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**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): January 24, 2019

**CORBUS PHARMACEUTICALS HOLDINGS, INC.**

*(Exact name of registrant as specified in its charter)*

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

**001-37348**  
*(Commission  
File Number)*

**46-4348039**  
*(IRS Employer  
Identification No.)*

**500 River Ridge Drive, Norwood, MA**  
*(Address of principal executive offices)*

**02062**  
*(Zip Code)*

Registrant's telephone number, including area code: **(617) 963-0100**

**Not Applicable**

*(Former name or former address, if changed since last report.)*

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

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

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

Emerging growth company

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

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

On January 25, 2019, Corbus Pharmaceuticals Holdings, Inc. (the “Company”) entered into an underwriting agreement (the “Underwriting Agreement”) with Jefferies LLC and RBC Capital Markets, LLC (the “Representatives”), as representatives of the several underwriters named therein (the “Underwriters”), relating to the offering, issuance and sale of 5,390,000 shares (the “Shares”) of the Company’s common stock, par value \$0.0001 (the “Common Stock”), at a price to the public of \$6.50 per share (the “Offering”). The net proceeds to the Company from the Offering are expected to be approximately \$32.7 million, after deducting underwriting discounts and commissions and other estimated offering expenses payable by the Company. The Offering is expected to close on or about January 29, 2019, subject to customary closing conditions. Pursuant to the Underwriting Agreement, the Underwriters have a 30-day option to purchase up to 808,500 additional shares of Common Stock on the same terms as the Underwriters are purchasing the base shares.

The Offering is being made pursuant to the Company’s effective registration statement on Form S-3 (File No. 333-222447) previously filed with and declared effective by the Securities and Exchange Commission (the “SEC”) and a prospectus supplement and accompanying prospectus filed with the SEC.

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

The foregoing description of the Underwriting Agreement is not complete and is qualified in its entirety by reference to the full text of the Underwriting Agreement, a copy of which is filed as Exhibit 1.1 to this report and is incorporated by reference herein. A copy of the opinion of Lowenstein Sandler LLP relating to the legality of the issuance and sale of Shares in the Offering is attached as Exhibit 5.1 to this report.

**Item 7.01 Regulation FD Disclosure.**

On January 24, 2019, the Company issued a press release regarding the launch of the Offering. On January 25, 2019, the Company issued a press release announcing that it had priced the Offering. Copies of the press releases are furnished hereto as Exhibits 99.1 and 99.2, respectively, to this Current Report and incorporated herein by reference.

Statements contained in this Current Report on Form 8-K regarding matters that are not historical facts are “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. Such statements may involve risks and uncertainties, such as statements related to the anticipated closing of the Offering and the amount of proceeds expected from the Offering. The risks and uncertainties involved include the Company’s ability to satisfy certain conditions to closing on a timely basis or at all, as well as other risks detailed from time to time in the Company’s SEC filings, including in its annual filing on Form 10-K filed with the SEC on March 12, 2018, the preliminary prospectus supplement relating to the Offering filed with the SEC on January 24, 2019, and the final prospectus supplement relating to the Offering to be filed with the SEC.

**Item 9.01 Financial Statements and Exhibits.**

*(d) Exhibits.*

<b>Exhibit No.</b>	<b>Description</b>
1.1	<a href="#"><u>Underwriting Agreement, dated January 25, 2019</u></a>
5.1	<a href="#"><u>Opinion of Lowenstein Sandler LLP</u></a>
23.1	<a href="#"><u>Consent of Lowenstein Sandler LLP (contained in Exhibit 5.1)</u></a>
99.1	<a href="#"><u>Press Release dated January 24, 2019</u></a>
99.2	<a href="#"><u>Press Release dated January 25, 2019</u></a>

**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.

**CORBUS PHARMACEUTICALS HOLDINGS, INC.**

Dated: January 25, 2019

By: /s/ Yuval Cohen  
Name: Yuval Cohen  
Title: Chief Executive Officer

**Exhibit Index**

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5,390,000 Shares  
**Corbus Pharmaceuticals Holdings, Inc.**  
**UNDERWRITING AGREEMENT**

January 25, 2019

Jefferies LLC  
520 Madison Avenue  
New York, New York 10022

RBC Capital Markets, LLC  
200 Vesey Street  
New York, NY 10281

*As Representatives of the several Underwriters*

Ladies and Gentlemen:

