beneficially owned by such holder (together with its affiliates and any other persons acting as a group together with the holder or any of the holder's affiliates) to exceed 4.99% (or, at the holder's option upon issuance, 9.99%) of the number of shares of Common Stock outstanding immediately after giving effect to such exercise, as such percentage ownership is determined in accordance with the terms of the pre-funded warrant. A holder may, upon notice to the Company, increase or decrease such beneficial ownership limitation, provided that it in no event exceeds 19.99% of the number of shares of Common Stock outstanding immediately after giving effect to such exercise, and any increase will not be effective until the 61st day after such notice is delivered to the Company.

The Underwriting Agreement contains customary representations, warranties and agreements by the Company, customary conditions to closing, indemnification obligations of the Company and the Underwriters, including for liabilities under the Securities Act of 1933, as amended, other obligations of the parties and termination provisions.

The foregoing descriptions of the Underwriting Agreement and the form of pre-funded warrant are not complete and are qualified in their entirety by reference to the full text of the Underwriting Agreement and the form of pre-funded warrant, copies of which are filed, respectively, as Exhibit 1.1 and Exhibit 4.1 to this Current Report on Form 8-K and are incorporated by reference herein.

Latham & Watkins LLP, counsel to the Company, has issued an opinion regarding the validity of the shares of Common Stock, the shares of Common Stock issuable upon exercise of the pre-funded warrants and the pre-funded warrants offered and sold in the Offering. A copy of the opinion is filed as Exhibit 5.1 to this Current Report on Form 8-K.

The Company issued a press release on November 5, 2026 announcing the pricing of the Offering, which press release is attached as Exhibit 99.1 to this report.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

The following exhibits relating to Item 8.01 shall be deemed to be furnished, and not filed:

Exhibit No.	Description
1.1	Underwriting Agreement, dated November 5, 2026, among the Company and TD Securities (USA) LLC and Guggenheim Securities, LLC, as representatives of the several underwriters named therein
4.1	Form of Pre-Funded Warrant
5.1	Opinion of Latham & Watkins LLP
23.1	Consent of Latham & Watkins LLP (included in Exhibit 5.1)
99.1	Press release of Precision BioSciences, Inc. dated November 5, 2026.
104	Cover Page Interactive Data File (embedded within the Inline XBRL document).

SIGNATURES

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

PRECISION BIOSCIENCES, INC.

Date: November 6, 2026

By: /s/ Naresh Tanna

Naresh Tanna

Chief Financial Officer

Exhibit 1.1

Precision BioSciences, Inc.
10,235,077 Shares of Common Stock, par value $0.000005 per share

and

Pre-Funded Warrants to Purchase up to 5,893,964 Shares of Common Stock

Underwriting Agreement

November 5, 2026

TD Securities (USA) LLC
Guggenheim Securities, LLC

c/o TD Securities (USA) LLC
1 Vanderbilt Avenue
New York, New York 10017

c/o Guggenheim Securities, LLC
330 Madison Avenue
New York, New York 10017

Ladies and Gentlemen:

Precision BioSciences, Inc., a Delaware corporation (the "Company"), proposes to issue and sell to the several underwriters listed in Schedule 1 hereto (the "Underwriters"), for whom you are acting as representatives (the "Representatives"), an aggregate of (i) 10,235,077 shares of common stock, par value $0.000005 per share ("Common Stock"), of the Company (the "Shares") and (ii) pre-funded warrants to purchase up to 5,893,964 shares of Common Stock in a form to be mutually agreed upon by the Company and the Representatives (the "Pre-Funded Warrants"). The Shares and the Pre-Funded Warrants are collectively referred to herein as the "Securities." The shares of Common Stock of the Company to be outstanding after giving effect to the sale of the Shares and the exercise of the Pre-Funded Warrants are referred to herein as the "Stock." The shares of Common Stock underlying the Pre-Funded Warrants are herein referred to as the "Pre-Funded Warrant Shares."

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

1. Registration Statement. The Company has prepared and filed with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended, and the rules and regulations of the Commission thereunder (collectively, the "Securities Act"), a registration statement on Form S-3 (File No. 333-292478), including a prospectus (the "Base Prospectus"), relating to the Securities, which shelf registration statement has been declared effective by the Commission. Such registration statement, as amended at the time it became effective, including the exhibits and any schedules thereto at such time, the documents incorporated or deemed to be incorporated by reference therein at such time pursuant to Item 12 of Form S-3 under the Securities Act and the documents otherwise deemed to be a part thereof as of such time pursuant to Rule 430B under the Securities Act ("Rule 430B"), is referred to herein as the "Registration Statement;" provided, however, that the "Registration Statement" without reference to a time means such registration statement as amended by any post-effective amendments thereto as of the time of the first contract of sale for the Securities, which time shall be considered the "new effective date" of such registration statement with respect to the Securities within the meaning of paragraph (f)(2) of

Rule 430B, including the exhibits and schedules thereto as of such time, the documents incorporated or deemed to be incorporated by reference therein at such time pursuant to Item 12 of Form S-3 under the Securities Act and the documents otherwise deemed to be a part thereof as of such time pursuant to Rule 430B.

Any registration statement filed pursuant to Rule 462(b) of the Securities Act is herein called the "Rule 462(b) Registration Statement" and, after such filing, the term "Registration Statement" shall include the Rule 462(b) Registration Statement. Each preliminary prospectus supplement used in connection with the offering of the Securities, if any, including the Base Prospectus and the documents incorporated or deemed to be incorporated by reference therein pursuant to Item 12 of Form S-3 under the Securities Act, are collectively referred to herein as a "preliminary prospectus." Promptly after execution and delivery of this Agreement, the Company will prepare and file a final prospectus supplement relating to the Securities in accordance with the provisions of Rule 424(b) of the Securities Act ("Rule 424(b)"). The final prospectus supplement, in the form first furnished or made available to the Underwriters for use in connection with the offering of the Securities, including the Base Prospectus and the documents incorporated or deemed to be incorporated by reference therein pursuant to Item 12 of Form S-3 under the Securities Act, are collectively referred to herein as the "Prospectus." For purposes of this Agreement, all references to the Registration Statement, any preliminary prospectus, the Prospectus or any amendment or supplement to any of the foregoing shall be deemed to include the copy filed with the Commission pursuant to its Electronic Data Gathering, Analysis and Retrieval system (or any successor system) ("EDGAR"). Capitalized terms used but not defined herein shall have the meanings given to such terms in the Registration Statement and the Prospectus.

"Applicable Time" means 7:10 A.M., New York City time, on November 5, 2026.

"Pricing Disclosure Package" means each Issuer Free Writing Prospectus (as defined below) issued at or prior to the Applicable Time, each "free-writing prospectus" (as defined pursuant to Rule 405 under the Securities Act) issued at or prior to the Applicable Time and listed on Annex A hereto and the Base Prospectus, all considered together.

All references in this Agreement to financial statements and schedules and other information which is "contained," "included" or "stated" (or other references of like import) in the Registration Statement, any preliminary prospectus or the Prospectus shall be deemed to include all such financial statements and schedules and other information incorporated or deemed incorporated by reference in the Registration Statement, any preliminary prospectus or the Prospectus, as the case may be, prior to the execution and delivery of this Agreement; and all references in this Agreement to amendments or supplements to the Registration Statement, any preliminary prospectus or the Prospectus shall be deemed to include the filing of any document under the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder (collectively, the "Exchange Act"), incorporated or deemed to be incorporated by reference in the Registration Statement, such preliminary prospectus or the Prospectus, as the case may be, at or after the execution and delivery of this Agreement.

2. Purchase of the Securities by the Underwriters.

(a) The Company agrees to issue and sell the Securities to the several Underwriters as provided in this underwriting agreement (this "Agreement"), and the Underwriters, on the basis of the representations, warranties and agreements set forth herein and subject to the conditions set forth herein, agrees to purchase, severally and not jointly, at a purchase price per Share of $7.285 and at a purchase price of $7.284995 per Pre-Funded Warrant, from the Company the respective number of Securities set forth opposite such Underwriter's name in Schedule 1 hereto.

(b) The Company understands that the Underwriters intend to make an offering of the Securities, and initially to offer the Securities on the terms set forth in the Pricing Disclosure Package. The Company acknowledges and agrees that the Underwriters may offer and sell Securities to or through any affiliate of an Underwriter.

Payment for the Securities shall be made by wire transfer in immediately available funds to the account specified by the Company to the Representatives, at the offices of Cooley LLP, counsel for the Underwriters at 10:00 A.M., New York City time, on November 6, 2026, or at such other time or place on the same or such other date, not later than the fifth business day thereafter, as the Representatives and the Company may agree upon in writing. The time and date of such payment for the Securities is referred to herein as the "Closing Date."

Notwithstanding the foregoing, the Company and the Representatives shall instruct purchasers of the Pre-Funded Warrants in the offering to make payment for the Pre-Funded Warrants on the Closing Date to the Company by wire transfer in immediately available funds to the account specified by the Company at a purchase price of $7.749995 per Pre-Funded Warrant, in lieu of payment by the Underwriters for such Pre-Funded Warrants, and the Company shall deliver such Pre-Funded Warrants to such purchasers on the Closing Date in definitive form against such payment, in lieu of the Company's obligation to deliver such Pre-Funded Warrants to the Underwriters; provided that, the Representatives shall withhold $0.465 per Pre-Funded Warrant with respect to such Pre-Funded Warrants as an offset against the payment owed by the Representatives to the Company with respect to the Securities hereunder.

In the event that any purchaser of the Pre-Funded Warrants in the offering fails to make payment to the Company for all or part of the Pre-Funded Warrants (the "Failed Warrants") on the Closing Date, as the case may be, the Representatives may elect, by written notice to the Company and payment of the purchase price by wire transfer in immediately available funds to the account specified by the Company at the location and time designated in this Section 2(b) for the Closing Date to receive shares of Common Stock at the applicable purchase price in lieu of the Failed Warrants that were otherwise to have been delivered to the purchasers thereof under this Agreement.

(c) Payment for the Securities to be purchased on the Closing Date shall be made against delivery to the Representatives for the respective account of the several Underwriters of the Securities to be purchased on such date with any transfer taxes payable in connection with the sale of such Securities duly paid by the Company. Delivery of the Securities shall be made through the facilities of The Depository Trust Company unless the Representatives shall otherwise instruct. The Pre-Funded Warrants will be made available for inspection by the Representatives on the business day prior to the Closing Date.

(d) The Company acknowledges and agrees that the Representatives and the other Underwriters are acting solely in the capacity of an arm's length contractual counterparty to the Company with respect to the offering of Securities contemplated hereby (including in connection with determining the terms of the offering) and not as a financial advisor or a fiduciary to, or an agent of, the Company or any other person. The Company further acknowledges and agrees that (a) the purchase and sale of the Securities pursuant to this Agreement, including the determination of the offering price of the Securities, and any related discounts and commissions, does not constitute a recommendation, investment advice, or solicitation of any actions by the Representatives or the other Underwriters, (b) the Representatives and the other Underwriters have not assumed and will not assume an advisory or fiduciary responsibility in favor of the Company with respect to the offering of the Securities or the process leading thereto (irrespective of whether the Representatives or the other Underwriters have advised or are currently advising the Company on other matters) and the Representatives or the other Underwriters have no

obligation to the Company with respect to the offering of the Securities except the obligations expressly set forth in this Agreement, (c) the Representatives, other Underwriters and their respective affiliates may be engaged in a broad range of transactions that involve interests that differ from those of the Company, (d) the Representatives and the other Underwriters have not provided any legal, accounting, regulatory, investment or tax advice with respect to the offering of the Securities and the Company has consulted its own respective legal, accounting, financial, regulatory and tax advisors to the extent it deemed appropriate and (e) none of the activities of the Representatives or the other Underwriters in connection with the transactions contemplated herein constitutes a recommendation, investment advice or solicitation of any action by the Representatives or the other Underwriters with respect to any entity or natural person. Any review by the Representatives or the other Underwriters of the Company, the transactions contemplated hereby or other matters relating to such transactions will be performed solely for the benefit of the Representatives or the other Underwriters and shall not be on behalf of the Company.

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

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

(b) *Pricing Disclosure Package.* The Pricing Disclosure Package as of the Applicable Time did not, and as of the Closing Date will not, contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; provided that the Company makes no representation or warranty with respect to any statements or omissions made in reliance upon and in conformity with information relating to any Underwriter furnished to the Company in writing by such Underwriter through the Representatives expressly for use in such Pricing Disclosure Package, it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in Section 7(b) hereof. No statement of material fact included in the Prospectus has been omitted from the Pricing Disclosure Package and no statement of material fact included in the Pricing Disclosure Package that is required to be included in the Prospectus has been omitted therefrom.

(c) *Issuer Free Writing Prospectus.* Other than the Registration Statement, the preliminary prospectus, if any, and the Prospectus, the Company (including its agents and representatives, other than the Underwriters in their capacity as such) has not prepared, made, used, authorized, approved or referred to and will not prepare, make, use, authorize, approve or refer to any "written communication" (as defined in Rule 405 under the Securities Act) that constitutes an offer to sell or solicitation of an offer to buy the Securities (each such communication by the Company or its agents and representatives (other than a communication referred to in clause (i) below) an "Issuer Free Writing Prospectus") other than (i) any document not constituting a prospectus pursuant to Section 2(a)(10)(a) of the Securities Act or Rule 134

under the Securities Act or (ii) the documents listed on Annex A hereto, each electronic road show and any other written communications approved in writing in advance by the Representatives. Each such Issuer Free Writing Prospectus complies in all material respects with the Securities Act, has been or will be (within the time period specified in Rule 433) filed in accordance with the Securities Act (to the extent required thereby) and does not conflict with the information contained in the Registration Statement or the Prospectus, including any document incorporated by reference therein and when taken together with any preliminary prospectus accompanying, or delivered prior to delivery of, such Issuer Free Writing Prospectus, did not, and as of the Closing Date will not, contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; provided that the Company makes no representation or warranty with respect to any statements or omissions made in each such Issuer Free Writing Prospectus or any preliminary prospectus in reliance upon and in conformity with information relating to any Underwriter furnished to the Company in writing by such Underwriter through the Representatives expressly for use in such Issuer Free Writing Prospectus or any preliminary prospectus, it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in Section 7(b) hereof.

(d) *Registration Statement and Prospectus.* The Company meets the requirements for use of Form S-3 under the Securities Act. The Registration Statement and any post-effective amendment thereto has been declared effective by the Commission. No order suspending the effectiveness of the Registration Statement has been issued by the Commission, and no proceeding for that purpose or pursuant to Section 8A of the Securities Act against the Company or related to the offering of the Securities has been initiated or, to the knowledge of the Company, threatened by the Commission; as of the applicable effective date of the Registration Statement and any post-effective amendment thereto, each deemed effective date with respect to the Underwriters pursuant to Rule 430B(f)(2) under the Securities Act, at the Applicable Time, complied and will comply in all material respects with the requirements of the Securities Act. Each preliminary prospectus, if any, the Prospectus and any amendment or supplement thereto, at the time each was filed with the Commission, and, in each case, at the Applicable Time, and the Closing Date complied and will comply in all material respects with the requirements of the Securities Act.