**Introductory.** Corbus Pharmaceuticals Holdings, Inc., a Delaware corporation (the “**Company**”), proposes to issue and sell to the several underwriters named in Schedule A (the “**Underwriters**”) an aggregate of 5,390,000 shares of its common stock, par value \$0.0001 per share (the “**Shares**”). The 5,390,000 Shares to be sold by the Company are called the “**Firm Shares**.” In addition, the Company has granted to the Underwriters an option to purchase up to an additional 808,500 Shares as provided in Section 2. The additional 808,500 Shares to be sold by the Company are collectively called the “**Optional Shares**.” The Firm Shares and, if and to the extent such option is exercised, the Optional Shares are collectively called the “**Offered Shares**.” Jefferies LLC (“**Jefferies**”) and RBC Capital Markets, LLC (“**RBC**”) have agreed to act as representatives of the several Underwriters (in such capacity, the “**Representatives**”) in connection with the offering and sale of the Offered Shares. To the extent there are no additional underwriters listed on Schedule A, the term “Representatives” as used herein shall mean each of you, as Underwriters, and the term “Underwriters” shall mean either the singular or the plural, as the context requires.

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The Company has prepared and filed with the Securities and Exchange Commission (the “**Commission**”) a shelf registration statement on Form S-3, File No. 333-222447, including a base prospectus (the “**Base Prospectus**”) to be used in connection with the public offering and sale of the Offered Shares. Such registration statement, as amended, including the financial statements, exhibits and schedules thereto, in the form in which it became effective under the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder (collectively, the “**Securities Act**”), including all documents incorporated or deemed to be incorporated by reference therein and any information deemed to be a part thereof at the time of effectiveness pursuant to Rule 430A or 430B under the Securities Act, is called the “**Registration Statement**.” Any registration statement filed by the Company pursuant to Rule 462(b) under the Securities Act in connection with the offer and sale of the Offered Shares is called the “**Rule 462(b) Registration Statement**,” and from and after the date and time of filing of any such Rule 462(b) Registration Statement the term “Registration Statement” shall include the Rule 462(b) Registration Statement. The preliminary prospectus supplement dated January 24, 2019 describing the Offered Shares and the offering thereof (the “**Preliminary Prospectus Supplement**”), together with the Base Prospectus, is called the “**Preliminary Prospectus**,” and the Preliminary Prospectus and any other prospectus supplement to the Base Prospectus in preliminary form that describes the Offered Shares and the offering thereof and is used prior to the filing of the Prospectus (as defined below), together with the Base Prospectus, is called a “**preliminary prospectus**.” As used herein, the term “**Prospectus**” shall mean the final prospectus supplement to the Base Prospectus that describes the Offered Shares and the offering thereof (the “**Final Prospectus Supplement**”), together with the Base Prospectus, in the form first used by the Underwriters to confirm sales of the Offered Shares or in the form first made available to the Underwriters by the Company to meet requests of purchasers pursuant to Rule 173 under the Securities Act. References herein to the Preliminary Prospectus, any preliminary prospectus and the Prospectus shall refer to both the prospectus supplement and the Base Prospectus components of such prospectus. As used herein, “**Applicable Time**” is 7:45 a.m. (New York City time) on January 25, 2019. As used herein, “**free writing prospectus**” has the meaning set forth in Rule 405 under the Securities Act, and “**Time of Sale Prospectus**” means the Preliminary Prospectus, as amended or supplemented immediately prior to the Applicable Time, together with the free writing prospectuses, if any, identified in Schedule B hereto. As used herein, “**Road Show**” means a “road show” (as defined in Rule 433 under the Securities Act) relating to the offering of the Offered Shares contemplated hereby that is a “written communication” (as defined in Rule 405 under the Securities Act). As used herein, “**Section 5(d) Written Communication**” means each written communication (within the meaning of Rule 405 under the Securities Act) that is made in reliance on Section 5(d) of the Securities Act by the Company or any person authorized to act on behalf of the Company to one or more potential investors that are qualified institutional buyers (“**QIBs**”) and/or institutions that are accredited investors (“**IAIs**”), as such terms are respectively defined in Rule 144A and Rule 501(a) under the Securities Act, to determine whether such investors might have an interest in the offering of the Offered Shares; “**Section 5(d) Oral Communication**” means each oral communication, if any, made in reliance on Section 5(d) of the Securities Act by the Company or any person authorized to act on behalf of the Company made to one or more QIBs and/or one or more IAIs to determine whether such investors might have an interest in the offering of the Offered Shares; “**Marketing Materials**” means any materials or information provided to investors by, or with the approval of, the Company in connection with the marketing of the offering of the Offered Shares, including any roadshow or investor presentations made to investors by the Company (whether in person or electronically); and “**Permitted Section 5(d) Communication**” means the Section 5(d) Written Communication(s) and Marketing Materials listed on Schedule C attached hereto.

All references in this Agreement to the Registration Statement, the Preliminary Prospectus, any preliminary prospectus, the Base Prospectus and the Prospectus shall include the documents incorporated or deemed to be incorporated by reference therein. All references in this Agreement to financial statements and schedules and other information which are “contained,” “included” or “stated” in, or “part of” the Registration Statement, the Rule 462(b) Registration Statement, the Preliminary Prospectus, any preliminary prospectus, the Base Prospectus, the Time of Sale Prospectus or the Prospectus, and all other references of like import, shall be deemed to mean and include all such financial statements and schedules and other information which is or is deemed to be incorporated by reference in the Registration Statement, the Rule 462(b) Registration Statement, the Preliminary Prospectus, any preliminary prospectus, the Base Prospectus, the Time of Sale Prospectus or the Prospectus, as the case may be. All references in this Agreement to amendments or supplements to the Registration Statement, the Preliminary Prospectus, any preliminary prospectus, the Base Prospectus, the Time of Sale Prospectus or the Prospectus shall be deemed to mean and 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**”) that is or is deemed to be incorporated by reference in the Registration Statement, the Preliminary Prospectus, any preliminary prospectus, the Base Prospectus, or the Prospectus, as the case may be. All references in this Agreement to (i) the Registration Statement, the Preliminary Prospectus, any preliminary prospectus, the Base Prospectus or the Prospectus, any amendments or supplements to any of the foregoing, or any free writing prospectus, shall include any copy thereof filed with the Commission pursuant to its Electronic Data Gathering, Analysis and Retrieval System (“**EDGAR**”) and (ii) the Prospectus shall be deemed to include any “electronic Prospectus” provided for use in connection with the offering of the Offered Shares as contemplated by Section 3(n) of this Agreement.

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.

The Company hereby confirms its agreements with the Underwriters as follows:

**Section 1. Representations and Warranties of the Company.** The Company represents and warrants to each Underwriter that:

**(a) Compliance with Registration Requirements.** The Registration Statement has become effective under the Securities Act. The Company has complied in all material respects with all requests of the Commission for additional or supplemental information, if any. No stop order suspending the effectiveness of the Registration Statement is in effect and no proceedings for such purpose have been instituted or are pending or, to the best knowledge of the Company, are contemplated or threatened by the Commission. At the time the Company’s Annual Report on Form 10-K for the year ended December 31, 2017 (the “Annual Report”) was filed with the Commission, or, if later, at the time the Registration Statement was originally filed with the Commission, the Company met the then-applicable requirements for use of Form S-3 under the Securities Act. The documents incorporated or deemed to be incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus, at the time they were or hereafter are filed with the Commission, or became effective under the Exchange Act, as the case may be, complied and will comply in all material respects with the requirements of the Exchange Act.

**(b) Disclosure.** Each of the Registration Statement and any post-effective amendment thereto, at the time it became or becomes effective, and at any subsequent time that it is deemed to have become effective as to the Underwriters pursuant to Rule 430B(f)(2) under the Securities Act, complied and will comply in all material respects with the Securities Act and did not and will not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading. Each preliminary prospectus, at the time of filing thereof, complied in all material respects with the requirements of the Securities Act, and no preliminary prospectus, at the time of filing thereof, contained any untrue statement of a material fact or omitted to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. As of the Applicable Time, at the time of each sale of the Offered Shares in connection with the offering when the Prospectus is not yet available to prospective purchasers, and at the First Closing Date (as defined below), the Time of Sale Prospectus, as amended or supplemented by the Company, if applicable, did not and will not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading. The Prospectus, as of its date and (as then amended or supplemented) as of the First Closing Date and any Option Closing Date, and as of any date during the Prospectus Delivery Period (as defined below), did not and will not contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The representations and warranties set forth in the four immediately preceding sentences do not apply to statements in or omissions from the Registration Statement or any post-effective amendment thereto, the Time of Sale Prospectus or the Prospectus, or any amendments or supplements thereto, made in reliance upon and in conformity with any Underwriter Information (as defined below). There are no contracts or other documents required to be described in the Time of Sale Prospectus or the Prospectus or to be filed as an exhibit to the Registration Statement which have not been described or filed as required. Each preliminary prospectus, if filed by electronic transmission pursuant to **EDGAR**, was identical (except as may be permitted by Regulation S-T under the Securities Act) to the copy thereof delivered to the Underwriters for use in connection with the offer and sale of the Offered Shares. **“Prospectus Delivery Period”** means such period of time after the first date of the public offering of the Offered Shares as in the opinion of counsel for the Underwriters a prospectus relating to the Offered Shares 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 Offered Shares by the any Underwriter or dealer.