The Registration Statement and any post-effective amendment did not and will not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements therein not misleading; and as of the date of each preliminary prospectus, if any, and any amendment or supplement thereto and as of the Closing Date each preliminary prospectus, if any, will not contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; provided that the Company makes no representation and warranty with respect to any statements or omissions made in reliance upon and in conformity with information relating to any Underwriter furnished to the Company in writing by such Underwriter through the Representatives expressly for use in the Registration Statement and the Prospectus and any amendment or supplement thereto, it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in Section 7(b) hereof.

The documents incorporated or deemed to be incorporated by reference in the Registration Statement and the Prospectus, when they became effective or at the time they were filed or hereafter are filed with the Commission, complied and will comply in all material respects with the requirements of the Exchange Act. The documents incorporated or deemed to be

incorporated by reference in the Registration Statement, the Pricing Disclosure Package and the Prospectus, at the time the Registration Statement became effective or when such documents incorporated by reference were filed with the Commission, as the case may be, when read together with the other information in the Registration Statement, the Pricing Disclosure Package or the Prospectus, as the case may be, did not and will not include an 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, in the light of the circumstances under which they were made with respect to the Pricing Disclosure Package or Prospectus, not misleading.

(e) *Financial Statements.* The financial statements (including the related notes thereto) of the Company included or incorporated by reference in the Registration Statement, the Pricing Disclosure Package and the Prospectus comply in all material respects with the applicable requirements of the Securities Act and the Exchange Act, as applicable, and present fairly in all material respects the financial position of the Company as of the dates indicated and the results of their operations and the changes in their cash flows for the periods specified; such financial statements have been prepared in conformity with generally accepted accounting principles in the United States ("GAAP") applied on a consistent basis throughout the periods covered thereby, except in the case of unaudited 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 any supporting schedules included or incorporated by reference in the Registration Statement present fairly in all material respects the information required to be stated therein; and the other financial information included or incorporated by reference in the Registration Statement, the Pricing Disclosure Package and the Prospectus has been derived from the accounting records of the Company and presents fairly in all material respects the information shown thereby. The interactive data in eXtensible Business Reporting Language incorporated by reference in the Registration Statement, the Pricing Disclosure Package and the Prospectus 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.

(f) *No Material Adverse Change.* Since the date of the most recent financial statements of the Company included in the Registration Statement, the Pricing Disclosure Package and the Prospectus, (i) there has not been any material change in the capital stock (other than the issuance of shares of Common Stock upon exercise of stock options and warrants described as outstanding in, and the grant of options and awards under existing equity incentive plans described in, the Registration Statement, the Pricing Disclosure Package and the Prospectus), short-term debt or long-term debt of the Company, or any dividend or distribution of any kind declared, set aside for payment, paid or made by the Company on any class of capital stock, or any material adverse change, or any development involving a prospective material adverse change, in or affecting the business, properties, management, financial position, stockholders' equity, results of operations or prospects of the Company taken as a whole; (ii) the Company has not entered into any transaction or agreement (whether or not in the ordinary course of business) that is material to the Company taken as a whole or incurred any liability or obligation, direct or contingent, that is material to the Company taken as a whole; and (iii) the Company has not sustained any loss or interference with its business that is material to the Company taken as a whole and that is either from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor disturbance or dispute or any action, order or decree of any court or arbitrator or governmental or regulatory authority, except in each case as otherwise disclosed in the Registration Statement, the Pricing Disclosure Package and the Prospectus.

(g) *Organization and Good Standing.* The Company has been duly organized and are validly existing and in good standing under the laws of their respective jurisdictions of organization, are duly qualified to do business and are in good standing in each jurisdiction in which their respective ownership or lease of property or the conduct of their respective businesses requires such qualification, and have all power and authority necessary to own or hold their respective properties and to conduct the businesses in which they are engaged, except where the failure to be so qualified or in good standing or have such power or authority would not, individually or in the aggregate, reasonably be expected to have a material adverse effect on the business, properties, management, financial position, stockholders' equity, results of operations or prospects of the Company taken as a whole or on the performance by the Company of its obligations under this Agreement (a "Material Adverse Effect"). The Company does not own or control, directly or indirectly, any corporation, association or other entity other than the subsidiaries listed in Exhibit 21 to the Company's most recent Annual Report on Form 10-K filed with the Commission.

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

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

(j) *Due Authorization.* The Company has full right, power and authority to execute and deliver this Agreement and the Pre-Funded Warrants and to perform its obligations under

each of the Agreement and the Pre-Funded Warrants, respectively; and all action required to be taken for the due and proper authorization, execution and delivery by it of this Agreement and the Pre-Funded Warrants, and the consummation by it of the transactions contemplated by each of the Agreement and the Pre-Funded Warrants, respectively, has been duly and validly taken.

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

(l) *The Securities.* The Shares to be issued and sold by the Company hereunder have been duly authorized by the Company and, when issued and delivered and paid for as provided herein, will be duly and validly issued, will be fully paid and nonassessable and will conform in all material respects to the descriptions thereof in the Registration Statement, the Pricing Disclosure Package and the Prospectus; and the issuance of the Shares is not subject to any preemptive or similar rights that have not been duly waived or satisfied. The Pre-Funded Warrants have been duly authorized by the Company and, when executed and delivered by the Company, will be valid and binding agreements of the Company, enforceable against the Company in accordance with their terms, except as the enforcement thereof may be limited by bankruptcy, insolvency, reorganization, moratorium or other similar laws relating to or affecting the rights and remedies of creditors or by general equitable principles. The Pre-Funded Warrant Shares have been duly authorized and reserved for issuance upon exercise of the Pre-Funded Warrants pursuant to the terms of the Pre-Funded Warrants in a number sufficient to meet the current exercise requirements, and when issued and delivered upon valid exercise in accordance with the terms of the Pre-Funded Warrants will be validly issued, fully paid and non-assessable, will conform in all material respects to the description thereof contained in the Registration Statement, the Pricing Disclosure Package and the Prospectus, will be issued in compliance with all applicable state, federal and foreign securities laws and will not be issued in violation of or subject to any preemptive or similar right that entitles any person to acquire any security from the Company.

(m) *Listing.* The Common Stock is registered pursuant to Section 12(b) or 12(g) of the Exchange Act and the Common Stock is listed on the Nasdaq Capital Market, and the Company has taken no action designed to, or likely to have the effect of, terminating the registration of the Common Stock under the Exchange Act or delisting the Common Stock from the Nasdaq Capital Market. Except as disclosed in the Registration Statement or Prospectus, the Company has not received any notification that the Commission or the Nasdaq Stock Market LLC is contemplating terminating such registration or listing. To the Company's knowledge, and except as otherwise described in the Registration Statement or Prospectus, the Company is in compliance with all applicable listing requirements of the Nasdaq Stock Market LLC.

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

(o) *No Conflicts.* The execution, delivery and performance by the Company of this Agreement and the Pre-Funded Warrants, the issuance and sale of the Securities and the consummation of the transactions contemplated by this Agreement or the Pricing Disclosure Package and the Prospectus will not (i) conflict with or result in a breach or violation of any of the terms or provisions of, or constitute a default under, result in the termination, modification or acceleration of, or result in the creation or imposition of any lien, charge or encumbrance upon any property, right or assets of the Company pursuant to, any indenture, mortgage, deed of trust, loan agreement or other agreement or instrument to which the Company is a party or by which the Company is bound or to which any of the property, right or assets of the Company is subject, (ii) result in any violation of the provisions of the charter or by-laws or similar organizational documents of the Company or (iii) result in the violation of any law or statute or any judgment, order, rule or regulation of any court or arbitrator or governmental or regulatory authority, except, in the case of clauses (i) and (iii) above, for any such conflict, breach, violation, default, lien, charge or encumbrance that would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

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

(q) *Legal Proceedings.* There are no legal, governmental or regulatory investigations, actions, demands, claims, suits, arbitrations, inquiries or proceedings ("Actions") pending to which the Company is or may reasonably be expected to become a party or to which any property of the Company is or may reasonably be expected to become the subject that, individually or in the aggregate, if determined adversely to the Company, would reasonably be expected to have a Material Adverse Effect; to the knowledge of the Company, no such Actions are threatened or contemplated by any governmental or regulatory authority or threatened by others; and (i) there are no current or pending Actions that are required under the Securities Act to be described in the Registration Statement, the Pricing Disclosure Package or the Prospectus that are not so described in the Registration Statement, the Pricing Disclosure Package and the Prospectus and (ii) there are no statutes, regulations or contracts or other documents that are required under the Securities Act to be filed as exhibits to the Registration Statement or described in the Registration Statement, the Pricing Disclosure Package or the Prospectus that are not so filed as exhibits to the Registration Statement or described in the Registration Statement, the Pricing Disclosure Package and the Prospectus.

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

(s) *Title to Real and Personal Property*. The Company has good and marketable title in fee simple (in the case of real property) to, or have valid rights to lease or otherwise use, all items of real and personal property and assets that are material to the respective businesses of

the Company, in each case free and clear of all liens, encumbrances, claims and defects and imperfections of title except those that (i) do not materially interfere with the use made and proposed to be made of such property by the Company or (ii) would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect.

(t) *Title to Intellectual Property*. The Company owns, or possesses valid and enforceable licensed rights to use, or can acquire on reasonable terms, all material patents, patent applications, trademarks, service marks, trade names, trademark registrations, service mark registrations, trade dress, designs, data, database rights, internet domain names, copyrights, works of authorship, licenses, proprietary information and know-how (including trade secrets and other unpatented and/or unpatentable proprietary or confidential information, systems or procedures) necessary for the conduct of their respective businesses as currently conducted and as proposed to be conducted (collectively, "Intellectual Property"), and the conduct of their respective businesses does not and will not infringe, misappropriate or otherwise conflict in any material respect with any such rights of others. The Intellectual Property of the Company has not been adjudged by a court of competent jurisdiction to be invalid or unenforceable, in whole or in part, and the Company is unaware of any facts which would form a reasonable basis for any such adjudication. The Company has not received any notice of any claim of infringement, misappropriation or conflict with any intellectual property rights of another which would, singly or in the aggregate, result in a Material Adverse Effect, and the Company is unaware of any facts which would form a reasonable basis for any such notice or claim. To the Company's knowledge and except for customary reversionary rights of third-party licensors with respect to Intellectual Property that is disclosed in the Registration Statement, the Pricing Disclosure Package and the Prospectus ("Disclosure Documents") as owned by or licensed to the Company: (i) there are no third parties who have rights to any Intellectual Property and (ii) there is no infringement by third parties of any Intellectual Property. Except as disclosed in the Registration Statement, the Pricing Disclosure Package and the Prospectus, there is no pending or, to the Company's knowledge, threatened action, suit, proceeding or claim by others: (A) challenging the Company's rights in or to any Intellectual Property, and the Company is unaware of any facts which would form a reasonable basis for any such action, suit, proceeding or claim; (B) challenging the validity, enforceability or scope of any Intellectual Property, and the Company is unaware of any facts which would form a reasonable basis for any such action, suit, proceeding or claim; or (C) asserting that the Company infringe, misappropriate, or otherwise violate, or would, upon the commercialization of any product or service described in the Disclosure Documents as under development, infringe, misappropriate or otherwise violate, any intellectual property rights of others, and the Company is unaware of any facts which would form a reasonable basis for any such action, suit, proceeding or claim. The Company has materially complied with the terms of each agreement pursuant to which Intellectual Property has been licensed to the Company, and all such agreements are in full force and effect. To the Company's knowledge, there are no material defects in any of the patents or patent applications included in the Intellectual Property. The Company has taken all reasonable steps to protect, maintain and safeguard their Intellectual Property, including the execution of appropriate nondisclosure, confidentiality agreements and invention assignment agreements and invention assignments with their employees. The duty of candor and good faith as required by the United States Patent and Trademark Office during the prosecution of the United States patents and patent applications included in the Intellectual Property have been complied with; and in all foreign offices having similar requirements, all such requirements have been complied with. To the Company's knowledge, none of the Company owned Intellectual Property or technology (including information technology and outsourced arrangements) employed by the Company has been obtained or is being used by the Company in violation of any contractual obligation binding on the Company or any of its officers, directors or employees or otherwise in violation of the rights of any persons. The product candidates described in the Disclosure Documents as under development by the Company fall within the scope of the

claims of one or more patents or patent applications owned by, or exclusively licensed to, the Company.

(u) *Trade Secrets*. The Company has taken reasonable and customary actions to protect their rights in and prevent the unauthorized use and disclosure of material trade secrets and confidential business information (including confidential source code, ideas, research and development information, know-how, formulas, compositions, technical data, designs, drawings, specifications, research records, records of inventions, test information, financial, marketing and business data, customer and supplier lists and information, pricing and cost information, business and marketing plans and proposals) owned by the Company, and, to the knowledge of the Company, there has been no unauthorized use or disclosure.

(v) *IT Assets*. Except as could not reasonably be expected to have a Material Adverse Effect (i) the computers, software, servers, networks, data communications lines, and other information technology systems owned, licensed, leased or otherwise used by the Company (excluding any public networks) (collectively, the "IT Assets") operate and perform as is necessary for the operation of the business of the Company as currently conducted and as proposed to be conducted as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, and (ii) such IT Assets are not infected by viruses, disabling code or other harmful code. The Company have implemented and maintained all reasonably necessary controls, policies, procedures, and safeguards to maintain and protect their confidential information and the integrity, continuous operation, redundancy and security of all IT Assets and data (including all Personal Data (defined below) that is sensitive, confidential or regulated data ("Confidential Data") used in connection with their businesses), and there have been no breaches, violations, outages or unauthorized uses of or accesses to same, except for those that have been remedied without material cost or liability or the duty to notify any other person, nor any incidents under internal review or investigations relating to the same.

(w) *FDA and USDA Compliance*. The Company: (A) is and at all times has been in compliance with all statutes, rules or regulations of the FDA, USDA and other comparable governmental entities 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 under development, manufactured or distributed by the Company ("Applicable Laws"), except where such noncompliance would not singly or in the aggregate reasonably be expected to result in a Material Adverse Effect; (B) possesses all material licenses, certificates, approvals, clearances, exemptions, authorizations, permits and supplements or amendments thereto required by any such Applicable Laws ("Authorizations") and such Authorizations are valid and in full force and effect and the Company is not in material violation of any term of any such Authorizations; and (C) has not received written notice that the FDA or any governmental entity has taken, is taking or intends to take action to limit, suspend, modify or revoke any Authorizations and has no knowledge that the FDA or any governmental entity is considering such action.