**(c) Free Writing Prospectuses; Road Show.** As of the determination date referenced in Rule 164(h) under the Securities Act, the Company was not, is not or will not be (as applicable) an “ineligible issuer” in connection with the offering of the Offered Shares pursuant to Rules 164, 405 and 433 under the Securities Act. Each free writing prospectus that the Company is required to file pursuant to Rule 433(d) under the Securities Act has been, or will be, filed with the Commission in accordance with the requirements of the Securities Act. Each free writing prospectus that the Company has filed, or is required to file, pursuant to Rule 433(d) under the Securities Act or that was prepared by or on behalf of or used or referred to by the Company complies or will comply in all material respects with the requirements of Rule 433 under the Securities Act, including timely filing with the Commission or retention where required and legending, and each such free writing prospectus, as of its issue date and at all subsequent times through the completion of the public offer and sale of the Offered Shares did not, does not and will not include any information that conflicted, conflicts or will conflict with the information contained in the Registration Statement, the Prospectus or any preliminary prospectus and not superseded or modified. Except for the free writing prospectuses, if any, identified in Schedule C, and electronic road shows, if any, furnished to you before first use, the Company has not prepared, used or referred to any free writing prospectus. Each Road Show, when considered together with the Time of Sale Prospectus, did not, as of the Applicable Time, contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading. Other than the Registration Statement, the Preliminary Prospectus and the Prospectus, the Company (including its agents and representatives, other than the Underwriters in their capacity as such) has not prepared, used, authorized, approved or referred to and will not prepare, use, authorize, approve or refer to any “written communication” (as defined in Rule 405 under the Securities Act) that constitutes an offer to sell or solicitation of an offer to buy the Offered Shares 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) each electronic road show.

**(d) Emerging Growth Company.** From the time of the initial filing of the Registration Statement with the Commission through the date hereof, the Company has been and is an “emerging growth company,” as defined in Section 2(a)(19) of the Securities Act (an “**Emerging Growth Company**”).

**(e) Communications.** The Company (i) has not alone engaged in communications with potential investors in reliance on Section 5(d) of the Securities Act other than Permitted Section 5(d) Communications with the consent of the Representatives with entities that are QIBs or IAs and (ii) has not authorized anyone other than the Representatives to engage in such communications; the Company reconfirms that the Representatives have been authorized to act on its behalf in undertaking Marketing Materials, Section 5(d) Oral Communications and Section 5(d) Written Communications; as of the Applicable Time, each Permitted Section 5(d) Communication, when considered together with the Time of Sale Prospectus, did not, as of the Applicable Time, include an 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; and each Permitted Section 5(d) Communication, if any, does not, as of the date hereof, conflict with the information contained in the Registration Statement, the Preliminary Prospectus and the Prospectus.

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

**(g) Financial Statements.** The financial statements (including the related notes thereto) of the Company and its consolidated subsidiaries included or incorporated by reference in the Registration Statement, the Time of Sale Prospectus or 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 and its consolidated subsidiaries 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 any 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 Time of Sale Prospectus or the Prospectus has been derived from the accounting records of the Company and its consolidated subsidiaries and presents fairly the information shown thereby.