(x) *Tests and Preclinical and Clinical Trials*. The studies, tests and preclinical and clinical trials conducted by or, to the Company's knowledge, on behalf of the Company were and, if still ongoing, are being conducted in all material respects in accordance with Applicable Laws, including, without limitation, the Federal Food, Drug and Cosmetic Act; except to the extent disclosed in the Registration Statement, the Pricing Disclosure Package and the Prospectus, the Company is not aware of any studies, tests or trials, the results of which reasonably call into question the study, test, or trial results described or referred to in the Registration Statement, the Pricing Disclosure Package and the Prospectus when viewed in the context in which such results

are described and the state of development; and, except to the extent disclosed in the Registration Statement, the Pricing Disclosure Package or the Prospectus, the Company has not received any written notices or correspondence from the FDA or any governmental entity requiring the termination or suspension of any studies, tests or preclinical or clinical trials conducted by or on behalf of the Company, other than ordinary course communications with respect to modifications in connection with the design and implementation of such trials.

(y) *Compliance with Health Care Laws*. The Company is, and at all times since January 1, 2015 has been, in compliance with all Health Care Laws, except where such noncompliance would not singly or in the aggregate reasonably be expected to result in a Material Adverse Effect. For purposes of this Agreement, "Health Care Laws" means: (i) the Federal Food, Drug, and Cosmetic Act and the regulations promulgated thereunder; (ii) all applicable federal, state, local and foreign health care fraud and abuse laws, including, without limitation, the U.S. Anti-Kickback Statute (42 U.S.C. Section 1320a-7b(b)), the U.S. Civil False Claims Act (31 U.S.C. Section 3729 et seq.), the criminal False Statements Law (42 U.S.C. Section 1320a-7b(a)), 18 U.S.C. Sections 286, and 287, and the health care fraud criminal provisions under the U.S. Health Insurance Portability and Accountability Act of 1996 ("HIPAA") (42 U.S.C. Section 1320d et seq.), the civil monetary penalties law (42 U.S.C. Section 1320a-7a), the exclusions law (42 U.S.C. Section 1320a-7), the Physician Payments Sunshine Act (42 U.S.C. Section 1320-7h), (iii) HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act (42 U.S.C. Section 17921 et seq.), (iv) Medicare (Title XVIII of the Social Security Act), Medicaid (Title XIX of the Social Security Act), (v) the Public Health Service Act (42 U.S.C. § 201 et seq.), (vi) the regulations promulgated pursuant to such statutes and any state or foreign counterpart thereof, (vii) any similar applicable local, state, federal, national, supranational and foreign laws, relating to the regulation of the Company, and (viii) any and all other applicable health care laws and regulations. The Company has not received written notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from any court or arbitrator or governmental or regulatory authority or third party alleging that any product operation or activity is in violation of any Health Care Laws nor, to the Company's knowledge, is any such claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action threatened. The Company has filed, maintained or submitted all reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Health Care Laws, and all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were complete and accurate on the date filed in all respects (or were corrected or supplemented by a subsequent submission), except where such failure would not, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect. The Company is not a party to any corporate integrity agreements, monitoring agreements, consent decrees, settlement orders, or similar agreements with or imposed by any governmental or regulatory authority. Additionally, neither the Company nor any of its respective employees, officers, directors, or to the Company's knowledge, agents has been excluded, suspended or debarred from participation in any U.S. federal health care program or human clinical research or, to the knowledge of the Company, is subject to a governmental inquiry, investigation, proceeding, or other similar action that could reasonably be expected to result in debarment, suspension, or exclusion.

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

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

(bb) *Taxes.* The Company has paid all federal, state, local and foreign taxes and filed all tax returns required to be paid or filed through the date hereof, except for those taxes and tax returns whose failure to pay or file would not reasonably be expected to have a Material Adverse Effect; and, except as otherwise disclosed in the Registration Statement, the Pricing Disclosure Package or the Prospectus, there is no tax deficiency that has been, or could reasonably be expected to be, asserted against the Company or any of their respective properties or assets that has had or would reasonably be expected to have a Material Adverse Effect, except for any tax deficiency being contested in good faith and for which appropriate reserves have been provided in accordance with GAAP.

(cc) *Licenses and Permits.* The Company possesses all licenses, certificates, permits and other authorizations issued by, and have made all declarations and filings with, the appropriate federal, state, local or foreign governmental or regulatory authorities that are necessary for the ownership or lease of their respective properties or the conduct of their respective businesses as described in each of the Registration Statement, the Pricing Disclosure Package and the Prospectus, except where the failure to possess or make the same would not, individually or in the aggregate, reasonably be expected have a Material Adverse Effect; and the Pricing Disclosure Package and the Prospectus, the Company has not received written notice of any revocation or modification of any such license, certificate, permit or authorization or has any reason to believe that any such license, certificate, permit or authorization will not be renewed in the ordinary course, except where such revocation or modification would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect. No party granting any such licenses, certificates, permits and other authorizations has taken any action to limit, suspend or revoke the same in any respect, except where such action would not, singly or in the aggregate, reasonably be expected to result in a Material Adverse Effect. The Company has filed, obtained, maintained or submitted all reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required and that all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were complete and correct on the date filed (or were corrected or supplemented by a subsequent submission) as required for maintenance of their licenses, certificates, permits and other authorizations that are necessary for the conduct of their respective businesses, except where such non-compliance would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

(dd) *No Labor Disputes.* No labor disturbance by or dispute with employees of the Company exists or, to the knowledge of the Company, is threatened, and the Company is not aware of any existing or imminent labor disturbance by, or dispute with, the employees of any of its principal suppliers, contractors or customers, except in any event as would not reasonably be expected to have a Material Adverse Effect. The Company has not received any notice of cancellation or termination with respect to any collective bargaining agreement that is material to the Company.

(ee) *Certain Environmental Matters.* (i) The Company (x) are in compliance with all, and have not violated any, applicable federal, state, local and foreign laws, rules, regulations,

requirements, decisions, judgments, decrees, orders and other legally enforceable requirements relating to pollution or the protection of human health or safety, the environment, natural resources, hazardous or toxic substances or wastes, pollutants or contaminants (collectively, "Environmental Laws"); (y) have received and are in compliance with all, and have not violated any, permits, licenses, certificates or other authorizations or approvals required of them under any Environmental Laws to conduct their respective businesses; and (z) have not received written notice of any actual or potential liability or obligation under or relating to, or any actual or potential violation of, any Environmental Laws, including for the investigation or remediation of any disposal or release of hazardous or toxic substances or wastes, pollutants or contaminants, and have no knowledge of any event or condition that would reasonably be expected to result in any such notice, and (ii) there are no costs or liabilities associated with Environmental Laws of or relating to the Company, except in the case of each of (i) and (ii) above, for any such matter as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect; and (iii) (x) there is no proceeding that is pending, or that is known by the Company to be contemplated, against the Company under any Environmental Laws in which a governmental entity is also a party, other than such proceeding regarding which the Company reasonably believes no monetary sanctions of $100,000 or more will be imposed, (y) the Company is not aware of any facts or issues regarding compliance with Environmental Laws, or liabilities or other obligations under Environmental Laws or concerning hazardous or toxic substances or wastes, pollutants or contaminants, that would, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect, and (z) the Company does not anticipate material capital expenditures relating to any Environmental Laws.

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

(gg) *Compliance with ERISA*. (i) Each employee benefit plan, within the meaning of Section 3(3) of the Employee Retirement Income Security Act of 1974, as amended ("ERISA"), for which the Company or any member of its "Controlled Group" (defined as any entity, whether or not incorporated, that is under common control with the Company within the meaning of Section 4001(a)(14) of ERISA or any entity that would be regarded as a single employer with the Company under Section 414(b),(c),(m) or (o) of the Internal Revenue Code of 1986, as amended (the "Code")) would have any liability (each, a "Plan") has been maintained in compliance with its terms and the requirements of any applicable statutes, orders, rules and regulations, including but not limited to ERISA and the Code; (ii) no prohibited transaction, within the meaning of

Section 406 of ERISA or Section 4975 of the Code, has occurred with respect to any Plan, excluding transactions effected pursuant to a statutory or administrative exemption; (iii) for each Plan that is subject to the funding rules of Section 412 of the Code or Section 302 of ERISA, no Plan has failed (whether or not waived), or is reasonably expected to fail, to satisfy the minimum funding standards (within the meaning of Section 302 of ERISA or Section 412 of the Code) applicable to such Plan; (iv) no Plan is, or is reasonably expected to be, in "at risk status" (within the meaning of Section 303(i) of ERISA) and no Plan that is a "multiemployer plan" within the meaning of Section 4001(a)(3) of ERISA is in "endangered status" or "critical status" (within the meaning of Sections 304 and 305 of ERISA); (v) the fair market value of the assets of each Plan exceeds the present value of all benefits accrued under such Plan (determined based on those assumptions used to fund such Plan); (vi) no "reportable event" (within the meaning of Section 4043(c) of ERISA and the regulations promulgated thereunder) has occurred or is reasonably expected to occur; (vii) each Plan that is intended to be qualified under Section 401(a) of the Code is so qualified, and, to the knowledge of the Company, nothing has occurred, whether by action or by failure to act, which would reasonably be expected to cause the loss of such qualification; (viii) neither the Company nor any member of the Controlled Group has incurred, nor reasonably expects to incur, any liability under Title IV of ERISA (other than contributions to the Plan or premiums to the Pension Benefit Guarantee Corporation, in the ordinary course and without default) in respect of a Plan (including a "multiemployer plan" within the meaning of Section 4001(a)(3) of ERISA); and (ix) none of the following events has occurred or is reasonably likely to occur: (A) a material increase in the aggregate amount of contributions required to be made to all Plans by the Company or its Controlled Group affiliates in the current fiscal year of the Company and its Controlled Group affiliates compared to the amount of such contributions made in the Company's and its Controlled Group affiliates' most recently completed fiscal year; or (B) a material increase in the Company's "accumulated post-retirement benefit obligations" (within the meaning of Accounting Standards Codification Topic 715-60) compared to the amount of such obligations in the Company's most recently completed fiscal year, except in each case with respect to the events or conditions set forth in (i) through (ix) hereof, as would not, individually or in the aggregate, have a Material Adverse Effect.

(hh) *Disclosure Controls*. The Company maintains an effective system of "disclosure controls and procedures" (as defined in Rule 13a-15(e) of the Exchange Act) that complies with the requirements of the Exchange Act and that has been designed to ensure that information required to be disclosed by the Company in reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Commission's rules and forms, including controls and procedures designed to ensure that such information is accumulated and communicated to the Company's management as appropriate to allow timely decisions regarding required disclosure. The Company has carried out evaluations of the effectiveness of its disclosure controls and procedures as required by Rule 13a-15 of the Exchange Act through September 30, 2026.

(ii) *Accounting Controls.* The Company maintains systems of "internal control over financial reporting" (as defined in Rule 13a-15(f) of the Exchange Act) that are designed to comply with the requirements of the Exchange Act and have been designed by, or under the supervision of, their respective principal executive and principal financial officers, or persons performing similar functions, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles, including, but not limited to, internal accounting controls sufficient to provide reasonable assurance that (i) transactions are executed in accordance with management's general or specific authorizations; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with generally accepted accounting

principles and to maintain asset accountability; (iii) access to assets is permitted only in accordance with management's general or specific authorization; and (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, the Pricing Disclosure Package and the Prospectus fairly presents the information called for in all material respects and is prepared in accordance with the Commission's rules and guidelines applicable thereto. There are no material weaknesses in the Company's internal controls. The Company's auditors and the Audit Committee of the Board of Directors of the Company have been advised of: (i) all significant deficiencies and material weaknesses in the design or operation of internal controls over financial reporting which have adversely affected or are reasonably likely to adversely affect the Company's ability to record, process, summarize and report financial information; and (ii) any fraud, whether or not material, that involves management or other employees who have a significant role in the Company's internal controls over financial reporting.

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

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

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

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

(mm) *No Conflicts with Sanctions Laws.* Neither the Company nor any of its directors, officers or employees, nor, to the knowledge of the Company, any agent, or affiliate or other person associated with or acting on behalf of the Company is currently the subject or the target of any sanctions administered or enforced by the U.S. Government, (including, without limitation, the Office of Foreign Assets Control of the U.S. Department of the Treasury or the U.S. Department of State and including, without limitation, the designation as a "specially designated national" or "blocked person"), the United Nations Security Council, the European Union, His Majesty's Treasury, or other relevant sanctions authority (collectively, "Sanctions"), nor is the Company located, organized or resident in a country or territory that is the subject or the target of Sanctions, including, without limitation, Cuba, Iran, North Korea, Syria (prior to July 1, 2025) and certain regions of Ukraine (Crimea, Donetsk People's Republic, Luhansk People's Republic, Kherson and Zaporizhzhia) (each, a "Sanctioned Country"); and the Company will not directly or indirectly use the proceeds of the offering of the Securities hereunder, or lend, contribute or otherwise make available such proceeds to any joint venture partner or other person or entity (i) to fund or facilitate any activities of or business with any person that, at the time of such funding or facilitation, is the subject or the target of Sanctions, (ii) to fund or facilitate any activities of or business in any Sanctioned Country or (iii) in any other manner that will result in a violation by any person (including any person participating in the transaction, whether as underwriter, advisor, investor or otherwise) of Sanctions. Since the more recent of (i) April 24, 2019 and (ii) ten (10) years since the date of this Agreement, the Company has not knowingly engaged in and are not now knowingly engaged in any dealings or transactions with any person that at the time of the dealing or transaction is or was the subject or the target of Sanctions or with any Sanctioned Country.

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

(oo) *No Registration Rights*. No person has the right to require the Company to register any securities for sale under the Securities Act by reason of the filing of the Registration Statement with the Commission or the issuance and sale of the Securities, except for such rights as have duly been waived.

(pp) *No Stabilization.* Neither the Company nor, to the Company's knowledge, affiliates have taken, directly or indirectly, any action designed to or that could reasonably be expected to cause or result in any stabilization or manipulation of the price of the Securities.

(qq) *Margin Rules*. Neither the issuance, sale and delivery of the Securities nor the application of the proceeds thereof by the Company as described in each of the Registration Statement, the Pricing Disclosure Package and the Prospectus will violate Regulation T, U or X of the Board of Governors of the Federal Reserve System or any other regulation of such Board of Governors.

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

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

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

(uu) *Status under the Securities Act*. At the time of filing the Registration Statement and any post-effective amendment thereto, at the earliest time thereafter that the Company or any offering participant made a *bona fide* offer (within the meaning of Rule 164(h)(2) under the Securities Act) of the Securities and at the date hereof, the Company was not and is not an "ineligible issuer," as defined in Rule 405 under the Securities Act. The Company has paid the registration fee for this offering pursuant to Rule 456(b)(1) under the Securities Act or will pay such fee within the time period required by such rule (without giving effect to the proviso therein) and in any event prior to the Closing Date.