**(h) No Material Adverse Change.** Since the date of the most recent financial statements of the Company included or incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus, (i) there has not been any change in the capital stock (other than the issuance of Shares upon exercise of stock options and warrants described as outstanding in the Registration Statement, the Time of Sale Prospectus and the Prospectus, and the grant of options and other equity-based awards under any stock-based compensation plans of the Company and its subsidiaries that are in existence at the Applicable Time and disclosed in the Registration Statement, the Time of Sale Prospectus and the Prospectus (“Company Stock Plans”), short-term debt or long-term debt of the Company or any of its subsidiaries, 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 that could reasonably be expected to result in a prospective material adverse change, in or affecting the business, properties, management, financial position, prospects, shareholders’ equity or results of operations of the Company and its subsidiaries taken as a whole; (ii) neither the Company nor any of its subsidiaries has entered into any transaction or agreement (whether or not in the ordinary course of business) or incurred any liability or obligation, direct or contingent; and (iii) neither the Company nor any of its subsidiaries has sustained any loss or interference with its business that is material to the Company and its subsidiaries 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 of clauses (i) through (iii) as otherwise disclosed in the Registration Statement, the Time of Sale Prospectus and the Prospectus.

**(i) Organization and Good Standing.** The Company and each of its subsidiaries have been duly organized and are validly existing and in good standing (or their jurisdictional equivalents) 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 corporate 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 could not reasonably be expected, individually or in the aggregate, to have a material adverse effect on the business, properties, management, financial position, prospects, shareholders’ equity or results of operations of the Company and its subsidiaries 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 21.1 to its Annual Report on Form 10-K for the year ended December 31, 2017.

**(j) Capitalization.** The Company has an authorized capitalization as set forth in the Registration Statement, the Time of Sale Prospectus 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 Time of Sale Prospectus and the Prospectus, there are no outstanding rights (including, without limitation, pre-emptive rights), warrants or options to acquire, or instruments convertible into or exchangeable for, any shares of capital stock or other equity interest in the Company or any of its wholly owned subsidiaries, or any contract, commitment, agreement, understanding or arrangement of any kind relating to the issuance of any capital stock of the Company or any of its wholly owned subsidiaries, any convertible or exchangeable securities or any rights, warrants or options; the capital stock of the Company conforms in all material respects to the descriptions thereof contained in the Registration Statement, the Time of Sale Prospectus and the Prospectus; and all the outstanding shares of capital stock or other equity interests of each subsidiary described in the Registration Statement, the Time of Sale Prospectus or the Prospectus as owned, directly or indirectly, by the Company have been duly and validly authorized and issued, are fully paid and non-assessable and are owned directly or indirectly by the Company, free and clear of any lien, charge, encumbrance, security interest, restriction on voting or transfer or any other claim of any third party.

**(k) Stock Options.** With respect to the outstanding stock options (the “**Stock Options**”) granted pursuant to the Company Stock Plans, (i) 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 shareholder 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; (ii) each such grant was made in all material respects in accordance with the terms of the applicable Company Stock Plan, Exchange Act and all applicable laws and regulatory rules or requirements, including the rules of The Nasdaq Capital Market (the “**NASDAQ**”) and any other exchange on which the Company’s securities are traded, to the extent applicable; and (iii) each such grant was properly accounted for in accordance with GAAP in the financial statements (including the related notes) of the Company, except as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

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

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

**(n) The Offered Shares.** The Offered Shares to be issued and sold by the Company hereunder have been duly authorized 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 to the descriptions thereof in the Registration Statement, the Time of Sale Prospectus and the Prospectus; and the issuance of the Offered Shares is not subject to any preemptive or similar rights that have not been duly waived.

**(o) No Violation or Default.** Neither the Company nor any of its subsidiaries is (i) in violation of its charter or bylaws 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 or any of its subsidiaries is a party, by which the Company or any of its subsidiaries is bound or to which any of the property or assets of the Company or any of its subsidiaries is subject (collectively, “**Company Contracts**”); 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 could not, individually or in the aggregate, have a Material Adverse Effect. To the knowledge of the Company, all third parties that are parties to any Company Contracts are in compliance with the terms, covenants and conditions contained in such Company Contracts, except for any violation that could not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

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

**(q) No Consents Required.** No consent, 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 Offered Shares and the consummation of the transactions contemplated by this Agreement, except for the registration of the Shares 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, and under applicable state securities laws in connection with the purchase and distribution of the Offered Shares by the Underwriters.