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

(ww) *Cybersecurity*. The Company's information technology assets and equipment, computers, systems, networks, hardware, software, websites, applications, and databases (collectively, "IT Systems") are adequate for, and operate and perform in all material respects as required in connection with the operation of the business of the Company as currently conducted, free and clear of all material bugs, errors, defects, Trojan horses, time bombs, malware and other corruptants. The Company has implemented and maintained commercially reasonable controls, policies, procedures and safeguards to maintain and protect their material confidential information and the integrity, continuous operation, redundancy and security of all IT Systems and data (including all personal, personally identifiable, sensitive, confidential or regulated data (collectively, "Personal Data")), used in connection with their businesses. There have been no breaches, violations, outages or unauthorized uses of or accesses to same, except for those that have been remedied without material cost or liability or the duty to notify any other person, nor are there any incidents under internal review or investigations relating to the same. The Company is and has been in material compliance with all applicable laws or statutes and all judgments, orders, rules and regulations of any court or arbitrator or governmental or regulatory authority, internal and external policies, and contractual obligations relating to the privacy and security of IT Systems and Personal Data and to the protection of such IT Systems and Personal Data from unauthorized use, access, misappropriation or modification.

(xx) *FINRA*. The Company meets the definition of the term "experienced issuer" specified in FINRA Rule 5110(j)(6).

(yy) *OISP*. The Company is not a "covered foreign person", as that term is defined in 31 C.F.R. § 850.209. The Company does not currently engage, or have plans to engage, directly or indirectly, in a "covered activity", as that term is defined in 31 C.F.R. § 850.208 ("Covered Activity"). The Company does not have any joint ventures that engages in or plans to engage in any Covered Activity. The Company also does not, directly or indirectly, hold a board seat on, have a voting or equity interest in, or have any contractual power to direct or cause the direction of the management or policies of any person that engages or plans to engage in any Covered Activity.

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

(a) *Required Filings.* The Company will file the final Prospectus with the Commission within the time periods specified by Rule 424(b) and Rule 430B under the Securities Act, will file any Issuer Free Writing Prospectus to the extent required by Rule 433 under the Securities Act; and will furnish copies of the Prospectus and each Issuer Free Writing Prospectus (to the extent not previously delivered) to the Underwriters in New York City prior to 10:00 A.M., New York City time, on the business day next succeeding the date of this Agreement in such quantities as the Underwriters may reasonably request.

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

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

(d) *Notice to the Underwriters.* The Company will advise the Representatives promptly, and confirm such advice in writing, (i) when any amendment to the Registration Statement has been filed or becomes effective; (ii) when any supplement to the Pricing Disclosure Package, the Prospectus, any Issuer Free Writing Prospectus, any amendment to the Prospectus has been filed or distributed; (iii) of any request by the Commission for any amendment to the Registration Statement or any amendment or supplement to the Prospectus, including any document incorporated by reference therein, or the receipt of any comments from the Commission relating to the Registration Statement or any other request by the Commission for

any additional information; (iv) of the issuance by the Commission or any other governmental or regulatory authority of any order suspending the effectiveness of the Registration Statement or preventing or suspending the use of any preliminary prospectus, any of the Pricing Disclosure Package, the Prospectus or the initiation or, to the knowledge of the Company, threatening of any proceeding for that purpose or pursuant to Section 8A of the Securities Act; (v) of the occurrence of any event or development within the Prospectus Delivery Period as a result of which the Prospectus, the Pricing Disclosure Package or any Issuer Free Writing Prospectus as then amended or supplemented would include any untrue statement of a material fact or omit to state a material fact or necessary in order to make the statements therein, in the light of the circumstances existing when the Prospectus, the Pricing Disclosure Package, or any such Issuer Free Writing Prospectus delivered to a purchaser, not misleading; and (vi) of the receipt by the Company of any notice with respect to any suspension of the qualification of the Securities for offer and sale in any jurisdiction or the initiation or, to the knowledge of the Company, threatening of any proceeding for such purpose; and the Company will use its best efforts to prevent the issuance of any such order suspending the effectiveness of the Registration Statement, preventing or suspending the use of any preliminary prospectus, any of the Pricing Disclosure Package or the Prospectus or suspending any such qualification of the Securities and, if any such order is issued, will obtain as soon as possible the withdrawal thereof.

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

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

required to so qualify, (ii) file any general consent to service of process in any such jurisdiction or (iii) subject itself to taxation in any such jurisdiction if it is not otherwise so subject.

(g) *Earnings Statement.* The Company will make generally available to its securityholders and the Representatives as soon as practicable an earnings statement that satisfies the provisions of Section 11(a) of the Securities Act and Rule 158 of the Commission promulgated thereunder covering a period of at least twelve months beginning with the first fiscal quarter of the Company occurring after the "effective date" (as defined in Rule 158) of the Registration Statement, provided that the Company will be deemed to have furnished such statements to its securityholders and the Underwriters to the extent they are filed on the Commission's Electronic Data Gathering, Analysis and Retrieval system.

(h) *Clear Market.* For a period of 60 days after the date of the Prospectus (the "Restricted Period"), the Company will not (i) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, or otherwise transfer or dispose of, directly or indirectly, or file with, or submit to, the Commission a registration statement under the Securities Act relating to, any shares of Stock or any securities convertible into or exercisable or exchangeable for Stock, (ii) enter into any swap, hedging or other agreement that transfers, in whole or in part, any of the economic consequences of ownership of the Stock or any such other securities, whether any such transaction described in clause (i) or (ii) above is to be settled by delivery of Stock or such other securities, in cash or otherwise, without the prior written consent of the Representatives, (iii) effect a reverse stock split, recapitalization, share consolidation, reclassification or similar transaction affecting the outstanding shares of Stock or (iv) publicly disclose the intention to do any of the foregoing other than (A) the Shares to be sold hereunder, (B) any shares of Stock of the Company issued upon the exercise of options granted under Company Stock Plans as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, (C) any shares of Stock issued upon the exercise of pre-funded warrants or warrants outstanding on the date of this Agreement and as described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, (D) any options and other awards granted under a Company Stock Plan described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, (E) the filing by the Company of any registration statement on Form S-8 or a successor form thereto relating to a Company Stock Plan described in the Registration Statement, the Pricing Disclosure Package and the Prospectus, (F) shares of Stock or other securities issued in connection with a transaction with an unaffiliated third party that includes a *bona fide* commercial relationship (including joint ventures, marketing or distribution arrangements, collaboration agreements or licensing agreements) or any acquisition of assets of not less than a majority or controlling portion of the equity of another entity, and (G) after the thirtieth (30^{th}) day following the date of the Prospectus, shares of Stock sold pursuant to the Open Market Sale Agreement, dated June 1, 2020, by and between the Company and Jefferies LLC; provided that (x) the aggregate number of the shares issued pursuant to clause (F) shall not exceed more than five percent (5%) of the total number of outstanding shares of Stock immediately following the issuance and sale of the Securities pursuant to this Agreement and (y) the recipient of any such shares of Stock or securities issued pursuant to clauses (B), (C), (D) and (F) during the Restricted Period shall enter into an agreement substantially in the form of Exhibit A hereto.

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

(j) *No Stabilization.* Neither the Company nor its affiliates will take, directly or indirectly, without giving effect to the activities by the Underwriters, any action designed to or that could reasonably be expected to cause or result in any stabilization or manipulation of the price of the Stock.

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

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

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

(n) *Registration Statement of Pre-Funded Warrant Share.* The Company shall, at all times while any Pre-Funded Warrants are outstanding, use commercially reasonable best efforts to maintain a registration statement covering the issue and sale of the Pre-Funded Warrant Shares issuable upon exercise of the Pre-Funded Warrants, such that the Pre-Funded Warrant Shares, when issued, will not be subject to resale restrictions under the Securities Act except to the extent that the Pre-Funded Warrant Shares are owned by affiliates. The Company shall, at all times while any Pre-Funded Warrants are outstanding, reserve and keep available out of the aggregate of its authorized but unissued and otherwise unreserved shares of Common Stock, solely for the purpose of enabling it to issue Pre-Funded Warrant Shares upon exercise of such Pre-Funded Warrants the number of Pre-Funded Warrant Shares that are initially issuable and deliverable upon the exercise of the then-outstanding Pre-Funded Warrants.

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

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

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

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

6. Conditions of the Underwriters' Obligations. The obligation of each Underwriter to purchase the Shares and the Pre-Funded Warrants on the Closing Date, as provided herein is subject to the performance by the Company of its covenants and other obligations hereunder and to the following additional conditions:

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

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

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

(d) *Officer's Certificate.* The Representatives shall have received on and as of the Closing Date, a certificate of the chief financial officer or chief accounting officer of the Company and one additional senior executive officer of the Company who is satisfactory to the Representatives, on behalf of the Company and not in their individual capacities (i) confirming that such officers have carefully reviewed the Registration Statement, the Pricing Disclosure Package and the Prospectus and, to the knowledge of such officers, the representations set forth in Sections 3(b) and 3(c) hereof are true and correct, (ii) confirming that the other representations and warranties of the Company in this Agreement are true and correct and that the Company has complied in all material respects with all agreements and satisfied all conditions on its part to be performed or satisfied hereunder at or prior to the Closing Date, and (iii) to the effect set forth in paragraphs (a), (b) and (c) above.

(e) *Comfort Letters.* On the date of this Agreement and on the Closing Date, Deloitte & Touche LLP shall have furnished to the Representatives, at the request of the Company, letters, dated the respective dates of delivery thereof and addressed to the Underwriters, in form and substance reasonably satisfactory to the Representatives, containing statements and information of the type customarily included in accountants' "comfort letters" to underwriters with respect to the financial statements and certain financial information contained or incorporated by reference in each of the Registration Statement, the Pricing Disclosure Package and the Prospectus; provided, that the letter delivered on the Closing Date shall use a "cut-off" date reasonably acceptable to the Representatives.

(f) *Opinion and Negative Assurance Letter of Counsel for the Company.* Latham & Watkins LLP, counsel for the Company, shall have furnished to the Representatives, at the request of the Company, their written opinion and negative assurance letter, dated the Closing Date, and addressed to the Underwriters, in form and substance reasonably satisfactory to the Representatives.

(g) *Opinion of Intellectual Property Counsel for the Company*. Womble Bond Dickinson (US) LLP, intellectual property counsel for the Company, shall have furnished to the Representatives, at the request of the Company, their written opinion, dated the Closing Date, and addressed to the Underwriters, in form and substance reasonably satisfactory to the Representatives.

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

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

(j) *Good Standing*. The Representatives shall have received on and as of the Closing Date satisfactory evidence of the good standing of the Company in its jurisdiction of organization and its good standing as foreign entities in such other jurisdictions as the Representatives may reasonably request, in each case in writing or any standard form of telecommunication from the appropriate governmental authorities of such jurisdiction.

(k) *Exchange Listing.* The Securities to be delivered on the Closing Date shall have been approved for listing on the Nasdaq Capital Market, subject to official notice of issuance.

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

(m) *Form of Pre-Funded Warrants*. On or prior to the Closing Date, the Pre-Funded Warrants shall be delivered to those persons and entities as directed by the Underwriters in form and substance reasonably acceptable to the Representatives, dated as of such date.

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

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

7. Indemnification and Contribution.

(a) *Indemnification of the Underwriters.* The Company agrees to indemnify and hold harmless each Underwriter, its affiliates, directors and officers and each person, if any, who controls such Underwriter within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act, from and against any and all losses, claims, damages and liabilities (including, without limitation, legal fees and other expenses incurred in connection with any suit, action or proceeding or any claim asserted, as such fees and expenses are incurred) that arise out of, or are based upon, (i) any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement or caused by any omission or alleged omission to state therein a material fact required to be stated therein or necessary in order to make the statements therein, not misleading, or (ii) any untrue statement or alleged untrue statement of a material fact contained in the Prospectus (or any amendment or supplement thereto), any preliminary prospectus, any Issuer Free Writing Prospectus, any "issuer information" filed or required to be filed 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") or any Pricing Disclosure Package (including any Pricing Disclosure Package that has subsequently been amended), or caused by any omission or alleged omission to state therein a material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading, in each case except insofar as such losses, claims, damages or liabilities arise out of, or are based upon, any untrue statement or omission or alleged untrue statement or omission made in the Registration Statement (or any amendment thereto), including any information deemed to be a part thereof pursuant to Rule 430B, the Pricing Disclosure Package or the Prospectus (or any amendment or supplement thereto) in reliance upon and in conformity with any information relating to any Underwriter furnished to the Company in writing by such Underwriter through the Representatives expressly for use therein, it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in subsection (b) below.

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

selling concession and reallowance figures in the seventh paragraph under the caption "Underwriting" and the tenth paragraph under the caption "Underwriting."

(c) *Notice and Procedures.* If any suit, action, proceeding (including any governmental or regulatory investigation), claim or demand shall be brought or asserted against any person in respect of which indemnification may be sought pursuant to the preceding paragraphs of this Section 7, such person (the "Indemnified Person") shall promptly notify the person against whom such indemnification may be sought (the "Indemnifying Person") in writing; provided that the failure to notify the Indemnifying Person shall not relieve it from any liability that it may have under the preceding paragraphs of this Section 7 except to the extent that it has been materially prejudiced (through the forfeiture of substantive rights or defenses) by such failure; and provided, further, that the failure to notify the Indemnifying Person shall not relieve it from any liability that it may have to an Indemnified Person otherwise than under the preceding paragraphs of this Section 7. If any such proceeding shall be brought or asserted against an Indemnified Person and it shall have notified the Indemnifying Person thereof, the Indemnifying Person shall retain counsel reasonably satisfactory to the Indemnified Person (who shall not, without the consent of the Indemnified Person, be counsel to the Indemnifying Person) to represent the Indemnified Person and any others entitled to indemnification pursuant to this Section that the Indemnifying Person may designate in such proceeding and shall pay the reasonable and documented fees and expenses in such proceeding and shall pay the reasonable and documented fees and expenses of such counsel related to such proceeding, as incurred. In any such proceeding, any Indemnified Person shall have the right to retain its own counsel, but the fees and expenses of such counsel shall be at the expense of such Indemnified Person unless (i) the Indemnifying Person and the Indemnified Person shall have mutually agreed to the contrary; (ii) the Indemnifying Person has failed within a reasonable time to retain counsel reasonably satisfactory to the Indemnified Person; (iii) the Indemnified Person shall have reasonably concluded that there may be legal defenses available to it that are different from or in addition to those available to the Indemnifying Person; or (iv) the named parties in any such proceeding (including any impleaded parties) include both the Indemnifying Person and the Indemnified Person and representation of both parties by the same counsel would be inappropriate due to actual or potential differing interest between them. It is understood and agreed that the Indemnifying Person shall not, in connection with any proceeding or related proceedings in the same jurisdiction, be liable for the fees and expenses of more than one separate firm (in addition to any local counsel) for all Indemnified Persons, and that all such fees and expenses shall be paid or reimbursed as they are incurred. Any such separate firm for any Underwriter, its affiliates, directors and officers and any control persons of such Underwriter shall be designated in writing by the Representatives and such Underwriter, and any such separate firm for the Company, its directors, its officers who signed the Registration Statement and any control persons of the Company shall be designated in writing by the Company. The Indemnifying Person shall not be liable for any settlement of any proceeding effected without its written consent, but if settled with such consent, the Indemnifying Person agrees to indemnify each Indemnified Person from and against any loss or liability by reason of such settlement. Notwithstanding the foregoing sentence, if at any time an Indemnified Person shall have requested that an Indemnifying Person reimburse the Indemnified Person for fees and expenses of counsel as contemplated by this paragraph, the Indemnifying Person shall be liable for any settlement of any proceeding effected without its written consent if (i) such settlement is entered into more than 30 days after receipt by the Indemnifying Person of such request and (ii) the Indemnifying Person shall not have reimbursed the Indemnified Person in accordance with such request prior to the date of such settlement. No Indemnifying Person shall, without the written consent of the Indemnified Person, effect any settlement of any pending or threatened proceeding in respect of which any Indemnified Person is or could have been a party and indemnification could have been sought hereunder by such Indemnified Person, unless such settlement (x) includes an unconditional release of such Indemnified Person, in form and substance reasonably satisfactory to such Indemnified Person, from all liability on claims that are the subject matter of such proceeding and (y) does not include any statement as to or any admission of fault, culpability or a failure to act by or on behalf of any Indemnified Person.