**(r) Legal Proceedings.** Except as described in the Registration Statement, the Time of Sale Prospectus and the Prospectus, there are no legal, governmental or regulatory investigations, actions, suits or proceedings pending to which the Company or any of its subsidiaries is a party or to which any property of the Company or any of its subsidiaries is the subject, including any proceeding before the United States Food and Drug Administration of the U.S. Department of Health and Human Services (the “**FDA**”) or comparable federal, state, local or foreign governmental and regulatory authorities (“**Governmental Authority**”) relating to an alleged failure to comply, or deficiency in compliance, with the requirements of the FDA or other Governmental Authority that, individually or in the aggregate, if determined adversely to the Company or any of its subsidiaries, could reasonably be expected to have a Material Adverse Effect; to the knowledge of the Company, no such investigations, actions, suits or proceedings are threatened or contemplated by any governmental or regulatory authority or threatened by others; and (i) there are no current or pending legal, governmental or regulatory actions, suits or proceedings that are required under the Securities Act to be described in the Registration Statement, the Time of Sale Prospectus or the Prospectus that are not so described in the Registration Statement, the Time of Sale Prospectus 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 Time of Sale Prospectus or the Prospectus that are not so filed as exhibits to the Registration Statement or described in the Registration Statement, the Time of Sale Prospectus and the Prospectus.

(s) **Independent Accountants.** EisnerAmper LLP, who have certified certain financial statements of the Company and its subsidiaries, is an independent registered public accounting firm with respect to the Company and its subsidiaries 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.

(t) **Title to Real and Personal Property.** The Company owns no real property, and the Company and its subsidiaries have valid rights to lease or otherwise use all items of real and personal property that are material to the respective businesses of the Company and its subsidiaries, 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 and its subsidiaries or (ii) would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect.

(u) **Intellectual Property.** The Company and its subsidiaries own, or have obtained valid and enforceable licenses for, the inventions, patent applications, patents, trademarks, trade names, service names, copyrights, trade secrets and other intellectual property (1) described in the Registration Statement, the Time of Sale Prospectus or the Prospectus as being owned or licensed by them or (2) which, to their knowledge, are necessary for the conduct of their respective businesses as currently conducted or as currently proposed in the Registration Statement, the Time of Sale Prospectus or the Prospectus to be conducted (collectively, “**Intellectual Property**”) except in the case of clause (2) where the failure to own, possess or acquire such rights could not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect. Except as described in the Registration Statement, the Time of Sale Prospectus and the Prospectus or as could not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect, to the Company’s knowledge: (i) there are no third parties who have rights to any Intellectual Property, except for Intellectual Property rights which are licensed by the Company from or granted by the Company to its partners, licensors and licensees and customary reversionary rights of third-party licensors with respect to Intellectual Property that is licensed to the Company or one or more of its subsidiaries; and (ii) there is no infringement by third parties of any Intellectual Property. Except as could not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect, 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 or any of its subsidiaries infringes or otherwise violates, or would, upon the commercialization of any product or service described in the Registration Statement, the Time of Sale Prospectus or the Prospectus as under development, infringe or violate, any patent, trademark, trade name, service name, copyright, trade secret or other proprietary 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. Except as could not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect, the Company and its subsidiaries have complied with the terms of each agreement pursuant to which Intellectual Property has been licensed to the Company or any subsidiary, and all such agreements are in full force and effect. The product candidates described in the Registration Statement, the Time of Sale Prospectus or the Prospectus as under development by the Company or any subsidiary fall within the scope of the claims of one or more patents or patent applications owned by, or exclusively licensed to, the Company or any subsidiary.

**(v) FDA and Healthcare Compliance.** Except as described in the Registration Statement, the Pricing Time of Sale Prospectus and the Prospectus, and except where such noncompliance would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect, the Company: (i) is and at all times has been in compliance with all statutes, rules and regulations of the FDA and other Governmental Authority applicable to the ownership, testing, development, manufacture, packaging, processing, use, distribution, storage, import, export or disposal of any product under development, manufactured or distributed by the Company, including, without limitation, the federal Food, Drug, and Cosmetic Act, 21 U.S.C. § 301 et seq., the Controlled Substances Act, 21 U.S.C. § 801 et. seq., the False Claims Act, 31 U.S.C. §§ 3729-3733, the Health Insurance Portability and Accountability Act, and the Health Information Technology for Economic and Clinical Health Act (collectively, “**Applicable FDA Laws**”); (ii) to the knowledge of the Company, has not received any FDA Form 483, notice of adverse finding, warning letter, untitled letter or other correspondence or notice from the FDA or any Governmental Authority alleging or asserting material noncompliance with any Applicable FDA Laws or any licenses, certificates, approvals, clearances, exemptions, authorizations, permits and supplements or amendments thereto required by any such Applicable FDA Laws (“**Authorizations**”); (iii) possesses all Authorizations and the Company is in compliance with the terms of such Authorizations; (iv) has not received written notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from the FDA or any Governmental Authority or third party alleging that any product, operation or activity is in material violation of any Applicable FDA Laws or Authorizations and has no knowledge that the FDA or any Governmental Authority or third party is considering any such claim, litigation, arbitration, action, suit, investigation or proceeding; (v) has not received notice that the FDA or any Governmental Authority has taken, is taking or intends to take action to limit, suspend, modify or revoke any material Authorizations and has no knowledge that the FDA or any Governmental Authority is considering such action; and (vi) has filed, obtained, maintained or submitted all reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Applicable FDA Laws or Authorizations and that all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were materially complete and correct on the date filed (or were corrected or supplemented by a subsequent submission).