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

(e) *Limitation on Liability.* The Company and the Underwriters agree that it would not be just and equitable if contribution pursuant to paragraph (d) above were determined by pro rata allocation (even if the Underwriters were treated as one entity for such purpose) or by any other method of allocation that does not take account of the equitable considerations referred to in paragraph (d) above. The amount paid or payable by an Indemnified Person as a result of the losses, claims, damages and liabilities referred to in paragraph (d) above shall be deemed to include, subject to the limitations set forth above, any legal or other expenses incurred by such Indemnified Person in connection with any such action or claim. Notwithstanding the provisions of paragraphs (d) and (e), in no event shall an Underwriter be required to contribute any amount in excess of the amount by which the total underwriting discounts and commissions received by such Underwriter with respect to the offering of the Securities exceeds the amount of any damages that such Underwriter has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The Underwriters' obligations to contribute pursuant to paragraphs (d) and (e) are several in proportion to their respective purchase obligations hereunder and not joint.

(f) *Non-Exclusive Remedies.* The remedies provided for in this Section 7 are not exclusive and shall not limit any rights or remedies which may otherwise be available to any Indemnified Person at law or in equity.

8. Effectiveness of Agreement. This Agreement shall become effective as of the date first written above.

9. Termination. This Agreement may be terminated in the absolute discretion of the Representatives, by notice to the Company, if after the execution and delivery of this Agreement and on or prior to the Closing Date: (i) any domestic or international event or act or occurrence has materially disrupted, or in the opinion of the Representatives will in the immediate future materially disrupt, the market for the Company's securities or securities in general; (ii) trading generally shall have been suspended or materially limited on or by any of the New York Stock Exchange or The Nasdaq Stock

Market; (iii) trading of any securities issued or guaranteed by the Company shall have been suspended on any exchange or in any over-the-counter market; (iv) a general moratorium on commercial banking activities shall have been declared by federal or New York State authorities; (v) (A) there shall have occurred any outbreak or escalation of hostilities or acts of terrorism involving the United States or there is a declaration of a national emergency or war by the United States or (B) there shall have been any other calamity or crisis or any change in political, financial or economic conditions if the effect of any such event in (A) or (B), in the judgment of the Representatives, makes it impracticable or inadvisable to proceed with the offering, sale or delivery of the Securities on the Closing Date, on the terms and in the manner contemplated by this Agreement, the Pricing Disclosure Package and the Prospectus; or (vi) any of the events described in Section 3(f) shall have occurred or the Representatives shall decline to purchase the Securities for any reason permitted under this Agreement.

10. Defaulting Underwriter.

a) If, on the Closing Date, any Underwriter defaults on its obligation to purchase the Securities that it has agreed to purchase hereunder on such date, the non-defaulting Underwriters may in their discretion arrange for the purchase of such Securities by other persons satisfactory to the Company on the terms contained in this Agreement. If, within 36 hours after any such default by any Underwriter, the non-defaulting Underwriters do not arrange for the purchase of such Securities, then the Company shall be entitled to a further period of 36 hours within which to procure other persons satisfactory to the non-defaulting Underwriters to purchase such Securities on such terms. If other persons become obligated or agree to purchase the Securities of a defaulting Underwriter, either the non-defaulting Underwriters or the Company may postpone the Closing Date for up to five full business days in order to effect any changes that in the opinion of counsel for the Company or counsel for the Underwriters may be necessary in the Registration Statement and the Prospectus or in any other document or arrangement, and the Company agrees to promptly prepare any amendment or supplement to the Registration Statement and the Prospectus that effects any such changes. As used in this Agreement, the term "Underwriter" includes, for all purposes of this Agreement unless the context otherwise requires, any person not listed in Schedule 1 hereto that, pursuant to this Section 10, purchases Shares that a defaulting Underwriter agreed but failed to purchase.

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

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

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

11. Payment of Expenses.

(a) Whether or not the transactions contemplated by this Agreement are consummated or this Agreement is terminated, the Company will pay or cause to be paid all costs and expenses incident to the performance of its obligations hereunder, including without limitation, (i) the costs incident to the authorization, issuance, sale, preparation and delivery of the Securities and any stamp or transfer taxes payable in that connection; (ii) the costs incident to the preparation, printing and filing under the Securities Act of the Registration Statement, any preliminary prospectus, any Issuer Free Writing Prospectus, any Pricing Disclosure Package and the Prospectus (including all exhibits, amendments and supplements thereto) and the distribution thereof; (iii) the fees and expenses of the Company's counsel and independent accountants; (iv) the fees and expenses incurred in connection with the registration or qualification and determination of eligibility for investment of the Securities under the state or foreign securities or blue sky laws of such jurisdictions as the Representatives may designate and the preparation, printing and distribution of a Blue Sky Memorandum and any "Canadian wrapper" (including the related documented fees and expenses of counsel for the Underwriters in an amount not to exceed $5,000 (excluding filing fees)); (v) the cost of preparing stock certificates; (vi) the costs and charges of any transfer agent, warrant agent, and any registrar; (vii) all expenses and application fees incurred in connection with any filing with, and clearance of the offering by, FINRA, provided that the aggregate amount payable by the Company pursuant to clauses (iv) and (vii) shall not exceed $20,000 (excluding filing fees); and (viii) all expenses incurred by the Company in connection with any "road show" presentation to potential investors (provided, however, that the Underwriters and the Company shall each pay 50% of the cost of chartering any aircraft to be used in connection with the road show by both the Company and the Underwriters, and all lodging, commercial airfare and individual expenses of the Underwriters shall be the responsibility of the Underwriters); (ix) all expenses and application fees related to the listing of the Securities on the Nasdaq Capital Market and (x) all reasonable fees and expenses incurred by the Underwriters in connection with the issuance of the Securities such as fees and disbursements of counsel and out-of-pocket expenses related to the issuance of the Securities; *provided* that the expense reimbursement payable to the Underwriters under this paragraph shall not exceed $150,000 in aggregate without the Company's consent and shall be invoiced in reasonable detail.

(b) If (i) this Agreement is terminated pursuant to Section 9, (ii) the Company for any reason fails to tender the Securities for delivery to the Underwriters or (iii) the Underwriters decline to purchase the Securities for any reason permitted under this Agreement, the Company agrees to reimburse the Underwriters for all out-of-pocket costs and expenses (including the fees and expenses of their counsel) reasonably incurred by the Underwriters in connection with this Agreement and the offering contemplated hereby; provided, however, that no additional amounts beyond what has been reimbursed pursuant to the foregoing will be owed to the Underwriters other than under Section 7 hereof. For the avoidance of doubt, it is understood that the Company shall not pay or reimburse any costs, fees or expenses incurred by any Underwriter if they default on their obligations to purchase the Securities.

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

13. Survival. The respective indemnities, rights of contribution, representations, warranties and agreements of the Company and the several Underwriters contained in this Agreement or made by or on behalf of the Company or the Underwriters pursuant to this Agreement or any certificate delivered pursuant hereto shall survive the delivery of and payment for the Securities and shall remain in full force and effect, regardless of any termination of this Agreement or any investigation made by or on behalf of the Company or the Underwriters or the directors, officers, controlling persons or affiliates referred to in Section 7 hereof.

14. Certain Defined Terms. For purposes of this Agreement, (a) except where otherwise expressly provided, the term "affiliate" has the meaning set forth in Rule 405 under the Securities Act; (b) the term "business day" means any day other than a day on which banks are permitted or required to be closed in New York City; (c) the term "subsidiary" has the meaning set forth in Rule 405 under the Securities Act; and (d) the term "significant subsidiary" has the meaning set forth in Rule 1-02 of Regulation S-X under the Exchange Act. In the event that the Company has only one subsidiary, then all references herein to "subsidiaries" of the Company shall be deemed to refer to such single subsidiary, mutatis mutandis.

15. Compliance with USA Patriot Act. In accordance with the requirements of the USA Patriot Act (Title III of Pub. L. 107-56 (signed into law October 26, 2001)), the Underwriters are required to obtain, verify and record information that identifies their respective clients, including the Company, which information may include the name and address of their respective clients, as well as other information that will allow the Underwriters to properly identify their respective clients.

16. Miscellaneous.

(a) *Notices.* All notices and other communications hereunder shall be in writing and shall be deemed to have been duly given if mailed or transmitted and confirmed by any standard form of telecommunication. Notices to the Underwriters shall be sent to TD Securities (USA) LLC, 1 Vanderbilt Avenue, New York, New York 10017, Attention: Head of Equity Capital Markets, with a copy to CIBLegal@tdsecurities.com; Guggenheim Securities, LLC, 330 Madison Avenue, 8th Floor, New York, New York 10017, Attention: Equity Syndicate Department, with a copy to Cooley LLP, 55 Hudson Yards, New York, New York 10001, Attention: Daniel I. Goldberg, Evan Leitner and Divakar Gupta; notices to the Company shall be given to it at Precision BioSciences, Inc., 302 East Pettigrew St., Suite A-100, Durham, North Carolina 27701, (fax: 480-393-5553); Attention: Dario Scimeca, General Counsel.

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

(c) *Waiver of Jury Trial.* Each of the parties hereto hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any suit or legal proceeding arising out of or relating to this Agreement or the transactions contemplated hereby.

(d) *Counterparts.* This Agreement may be signed in counterparts (which may include counterparts delivered by any standard form of telecommunication), each of which shall be an original and all of which together shall constitute one and the same instrument. Counterparts may be delivered via facsimile, electronic mail (including any electronic signature covered by the U.S. federal ESIGN Act of 2000, Uniform Electronic Transactions Act, the Electronic Signatures and Records Act or other applicable law, e.g., www.docusign.com) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

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

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

(g) *Integration.* This Agreement supersedes all prior agreements and understandings (whether written or oral) between the Company and the Representatives with respect to the subject matter hereof.

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

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

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

As used in this Section 16(h):

"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.

[Signature Page Follows]

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

Very truly yours,

PRECISION BIOSCIENCES, INC.

By: /s/ Naresh Tanna
Name: Naresh Tanna
Title: Chief Financial Officer

Accepted: As of the date first written above

TD SECURITIES (USA) LLC

By: /s/ Casey Chase
Name: Casey Chase
Title: Director

GUGGENHEIM SECURITIES, LLC

By: /s/ Geoffery Goodman
Name: Geoffrey Goodman
Title: Senior Managing Director

Schedule 1

Underwriter	Number of Shares	Number of Pre-Funded Warrants
TD Securities (USA) LLC	5,629,293	3,241,681
Guggenheim Securities, LLC	4,605,784	2,652,283
Total	10,235,077	5,893,964

Annex A

a. **Pricing Disclosure Package**

Issuer Free Writing Prospectus filed on November 5, 2026

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

Offering Price Per Share: $7.75

Offering Price Per Pre-Funded Warrant: $7.749995

Number of Shares: 10,235,077

Number of Pre-Funded Warrants: 5,893,964

Annex B

Precision BioSciences, Inc.

Pricing Term Sheet

None

Exhibit A

Form of Lock-up

TD Securities (USA) LLC
1 Vanderbilt Avenue, 11th Floor
New York, New York 10017

Guggenheim Securities, LLC
330 Madison Avenue
New York, New York 10017

Re: Precision BioSciences, Inc.

Ladies and Gentlemen:

The undersigned, who may be a stockholder of Precision BioSciences, Inc., a Delaware corporation (the "Company"), understands that you, as representatives (the "Representatives") of the several underwriters (the "Underwriters"), propose to enter into an Underwriting Agreement (the "Underwriting Agreement") with the Company, providing for an offering (the "Offering") by the Company, of common stock, par value $0.000005 per share of the Company and/or pre-funded warrants to purchase Common Stock of the Company (together, the "Securities"). Capitalized terms used herein and not otherwise defined shall have the meanings set forth in the Underwriting Agreement.

Annex A sets forth definitions for capitalized terms used in this Letter Agreement (as defined below) that are not defined in the body of this Letter Agreement. Those definitions are part of this Letter Agreement.

In consideration of the Underwriters' agreement to purchase and make the Offering of the Securities, and for other good and valuable consideration receipt of which is hereby acknowledged, the undersigned hereby agrees that, without the prior written consent of the Representatives, the undersigned will not, during the period beginning on the date of this letter agreement (this "Letter Agreement") and ending 60 days after the date of the final prospectus supplement relating to the Offering (the "Prospectus") (such period, 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, or otherwise transfer or dispose of, directly or indirectly, any Securities or any securities convertible into or exercisable or exchangeable for Securities (including without limitation, Securities or such other securities which may be deemed to be beneficially owned by the undersigned in accordance with the rules and regulations of the Securities and Exchange Commission and securities which may be issued upon exercise of a stock option or warrant), (2) enter into any hedging, swap or other agreement that transfers, in whole or in part, any of the economic consequences of ownership of the Securities or such other securities, whether any such transaction described in clause (1) or (2) above is to be settled by delivery of Securities or such other securities, in cash or otherwise, (3) make any demand for or exercise any right with respect to the registration of any Securities or any security convertible into or exercisable or exchangeable for Securities (and, for the avoidance of doubt, the undersigned hereby waives any and all notice requirements and rights with respect to the registration of any securities pursuant to any agreement, instrument, understanding or otherwise, including any stockholders or registration rights agreement or similar agreement, to which the undersigned is a party or under which the undersigned is entitled to any right or benefit), or (4) publicly disclose the intention to do any of the foregoing described in clauses (1), (2) and (3) above, in each case other than:

(A) transfers of Securities or any security convertible into or exercisable or exchangeable for Securities as a *bona fide* gift or gifts or for *bona fide* estate planning purposes including, without limitation, transfers to charitable organizations,

(B) transfers or distributions of Securities or any security convertible into or exercisable or exchangeable for Securities to (i) limited partners, members, stockholders or holders of similar equity interests in the undersigned or (ii) to another corporation, partnership, limited liability company, trust or other business entity that is an affiliate (as defined in Rule 405 promulgated under the Securities Act) of the undersigned, including without limitation any general partner, limited partner, managing member, manager, member, employee, officer or director of such entity or any trust for the benefit of any of the foregoing or any affiliate of the foregoing, or to any investment fund or other entity controlled or managed by the undersigned or affiliates of the undersigned,

(C) transactions relating to Securities or other securities acquired in the Offering or open market transactions after the completion of the Offering; provided, that no public disclosure or filing under Section 16(a) of the Exchange Act will be required or will be voluntarily made during the Restricted Period in connection with subsequent sales of Securities or other securities acquired in the Offering or such open market transactions during the Restricted Period,

(D) (i) transfers or dispositions of Securities or any security convertible into or exercisable or exchangeable for Securities by will or intestacy or (ii) to any Family Member or to a trust whose beneficiaries consist exclusively of one or more of the undersigned and/or a Family Member,

(E) transfers of Securities or any security convertible into or exercisable or exchangeable for Securities pursuant to a domestic order or negotiated divorce settlement; provided, that any required filing under Section 16 of the Exchange Act shall indicate in the footnotes thereto that the filing relates to the circumstances described in this clause and no other public announcement shall be made voluntarily in connection with such transfer or disposition during the Restricted Period; provided further, that in the case of a negotiated divorce settlement, such transferee agrees to be bound by the restrictions on transfer set forth herein,

(F) the exercise of a warrant or the exercise of a stock option granted under a stock incentive plan described in the Prospectus for Securities; provided, that the underlying Securities received by the undersigned shall continue to be subject to the restrictions on transfer set forth in this Letter Agreement; provided further, that no filing under Section 16(a) of the Exchange Act or other public filing, report or announcement shall be voluntarily made during the Restricted Period, and any public report or filing under Section 16 of the Exchange Act shall clearly indicate in the footnotes thereto that (i) the filing relates to such conversion or exercise, (ii) no Securities were sold by the reporting person and (iii) Securities so received are subject to this Letter Agreement with the Underwriters of the Offering,

(G) transfers or dispositions of restricted stock units to the Company pursuant to any contractual arrangement in effect on the date of this Letter Agreement and described in the Prospectus that provides for the repurchase of the undersigned's Securities in connection with the termination of services to the Company; provided, that (i) no filing under Section 16(a) of the Exchange Act or other public filing, report or announcement reporting a reduction in beneficial ownership of Securities shall be required or shall be voluntarily made during the Restricted Period, and (ii) if the undersigned is required to file a report under Section 16(a) of the Exchange Act reporting a reduction in beneficial ownership of Securities during the Restricted Period, the undersigned shall

clearly indicate in the footnotes thereto that the filing relates to the termination of the undersigned's employment or other services,

(H) the disposition of Securities to, or the withholding of Securities by, the Company, or sales or disposition of Securities in the open market, in each case solely in connection with the payment of taxes due with respect to the vesting of restricted stock units as disclosed in writing to the Representative prior to the date hereof and, in each case, granted under a stock incentive plan or pursuant to a contractual employment arrangement, described in the Prospectus, insofar as such restricted stock units is outstanding as of the date of the Prospectus; provided, that (i) no filing under Section 16(a) of the Exchange Act or other public filing, report or announcement shall be voluntarily made during the Restricted Period and (ii) if required, any public report or filing under Section 16 of the Exchange Act shall clearly indicate in the footnotes thereto that the filing relates to such disposition relates to the payment of taxes due with respect to such vesting of restricted stock units,

(I) the establishment of a trading plan pursuant to Rule 10b5-1 under the Exchange Act for the transfer of Securities; provided, that (i) such plan does not provide for the transfer of Securities during the Restricted Period and (ii) to the extent a public announcement or filing under the Exchange Act, if any, is required by or on behalf of the undersigned or the Company regarding the establishment of such plan, such announcement or filing shall include a statement to the effect that no transfer of Securities may be made under such plan during the Restricted Period,

(J) pursuant to a *bona fide* third party tender offer for all outstanding Securities of the Company, merger, consolidation or other similar transaction approved by the Company's Board of Directors and made to all holders of the Company's securities involving a Change of Control 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 Securities or other such securities in connection with such transaction, or vote any Securities or other such securities in favor of any such transaction); provided, that in the event that such tender offer, merger, consolidation or other such transaction is not completed, such securities held by the undersigned shall remain subject to the provisions of this Letter Agreement, and

(K) pursuant to a 10b5-1 Plan; provided that such 10b5-1 Plan was established prior to the execution of this Letter Agreement by the undersigned, the existence and details of such 10b5-1 Plan were communicated to the Representative and such 10b5-1 Plan will not be amended or otherwise modified during the Restricted Period; provided, further, that any filing under Section 16(a) of the Exchange Act in connection with such transfer shall indicate, to the extent permitted by such section and the related rules and regulations, that such transfer was pursuant to a 10b5-1 Plan;

provided, that in the case of any transfer or distribution pursuant to clause (A), (B) or (D), each donee or distributee shall execute and deliver to the Representative a lock-up letter in the form of this Letter Agreement; provided further, that in the case of any transfer or distribution pursuant to clause (A), (B) or (D)(ii), no filing by any party (donor, donee, transferor or transferee) under the Exchange Act or other public announcement shall be required or shall be made voluntarily in connection with such transfer or distribution (other than a filing on a Form 5 made after the expiration of the Restricted Period referred to above) or in the case of a transfer or disposition pursuant to clause (A) above, any Form 4 or Form 5 required to be filed under the Exchange Act if the undersigned is subject to Section 16 reporting with respect to the Company under the Exchange Act and indicating by footnote disclosure or otherwise the

nature of the transfer or the disposition); provided further, in the case of clauses (B) and (D)(ii), any such transfer shall not involve a disposition for value.

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

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

The undersigned acknowledges and agrees that the Underwriters have not provided any recommendation or investment advice nor have the Underwriters solicited any action from the undersigned with respect to the Offering of the Securities and the undersigned has consulted their own legal, accounting, financial, regulatory and tax advisors to the extent deemed appropriate. The undersigned further acknowledges and agrees that, although the Underwriters may be required or choose to provide certain Regulation Best Interest and Form CRS disclosures in connection with the Offering, the Underwriters are not making a recommendation to enter into this agreement, and nothing set forth in such disclosures is intended to suggest that the Underwriters are making such a recommendation.

The undersigned understands that, if (i) either the Company or the Representatives notify the other in writing prior to the execution of the Underwriting Agreement that it does not intend to proceed with the Offering, (ii) the Underwriting Agreement does not become effective by the end of the Restricted Period, or (iii) if 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, the undersigned shall be released from, all obligations under this Letter Agreement. The undersigned understands that the Representatives are entering into the Underwriting Agreement and proceeding with the Offering in reliance upon this Letter Agreement.

This Letter Agreement may be delivered via facsimile, electronic mail (including pdf or any electronic signature complying with the U.S. federal ESIGN Act of 2000, e.g., www.docusign.com or www.echosign.com) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

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

[*Signature Page Follows*]

Very truly yours,

_____
Name of Security Holder *(Print exact name)*
By:_____
Signature
If not signing in an individual capacity:

_____
Name of Authorized Signatory *(Print)*

_____
Title of Authorized Signatory *(Print)*
(indicate capacity of person signing if signing as custodian, trustee, or on behalf of an entity)

Annex A

Certain Defined Terms Used in this Lock-up Agreement
For purposes of this Letter Agreement to which this Annex A is attached and of which it is made a part:

"Change of Control" means the consummation of any *bona fide* third party tender offer, merger, consolidation or other similar transaction, the result of which is that any "person" (as defined in Section 13(d)(3) of the Exchange Act), or group of persons, other than the Company or its subsidiaries, becomes the beneficial owner (as defined in Rules 13d-3 and 13d-5 of the Exchange Act) of at least 50% of the total voting power of the voting share capital of the Company.

"Exchange Act" shall mean the Securities Exchange Act of 1934, as amended.

"Family Member" shall mean the spouse of the undersigned, an immediate family member of the undersigned or an immediate family member of the undersigned's spouse, in each case living in the undersigned's household or whose principal residence is the undersigned's household (regardless of whether such spouse or family member may at the time be living elsewhere due to educational activities, health care treatment, military service, temporary internship or employment or otherwise).

"Immediate family member" as used above shall have the meaning set forth in Rule 16a-1(e) under the Exchange Act.

"Securities Act" shall mean the Securities Act of 1933, as amended.

Capitalized terms not defined in this Annex A shall have the meanings given to them in the body of this Letter Agreement.

Exhibit 4.1

FORM OF PRE-FUNDED WARRANT TO PURCHASE COMMON STOCK

Number of Shares: [ ]
(subject to adjustment)

Warrant No. __ Original Issue Date: November [6], 2026

PRECISION BIOSCIENCES, INC.

Precision BioSciences, Inc., a Delaware corporation (the "**Company**"), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, [ ] or its registered assigns (the "**Holder**"), is entitled, subject to the terms set forth below, to purchase from the Company up to a total of [ ] shares of common stock, $0.000005 par value per share (the "**Common Stock**"), of the Company (each such share, a "**Warrant Share**" and all such shares, the "**Warrant Shares**") at an exercise price per share equal to $0.000005 per share (as adjusted from time to time as provided in Section 9 herein, the "**Exercise Price**"), upon surrender of this Warrant to Purchase Common Stock (including any Warrants to Purchase Common Stock issued in exchange, transfer or replacement hereof, the "**Warrant**") at any time and from time to time on or after the date hereof (the "**Original Issue Date**"), subject to the following terms and conditions:

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

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

(b) "**Attribution Parties**" means, collectively, the following Persons and entities: (i) any direct or indirect Affiliates of the Holder, (ii) any Person acting or who could be deemed to be acting as a Section 13(d) "group" together with the Holder or any Attribution Parties and (iii) any other Persons whose beneficial ownership of the Company's Common Stock would or could be aggregated with the Holder's and/or any other Attribution Parties for purposes of Section 13(d) or Section 16 of the Exchange Act. For clarity, the purpose of the foregoing is to subject collectively the Holder and all other Attribution Parties to the Maximum Percentage.

(c) "**Closing Sale Price**" means, for any security as of any date, the last trade price for such security on the Principal Trading Market for such security, as reported by Bloomberg Financial Markets, or, if such Principal Trading Market begins to operate on an extended hours basis and does not designate the last trade price, then the last trade price of such security prior to 4:00 P.M., New York City time, as reported by Bloomberg Financial Markets, or if the foregoing do not apply, the last trade price of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg Financial Markets. If the Closing Sale Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Closing Sale Price of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination or other similar transaction during the applicable calculation period.

(d) "**Commission**" means the United States Securities and Exchange Commission.

(e) "**Exchange Act**" means the Securities Exchange Act of 1934, as amended, and all of the rules and regulations promulgated thereunder.

(f) "**Group**" shall have the meaning ascribed to it in Section 13(d) of the Exchange Act, and all related rules, regulations and jurisprudence.

(f) "**Person**" means an individual, partnership, corporation, limited liability company, business trust, joint stock company, trust, unincorporated association, joint venture or any other entity or organization.

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

(h) "**Registration Statement**" means the Company's Registration Statement on Form S-3 filed with the Commission on December 30, 2025 (File No. 333-292478), which was declared effective on January 7, 2026.

(i) "**Securities Act**" means the Securities Act of 1933, as amended, and all of the rules and regulations promulgated thereunder.

(j) "**Standard Settlement Period**" means the standard settlement period, expressed in a number of Trading Days, for the Principal Trading Market with respect to the Common Stock that is in effect on the date of delivery of an applicable Exercise Notice, which as of the Issuance Date was "T+1."

(k) "**Trading Day**" means any weekday on which the Principal Trading Market is normally open for trading.

(l) "**Transfer Agent**" means Equiniti Trust Company, LLC, the Company's transfer agent and registrar for the Common Stock, and any successor appointed in such capacity.

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

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

4. *Exercise of Warrants*.

(a) All or any part of this Warrant shall be exercisable by the registered Holder in any manner permitted by this Warrant (including Section 11) at any time and from time to time on or after the Original Issue Date, and such rights shall not expire.

(b) The Holder may exercise this Warrant by delivering to the Company (i) an exercise notice, in the form attached as Schedule 1 hereto (the "**Exercise Notice**"), completed and duly signed, and (ii) payment of the Exercise Price for the number of Warrant Shares as to which this Warrant is being exercised (which may take the form of a "cashless exercise" if so indicated in the Exercise Notice pursuant to Section 10 below), and the date on which the last of such items is delivered to the Company (as determined in accordance with the notice provisions hereof) is an **"Exercise Date**." The Holder shall not be required to deliver the original Warrant in order to effect an exercise hereunder. Execution and delivery of the Exercise Notice shall have the same effect as cancellation of the original Warrant and issuance of a New Warrant evidencing the right to purchase the remaining number of Warrant Shares, if any.

(c) The Holder and any assignee, by acceptance of this Warrant, acknowledge and agree that, by reason of the provisions of this section, following the purchase of a portion of the Warrant Shares hereunder, the number of Warrant Shares available for purchase hereunder at any given time may be less than the amount stated on the face hereof.

5. *Delivery of Warrant Shares*.