**(w) Clinical Studies.** The studies, tests and preclinical and clinical trials conducted by or, to the Company’s knowledge, on behalf of the Company that are described in the Registration Statement, the Time of Sale Prospectus or the Prospectus, or the results of which are referred to in the Registration Statement, the Time of Sale Prospectus or the Prospectus, as applicable, were and, if still ongoing, are being conducted in all material respects in accordance with Applicable FDA Laws; the descriptions of the results of such studies, tests and trials contained in the Registration Statement, the Time of Sale Prospectus or the Prospectus are, to the Company’s knowledge, accurate and complete in all material respects and fairly present the data derived from such studies, tests and trials; except to the extent disclosed in the Registration Statement, the Time of Sale Prospectus or the Prospectus, the Company is not aware of any studies, tests or trials, the results of which the Company believes reasonably call into question the study, test or trial results described or referred to in the Registration Statement, the Time of Sale Prospectus or the Prospectus when viewed in the context in which such results are described and the clinical state of development; and, except to the extent disclosed in the Registration Statement, the Time of Sale Prospectus and the Prospectus, the Company has not received any notices or correspondence from the FDA or any Governmental Authority requiring the termination or suspension of any studies, tests or preclinical or clinical trials conducted by or on behalf of the Company that are described in the Registration Statement, the Time of Sale Prospectus or the Prospectus or the results of which are referred to in the Registration Statement, the Time of Sale Prospectus or the Prospectus, other than ordinary course communications with respect to modifications in connection with the design and implementation of such trials.

**(x) No Undisclosed Relationships.** No relationship, direct or indirect, exists between or among the Company or any of its subsidiaries, on the one hand, and the directors, officers, shareholders, customers or suppliers of the Company, or any of its subsidiaries or any other related party, on the other, that is required by the Securities Act to be described in the Registration Statement, the Time of Sale Prospectus and the Prospectus that has not been described as required.

**(y) Investment Company Act.** The Company is not and, after giving effect to the offering and sale of the Offered Shares and the application of the proceeds therefrom as described in the Registration Statement, the Time of Sale Prospectus or 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 (the “**Investment Company Act**”).

**(z) Taxes.** The Company and its subsidiaries have timely filed all material tax returns that are required to have been filed by them pursuant to applicable state, local or foreign law, and have paid all taxes shown thereon or otherwise assessed, which are due and payable, except assessments against which appeals have been or will be promptly taken and as to which adequate reserves have been provided; and except as otherwise disclosed in the Registration Statement, the Time of Sale Prospectus and the Prospectus, there is no material tax deficiency that has been, or would reasonably be expected to be, asserted against the Company or any of its subsidiaries or any of their respective properties or assets.

**(aa) Licenses and Permits.** The Company and its subsidiaries possess 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 the Registration Statement, the Time of Sale Prospectus or the Prospectus (including, without limitation, those administered by the FDA, the U.S. Drug Enforcement Administration or by any other Governmental Authority), except where the failure to possess or make the same would not, individually or in the aggregate, have a Material Adverse Effect; and except as described in the Registration Statement, the Time of Sale Prospectus and the Prospectus, neither the Company nor any of its subsidiaries has received notice of any revocation or modification of any such license, certificate, permit or authorization or has any reason to believe that any such license, certificate, permit or authorization will not be renewed in the ordinary course, except where such revocation, modification or nonrenewal would not reasonably be expected to have a Material Adverse Effect.