(a) Upon exercise of this Warrant, the Company shall promptly (but in no event later than the number of Trading Days comprising the Standard Settlement Period following the Exercise Date), upon the request of the Holder, credit such aggregate number of shares of Common Stock specified by the Holder in the Exercise Notice and to which the Holder is entitled pursuant to such exercise (the "**Exercise Shares**") to the Holder's or its designee's balance account with The Depository Trust Company ("**DTC**") through its Deposit Withdrawal At Custodian system, or if the Transfer Agent is then a participant in the DTC Fast Automated Securities Transfer Program (the "**FAST Program**") and either (A) there is an effective registration statement permitting the issuance of the Warrant Shares to or the resale of such Warrant Shares by the Holder or (B) the Exercise Shares are eligible for resale by the Holder without volume or manner-of-sale restrictions pursuant to Rule 144 promulgated under the Securities Act (assuming cashless exercise of this Warrant). If the Transfer Agent is not a member of the FAST Program or if (A) and (B) above are not true, the Transfer Agent will either (i) record the Exercise Shares in the name of the Holder or its designee on the certificates reflecting the Exercise Shares with an appropriate legend regarding restriction on transferability, which shall be issued and dispatched by overnight courier to the address as specified in the Exercise Notice, and on the Company's share register or (ii) issue such Exercise Shares in the name of the Holder or its designee in restricted book-entry form in the Company's share register. The Holder, or any natural person or legal entity (each, a "**Person**") so designated by the Holder to receive Warrant Shares, shall be deemed to have become the holder of record of such Warrant Shares as of the Exercise Date, irrespective of the date such Warrant Shares are credited to the Holder's DTC account, the date of the book entry positions or the date of delivery of the certificates evidencing such Exercise Shares, as the case may be.

(b) If the Company fails to deliver to the Holder or its designee Exercise Shares in the manner required pursuant to Section 5(a) within the Standard Settlement Period following the Exercise Date (other than a failure caused by incorrect or incomplete information provided by the Holder to the Company) and the Holder purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a "**Buy-In**") but did not receive within the Standard Settlement Period, then the Company shall, within two (2) Trading Days after the Holder's request and in the Holder's sole discretion, promptly honor its obligation to deliver to the Holder or its designee the Exercise Shares pursuant to Section 5(a) and pay cash to the Holder in an amount equal to the excess (if any) of Holder's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased in the Buy-In, less the product of (A) the number of shares of Common Stock purchased in the Buy-In, times (B) the Closing Sale Price of a share of Common Stock on the Exercise Date. The Holder shall provide the Company written notice promptly after the occurrence of a Buy-In, indicating the amounts payable to the Holder in respect of the Buy-In together with applicable confirmations and other evidence reasonably requested by the Company.

(c) To the extent permitted by law and subject to Section 5(b), the Company's obligations to issue and deliver Warrant Shares in accordance with and subject to the terms hereof (including the limitations set forth in Section 11 below) are absolute and unconditional, irrespective of any action or inaction by the Holder to enforce the same, any waiver or consent with respect to any provision hereof, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination, or any breach or alleged breach by the Holder or any other Person of any obligation to the Company or any violation or alleged violation of law by the Holder or any other Person, and irrespective of any other circumstance that might otherwise limit such obligation of the Company to the Holder in connection with the issuance of Warrant Shares. Subject to Section 5(b), nothing herein shall limit the Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver Exercise Shares; provided, however, that the Holder shall not be entitled to both (i) require the Company to reinstate the portion of the Warrant and equivalent number of Warrant Shares for which such exercise was not timely honored and (ii) receive the number of shares of Common Stock that would have been issued if the Company had timely complied with its delivery requirements under Section 5(a).

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

7. *Replacement of Warrant*. If this Warrant is mutilated, lost, stolen or destroyed, the Company shall issue or cause to be issued in exchange and substitution for and upon cancellation hereof, or in lieu of and substitution for this Warrant, a New Warrant, but only upon receipt of evidence reasonably satisfactory to the Company of such loss, theft or destruction (in such case) and, in each case, a customary and reasonable contractual indemnity, if requested by the Company. If a New Warrant is requested as a result of a mutilation of this Warrant, then the Holder shall deliver such mutilated Warrant to the Company as a condition precedent to the Company's obligation to issue the New Warrant.

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

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

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

(b) Pro Rata Distributions. If, on or after the Original Issue Date, the Company shall declare or make any dividend or other pro rata distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property, options, evidence of indebtedness or any other assets by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction, but, for the avoidance of doubt, excluding any distribution of shares of Common Stock subject to Section 9(a), any distribution of Purchase Rights (as defined below) subject to Section 9(c) and any Fundamental Transaction (as defined below) subject to Section 9(d)) (a "**Distribution**") then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations or restrictions on exercise of this Warrant, including without limitation, the Maximum Percentage (as defined below)) immediately before the date on which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, that to the extent that the Holder's right to participate in any such Distribution would result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Distribution to such extent (and shall not be entitled to beneficial ownership of such shares of Common Stock as a result of such Distribution (and beneficial ownership) to such extent) and the portion of such Distribution shall be held in abeyance

for the benefit of the Holder until such time or times as its right thereto would not result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be granted such Distribution (and any Distributions declared or made on such initial Distribution or on any subsequent Distribution held similarly in abeyance) to the same extent as if there had been no such limitation).

(c) Purchase Rights. If at any time on or after the Original Issue Date, the Company grants, issues or sells any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property, in each case pro rata to the record holders of any class of common stock (the "**Purchase Rights**"), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations or restrictions on exercise of this Warrant, including without limitation, the Maximum Percentage) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of Common Stock are to be determined for the grant, issuance or sale of such Purchase Rights (provided, that to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Purchase Right to such extent (and shall not be entitled to beneficial ownership of such Common Stock as a result of such Purchase Right (and beneficial ownership) to such extent) and at the Holder's election, in its sole discretion, either (1) such Purchase Right to such extent shall be held in abeyance for the benefit of the Holder until such time or times as its right thereto would not result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be granted such right (and any Purchase Right granted, issued or sold on such initial Purchase Right or on any subsequent Purchase Right to be held similarly in abeyance) to the same extent as if there had been no such limitation or (2) the Company shall offer the Holder the right upon exercise of such Purchase Right to acquire a security (e.g. a pre-funded warrant) that would not result in the Holder and the other Attribution Parties exceeding the Maximum Percentage but will otherwise to the extent possible have economic and other rights, preferences and privileges substantially consistent and on par with the securities or other property issuable upon exercise of the originally offered Purchase Rights). As used in this Section 9(c), (i) "Options" means any rights, warrants or options to subscribe for or purchase shares of Common Stock or Convertible Securities and (ii) "Convertible Securities" mean any stock or securities (other than Options) directly or indirectly convertible into or exercisable or exchangeable for shares of Common Stock.

(d) Fundamental Transactions. If, at any time while this Warrant is outstanding (i) the Company effects any merger or consolidation of the Company with or into another Person, in which the Company is not the surviving entity or in which the stockholders of the Company immediately prior to such merger or consolidation do not own, directly or indirectly, at least 50% of the voting power of the surviving entity immediately after such merger or consolidation, (ii) the Company effects any sale to another Person of all or substantially all of its assets in one or a series of related transactions, (iii) pursuant to any tender offer or exchange offer (whether by the Company or another Person), holders of capital stock tender shares representing more than 50% of the voting power of the capital stock of the Company and the Company or such other Person, as applicable, accepts such tender for payment, (iv) the Company consummates a stock purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person whereby such other Person acquires more than the 50% of the voting power of the capital stock of the Company (except for any such transaction in which the stockholders of the Company immediately prior to such transaction maintain, in substantially the same proportions, the voting power of such Person immediately after the transaction) or (v) the Company effects any reclassification of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property (other than as a result of a subdivision or combination of shares of Common Stock covered by Section 9(a) above) (in any such case, a "**Fundamental Transaction**"), then following such Fundamental Transaction the Holder shall have the right to receive, upon exercise of this Warrant, the same amount and kind of securities, cash or property as it would have been entitled to receive upon the occurrence of such Fundamental Transaction if it had been, immediately prior to such Fundamental Transaction, the holder of the number of Warrant Shares then issuable upon exercise in full of this Warrant (including any Distributions or Purchase Rights then held in abeyance pursuant to Sections 9(b) or 9(c) above) without regard to any limitations on exercise contained herein (the "**Alternate Consideration**"). The Company shall not effect any Fundamental Transaction in which the Company is not the surviving entity or the Alternate Consideration includes securities of another Person unless (i) the Alternate Consideration is solely cash and the Company provides for the simultaneous "cashless exercise" of this Warrant pursuant to Section 10 below or (ii) prior to or simultaneously with the consummation thereof, any successor to the Company, surviving entity or other Person (including any purchaser

of assets of the Company) shall assume the obligation to deliver to the Holder such Alternate Consideration as, in accordance with the foregoing provisions, the Holder may be entitled to receive, and the other obligations under this Warrant. The provisions of this paragraph (c) shall similarly apply to subsequent transactions analogous of a Fundamental Transaction type.

(d) Number of Warrant Shares. Simultaneously with any adjustment to the Exercise Price pursuant to Section 9, the number of Warrant Shares that may be purchased upon exercise of this Warrant shall be increased or decreased proportionately, so that after such adjustment the aggregate Exercise Price payable hereunder for the increased or decreased number of Warrant Shares shall be the same as the aggregate Exercise Price in effect immediately prior to such adjustment. Notwithstanding the foregoing, in no event may the Exercise Price be adjusted below the par value of the Common Stock then in effect.

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

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

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

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

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

where:

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

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

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

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

For purposes of Rule 144 promulgated under the Securities Act, it is intended, understood and acknowledged that the Warrant Shares issued in a "cashless exercise" transaction shall be deemed to have been acquired by the Holder, and the holding period for the Warrant Shares shall be deemed to have commenced, on the date this Warrant was originally issued (provided that the Commission continues to take the position that such treatment is proper at the time of such

exercise). In the event that the Registration Statement or another registration statement registering the issuance of Warrant Shares is, for any reason, not effective at the time of exercise of this Warrant, then the Warrant may only be exercised through a cashless exercise, as set forth in this Section 10. Except as set forth in Section 5(b) (Buy-In remedy) and Section 12 (payment of cash in lieu of fractional shares), in no event will the exercise of this Warrant be settled in cash.

11. *Limitations on Exercise.*

(a) Notwithstanding anything to the contrary contained herein, the Company shall not effect the exercise of any portion of this Warrant, and the Holder of the Warrant shall not have the right to exercise any portion of the Warrant, and any such exercise shall be null and void ab initio and treated as if the exercise had not been made, to the extent that immediately prior to or following such exercise, the Holder, together with the Attribution Parties, beneficially owns or would beneficially own as determined in accordance with Section 13(d) of the Exchange Act and the rules promulgated thereunder, in excess of [4.99/9.99%] (the "**Maximum Percentage**") of the Common Stock that would be issued and outstanding following such exercise. For purposes of calculating beneficial ownership for determining whether the Maximum Percentage is or will be exceeded, the aggregate number of shares of Common Stock held and/or beneficially owned by the Holder together with the Attribution Parties, shall include the number of shares of Common Stock held and/or beneficially owned by the Holder together with the Attribution Parties plus the number of shares of Common Stock issuable upon exercise of the relevant Warrant with respect to which the determination is being made but shall exclude the number of shares of Common Stock which would be issuable upon (i) exercise of the remaining, unexercised Warrant held and/or beneficially owned by the Holder or the Attribution Parties and (ii) exercise or conversion of the unexercised or unconverted portion of any other securities of the Company held and/or beneficially owned by such Holder or any Attribution Party (including, without limitation, any convertible notes, convertible stock or warrants) that are subject to a limitation on conversion or exercise analogous to the limitation contained herein. For purposes of this Paragraph 11(a), beneficial ownership of the Holder or the Attribution Parties shall, except as set forth in the immediately preceding sentence, be calculated and determined in accordance with Section 13(d) of the Exchange Act and the rules promulgated thereunder. For purposes of the Warrant, in determining the number of outstanding shares of Common Stock, a Holder of the Warrant may rely on the number of outstanding shares of Common Stock as reflected in (1) the Company's most recent Form 10-K, Form 10-Q, Current Report on Form 8-K or other public filing with the Commission, as the case may be, (2) a more recent public announcement by the Company or (3) any other notice by the Company or the Company's transfer agent setting forth the number of shares of Common Stock outstanding (such issued and outstanding shares, the "**Reported Outstanding Share Number**"). For any reason at any time, upon the written or oral request of the Holder, the Company shall within one (1) Trading Day confirm orally and in writing or by electronic mail to the Holder the number of shares of Common Stock then outstanding. The Holder shall disclose to the Company the number of shares of Common Stock that it, together with the Attribution Parties holds and/or beneficially owns and has the right to acquire through the exercise of derivative securities and any limitations on exercise or conversion analogous to the limitation contained herein contemporaneously or immediately prior to submitting an Exercise Notice for the relevant Warrant. If the Company receives an Exercise Notice from the Holder at a time when the actual number of outstanding shares of Common Stock is less than the Reported Outstanding Share Number, the Company shall (i) notify the Holder in writing of the number of shares of Common Stock then outstanding and, to the extent that such Exercise Notice would otherwise cause the Holder's, together with the Attribution Parties', beneficial ownership, as determined pursuant to this Section 11(a), to exceed the Maximum Percentage, the Holder must notify the Company of a reduced number of Warrant Shares to be purchased pursuant to such Exercise Notice (the number of shares by which such purchase is reduced, the "**Reduction Shares**") and (ii) as soon as reasonably practicable, the Company shall return to the Holder any exercise price paid by the Holder for the Reduction Shares. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder and the Attribution Parties since the date as of which the Reported Outstanding Share Number was reported. In the event that the issuance of Common Stock to the Holder upon exercise of this Warrant results in the Holder, together with the Attribution Parties, being deemed to beneficially own, in the aggregate, more than the Maximum Percentage of the number of outstanding shares of Common Stock (as determined under Section 13(d) of the Exchange Act), the number of shares so issued by which the Holder's, together with the Attribution Parties', aggregate beneficial ownership exceeds the Maximum Percentage (the "**Excess Shares**") shall be deemed null and void and shall be cancelled ab initio, and the Holder and/or the Attribution Parties shall not have the power to vote or to transfer the Excess Shares. As soon as reasonably practicable after the issuance of the Excess Shares has been deemed null and void, the Company shall return to the Holder the exercise price paid by the Holder for the Excess Shares. By written notice to the Company, a Holder of the Warrant may from time to time increase or decrease the Maximum Percentage

to any other percentage not in excess of 19.99% specified in such notice; provided that any increase in the Maximum Percentage will not be effective until the sixty-first (61st) day after such notice is delivered to the Company and shall not negatively affect any partial exercise effected prior to such change.

(b) This Section 11 shall not restrict the number of shares of Common Stock which a Holder or the Attribution Parties may receive or beneficially own in order to determine the amount of securities or other consideration that such Holder or the Attribution Parties may receive in the event of a Fundamental Transaction as contemplated in Section 9(c) of this Warrant. For purposes of clarity, the shares of Common Stock issuable pursuant to the terms of this Warrant in excess of the Maximum Percentage shall not be deemed to be beneficially owned by the Holder or the Attribution Parties for any purpose including for purposes of Section 13(d) of the Exchange Act and the rules promulgated thereunder or Section 16 of the Exchange Act Rule 16a-1(a)(1) promulgated thereunder. No prior inability to exercise this Warrant pursuant to this paragraph shall have any effect on the applicability of the provisions of this paragraph with respect to any subsequent determination of exercisability. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 11(a) to the extent necessary to correct this paragraph or any portion of this paragraph which may be defective or inconsistent with the intended beneficial ownership limitation contained in this Section 11(a) or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitation contained in this paragraph may not be waived and shall apply to a successor holder of this Warrant.

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

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

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

15. *Tax Matters*. The Company and the Holder hereby agree that, solely for U.S. federal and applicable state and local tax purposes, the Warrant is intended to be treated as exercised as of the Original Issue Date, and neither the Company nor the Holder shall take any position (including on any applicable tax returns) that is inconsistent with the foregoing intended tax treatment unless required to the contrary by a final "determination" within the meaning of Section 1313 of the Internal Revenue Code of 1986, as amended. The Company shall be entitled to deduct or withhold from the delivery of Warrant Shares or any amounts otherwise payable, in each case, pursuant to this Warrant such amounts as the Company is required to deduct or withhold under any applicable law. To the extent that any amounts are so deducted or withheld, such withheld amounts shall be treated for all purposes of this Warrant as having been paid to the person in respect of whom such deduction or withholding was made. If the Company pays any withholding on behalf of the Holder of the Warrant, the Holder shall pay or reimburse the Company for such withholding, and the Company may, at its option, set off such payments against any Warrant Shares issuable or amounts otherwise payable pursuant to this Warrant. The Holder of the Warrant shall deliver such documentation prescribed by applicable law or reasonably requested by the Company as will enable the Company to determine whether or not such Holder is subject to withholding or information reporting requirements.

16. *Miscellaneous*.

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

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

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

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

(d) Amendment and Waiver. This Warrant may be amended only in writing signed by the Company and the Holder, or their successors and assigns. Except as otherwise provided herein, the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company has obtained the written consent of the Holder.

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

(f) Governing Law; Jurisdiction. ALL QUESTIONS CONCERNING THE CONSTRUCTION, VALIDITY, ENFORCEMENT AND INTERPRETATION OF THIS WARRANT SHALL BE GOVERNED BY AND CONSTRUED AND ENFORCED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK WITHOUT REGARD TO THE PRINCIPLES OF CONFLICTS OF LAW THEREOF. EACH OF THE COMPANY AND THE HOLDER HEREBY IRREVOCABLY SUBMITS TO THE EXCLUSIVE JURISDICTION OF THE STATE AND FEDERAL COURTS SITTING IN THE CITY OF NEW YORK, BOROUGH OF MANHATTAN, FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION HEREWITH OR WITH ANY TRANSACTION CONTEMPLATED HEREBY OR DISCUSSED HEREIN (INCLUDING WITH RESPECT TO THE ENFORCEMENT OF ANY OF THE TRANSACTION DOCUMENTS), AND HEREBY IRREVOCABLY WAIVES, AND AGREES NOT TO ASSERT IN ANY SUIT, ACTION OR PROCEEDING, ANY CLAIM THAT IT IS NOT PERSONALLY SUBJECT TO THE JURISDICTION OF ANY SUCH COURT. EACH OF THE COMPANY AND THE HOLDER HEREBY IRREVOCABLY WAIVES PERSONAL SERVICE OF PROCESS AND CONSENTS TO PROCESS BEING SERVED IN ANY SUCH SUIT, ACTION OR PROCEEDING BY MAILING A COPY THEREOF VIA REGISTERED OR CERTIFIED MAIL OR OVERNIGHT DELIVERY (WITH EVIDENCE OF DELIVERY) TO SUCH PERSON AT THE ADDRESS IN EFFECT FOR NOTICES TO IT AND

AGREES THAT SUCH SERVICE SHALL CONSTITUTE GOOD AND SUFFICIENT SERVICE OF PROCESS AND NOTICE THEREOF. NOTHING CONTAINED HEREIN SHALL BE DEEMED TO LIMIT IN ANY WAY ANY RIGHT TO SERVE PROCESS IN ANY MANNER PERMITTED BY LAW. EACH OF THE COMPANY AND THE HOLDER HEREBY WAIVES ALL RIGHTS TO A TRIAL BY JURY.

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

(h) Severability. If any part or provision of this Warrant is held unenforceable or in conflict with the applicable laws or regulations of any jurisdiction, the invalid or unenforceable part or provisions shall be replaced with a provision which accomplishes, to the extent possible, the original business purpose of such part or provision in a valid and enforceable manner, and the remainder of this Warrant shall remain binding upon the parties hereto.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

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

PRECISION BIOSCIENCES, INC.

By: _____
Name:
Title:

SCHEDULE 1

FORM OF EXERCISE NOTICE

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

Ladies and Gentlemen:

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

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

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

☐ Cash Exercise

☐ "Cashless Exercise" under Section 10 of the Warrant

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

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

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

Dated: _____

Name of Holder: _____

By: _____

Name: _____

Title: _____

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

1271 Avenue of the Americas
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www.lw.com

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LATHAM & WATKINS LLP

Exhibit 5.1

November 6, 2026

Precision BioSciences, Inc.
302 East Pettigrew Street, Suite A-100
Durham, North Carolina 27701

Re: Registration statement on Form S-3 (Registration No. 333-292478); 10,235,077 shares of Common Stock, par value $0.000005 per share, and pre-funded warrants to purchase up to 5,893,964 shares of Common Stock

To the addressee set forth above:

We have acted as special counsel to Precision BioSciences, Inc., a Delaware corporation (the "***Company***"), in connection with the proposed issuance of (i) 10,235,077 shares of common stock, par value $0.000005 per share (the "***Common Stock***"), of the Company (the "***Shares***") and (ii) pre-funded warrants to purchase up to 5,893,964 shares of Common Stock (the "***Pre-Funded Warrants***"). The Shares and Pre-Funded Warrants are included in a registration statement on Form S–3 under the Securities Act of 1933, as amended (the "***Act***"), filed with the Securities and Exchange Commission (the "***Commission***") on December 30, 2025 (Registration No. 333–292478) (as so filed, the "***Registration Statement***") and are being offered pursuant to a base prospectus dated January 7, 2026 included in the Registration Statement (the "***Base Prospectus***") and a prospectus supplement dated November 5, 2026 (the "***Prospectus Supplement***" and together with the Base Prospectus, the "***Prospectus***") and an underwriting agreement dated November 5, 2026, between TD Securities (USA) LLC and Guggenheim Securities, LLC, as representatives of the several underwriters named therein, and the Company (the "***Underwriting Agreement***"). This opinion is being furnished in connection with the requirements of Item 601(b)(5) of Regulation S-K under the Act, and no opinion is expressed herein as to any matter pertaining to the contents of the Registration Statement or related Prospectus, other than as expressly stated herein with respect to the issue of the Shares, Pre-Funded Warrants and Warrant Shares (as defined below).

As such counsel, we have examined such matters of fact and questions of law as we have considered appropriate for purposes of this letter. With your consent, we have relied upon certificates and other assurances of officers of the Company and others as to factual matters without having independently verified such factual matters. We are opining herein as to the General Corporation Law of the State of Delaware (the "***DGCL***"), and we express no opinion with respect to any other laws.

1. Subject to the foregoing and the other matters set forth herein, it is our opinion that, as of the date hereof, when the Shares shall have been duly registered on the books of the transfer agent and registrar therefor in the name or on behalf of the purchasers and have been issued by the Company against payment therefor (not less than par value) in the circumstances contemplated by the Underwriting Agreement, the issue and sale of the Shares will have been duly authorized by all necessary corporate action of the Company, and the Shares will be validly issued, fully paid and nonassessable. In rendering the foregoing opinion, we have assumed that the Company will comply with all applicable notice requirements regarding uncertificated shares provided in the DGCL.

2. When the Pre-Funded Warrants have been duly issued by the Company against payment therefor in the circumstances contemplated by the Underwriting Agreement, the issue and sale of the Pre-Funded Warrants will have been duly authorized by all necessary corporate action of the Company, and the Pre-Funded Warrants will be legally valid and binding obligations of the Company, enforceable against the Company in accordance with their terms.

3. When the shares of Common Stock initially issuable upon exercise of the Pre-Funded Warrants (the ***"Warrant Shares***") shall have been duly registered on the books of the transfer agent and registrar therefor in the name or on behalf of the holders of the Pre-Funded Warrants, and have been issued by the Company against payment therefor (not less than par value) in the circumstances contemplated by the Pre-Funded Warrants, the issue of the Warrant Shares will have been duly authorized by all necessary corporate action of the Company, and the Warrant Shares will be validly issued, fully paid and nonassessable.

4. In rendering the foregoing opinion, we have assumed that (i) the Company will comply with all applicable notice requirements regarding uncertificated shares provided in the DGCL and (ii) upon the issue of any of the Warrant Shares, the total number of shares of Common Stock issued and outstanding will not exceed the total number of shares of Common Stock that the Company is then authorized to issue under its Amended and Restated Certificate of Incorporation and by the board of directors of the Company in connection with the offering contemplated by the Registration Statement and the Prospectus.

With your consent, we have assumed that the status of the Pre-Funded Warrants as legally valid and binding obligations of the Company is not affected by any (i) breaches of, or defaults under, agreements or instruments, (ii) violations of statutes, rules, regulations or court or governmental orders, or (iii) failures to obtain required consents, approvals or authorizations from, or make required registrations, declarations or filings with, governmental authorities.

Our opinions are subject to: (i) the effect of bankruptcy, insolvency, reorganization, preference, fraudulent transfer, moratorium or other similar laws relating to or affecting the rights and remedies of creditors; (ii) (a) the effect of general principles of equity, whether considered in a proceeding in equity or at law (including the possible unavailability of specific

performance or injunctive relief), (b) concepts of materiality, reasonableness, good faith and fair dealing, and (c) the discretion of the court before which a proceeding is brought; and (iii) the invalidity under certain circumstances under law or court decisions of provisions providing for the indemnification of or contribution to a party with respect to a liability where such indemnification or contribution is contrary to public policy. We express no opinion as to (a) any provision for liquidated damages, default interest, late charges, monetary penalties, make-whole premiums or other economic remedies to the extent such provisions are deemed to constitute a penalty; (b) consents to, or restrictions upon, governing law, jurisdiction, venue, arbitration, remedies, or judicial relief; (c) any provision requiring the payment of attorneys' fees, where such payment is contrary to law or public policy; and (d) the severability, if invalid, of provisions to the foregoing effect.

This opinion is for your benefit in connection with the Registration Statement and may be relied upon by you and by persons entitled to rely upon it pursuant to the applicable provisions of the Act. We consent to your filing this opinion as an exhibit to the Company's Form 8-K filed dated November 6, 2026, and to the reference to our firm in the Prospectus under the heading "Legal Matters." In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Act or the rules and regulations of the Commission thereunder.

Sincerely,

/s/ Latham & Watkins LLP

Precision BioSciences Announces Pricing of $125 Million Underwritten Offering of Common Stock and Pre-Funded Warrants

DURHAM, N.C.—November 5, 2026 – Precision BioSciences, Inc. (Nasdaq: DTIL) ("Precision"), a clinical stage gene editing company utilizing its novel proprietary ARCUS® platform to develop *in vivo* gene editing therapies for high unmet need diseases, today announced the pricing of an underwritten offering of 10,235,077 shares of its common stock at a price of $7.75 per share and, in lieu of common stock to certain investors, pre-funded warrants to purchase up to 5,893,964 shares of its common stock at a price of $7.749995 per pre-funded warrant, which represents the per share offering price for the shares of common stock less the $0.000005 per share exercise price for each pre-funded warrant. The gross proceeds to Precision from the offering, before deducting the underwriting discounts and commissions and offering expenses, are expected to be approximately $125 million. The deal includes participation from new and existing investors, including First Light Asset Management, MPM BioImpact, Bleichroeder LP, Lynx1 Capital Management, Readout Capital, Aberdeen Investments, Driehaus Capital Management, as well as other leading life sciences investors.

The offering is expected to close on or about November 6, 2026, subject to customary closing conditions. All shares of common stock and pre-funded warrants to be sold in the offering will be sold by Precision. Precision intends to use the net proceeds of the offering to fund the continued research and development of PBGENE-HBV and PBGENE-DMD, and for working capital and general corporate purposes.

TD Cowen and Guggenheim Securities are acting as joint book-running managers for the offering.

The securities described above were offered by means of a prospectus supplement dated November 5, 2026, and accompanying prospectus dated January 7, 2026, forming part of Precision's effective shelf registration statement (File No. 333-292478). The prospectus supplement and accompanying prospectus relating to this offering will be filed with the U.S. Securities and Exchange Commission (the "SEC") and will be available on the SEC's website located at *www.sec.gov*. Copies of the prospectus supplement and the accompanying prospectus may also be obtained, when available, by contacting: TD Securities (USA) LLC, c/o Broadridge Financial Solutions, 1155 Long Island Avenue, Edgewood, NY 11717, or by email at TDManualrequest@broadridge.com; or Guggenheim Securities, LLC, Attention: Equity Syndicate Department, 330 Madison Avenue, 8th Floor, New York, NY 10017, by telephone at (212) 518-9544, or by email at GSEquityProspectusDelivery@guggenheimpartners.com.

This press release shall not constitute an offer to sell or the solicitation of an offer to buy, nor shall there be any sale of, the securities in this offering 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 Precision BioSciences, Inc.

Precision is a clinical stage gene editing company dedicated to improving life (DTIL) with its novel and proprietary ARCUS® genome editing platform that differs from other technologies in the way it cuts, its smaller size, and its simpler structure. Key capabilities and differentiating characteristics may enable ARCUS nucleases to drive more intended, defined therapeutic outcomes. Using ARCUS, Precision's pipeline is comprised of *in vivo* gene editing candidates designed to deliver lasting cures for the broadest range of genetic and infectious diseases where no adequate treatments exist.

Forward-Looking Statements

Certain statements contained in this press release, including those relating to the timing and size of the offering, the anticipated total gross proceeds from the offering and other statements relating to the offering, are forward-looking statements that involve a number of risks and uncertainties that could cause actual results to differ materially from those in the forward-looking statements. These risks and uncertainties include, but are not limited to, risks and uncertainties associated with the consummation of the proposed offering, uncertainties related to market conditions, the satisfaction of customary closing conditions related to the offering, the completion of the offering on the anticipated terms or at all, general economic conditions and other risks identified from time to time in the reports Precision files with the SEC, including its Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and the prospectus supplement and accompanying prospectus related to the proposed offering to be filed with the SEC, which are or will be available at *www.sec.gov*. The forward-looking statements in this press release speak only as of the date of this document, and Precision undertakes no obligation to update or revise any of the statements. Precision's business is subject to substantial risks and uncertainties, including those referenced above. Investors, potential investors, and others should give careful consideration to these risks and uncertainties.

Investor and Media Contact:
Naresh Tanna
Chief Financial Officer
Naresh.tanna@precisionbiosciences.com