**(bb) No Labor Disputes.** No labor disturbance by or dispute with employees of the Company or any of its subsidiaries exists or, to the knowledge of the Company, is threatened, and to the knowledge of the Company, there is no existing or imminent labor disturbance by, or dispute with, the employees of any of its or its subsidiaries’ principal suppliers, contractors or customers, except as could not, individually or in the aggregate, have a Material Adverse Effect.

**(cc) Compliance with and Liability under Environmental Laws.** (i) The Company and its subsidiaries (a) are, and, during the past five years, were, in compliance with any and all applicable federal, state, local and foreign laws, rules, regulations, requirements, decisions, judgments, decrees, orders and the common law relating to pollution or the protection of the environment, natural resources or human health or safety, including those relating to the generation, storage, treatment, use, handling, transportation, Release (as defined below) or threat of Release of Hazardous Materials (as defined below) (collectively, “**Environmental Laws**”), (b) have received and are in compliance with all permits, licenses, certificates or other authorizations or approvals required of them under applicable Environmental Laws to conduct their respective businesses, (c) have not received notice of any actual or potential liability under or relating to, or actual or potential violation of, any Environmental Laws, including for the investigation or remediation of any Release or threat of Release of Hazardous Materials, and have no knowledge of any event or condition that would reasonably be expected to result in any such notice, (d) are not conducting or paying for, in whole or in part, any investigation, remediation or other corrective action pursuant to any Environmental Law at any location, and (e) are not a party to any order, decree or agreement that imposes any obligation or liability under any Environmental Law; and (ii) there are no costs or liabilities associated with Environmental Laws of or relating to the Company or its subsidiaries, except in the case of each of (i) and (ii) above, for any such matter as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect; and (iii) except as described in the Registration Statement, the Time of Sale Prospectus and the Prospectus, (a) there are no proceedings that are pending, or that are known by the Company to be contemplated, against the Company or any of its subsidiaries under any Environmental Laws in which a governmental entity is also a party, other than such proceedings regarding which it is reasonably believed no monetary sanctions of \$100,000 or more will be imposed against the Company or any of its subsidiaries, (b) to the knowledge of the Company, there are no facts or issues regarding compliance with Environmental Laws, or liabilities or other obligations under Environmental Laws, including the Release or threat of Release of Hazardous Materials, that would reasonably be expected to have a Material Adverse Effect, and (c) none of the Company or any of its subsidiaries anticipates material capital expenditures relating to any Environmental Laws.

**(dd) Regulatory Compliance.** Other than those FDA and healthcare compliance matters that are addressed in Section 3(v) hereof, and except as described in the Registration Statement, the Time of Sale Prospectus and the Prospectus, to the knowledge of the Company, all third parties that are collaborating with the Company (i) are in material compliance with all applicable statutes, rules and regulations of the applicable regulatory authorities (collectively, “**Applicable Laws**”) and (ii) have not received any notice of adverse finding, warning letter, untitled letter or other correspondence or notice from any regulatory authority alleging or asserting material noncompliance with any Applicable Laws or any licenses, certificates, approvals, clearances, exemptions, authorizations, permits and supplements or amendments thereto required by any such Applicable Laws, in either case of (i) or (ii) above, solely related to products being developed in collaboration with the Company.

**(ee) Hazardous Materials.** To the knowledge of the Company, there has been no storage, generation, transportation, use, handling, treatment, Release (as defined below) or threat of Release of Hazardous Materials (as those terms are defined below) by, relating to or caused by the Company or any of its subsidiaries (or, to the knowledge of the Company and its subsidiaries, any other entity (including any predecessor) for whose acts or omissions the Company or any of its subsidiaries is or would reasonably be expected to be liable) at, on, under or from any property or facility now or, to the knowledge of the Company, previously owned, operated or leased by the Company or any of its subsidiaries, or, to the knowledge of the Company, 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 could 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, which is 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.

**(ff) Compliance with ERISA.** Except, in each case, for any such matter as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect, (i) each employee benefit plan, within the meaning of Section 3(3) of the Employee Retirement Income Security Act of 1974, as amended (“**ERISA**”), for which the Company or any member of its “Controlled Group” (defined as any organization which is a member of a controlled group of corporations within the meaning of Section 414(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, the minimum funding standard of Section 412 of the Code or Section 302 of ERISA, as applicable, has been satisfied (without taking into account any waiver thereof or extension of any amortization period) and to the knowledge of the Company is reasonably expected to be satisfied in the future (without taking into account any waiver thereof or extension of any amortization period); (iv) the fair market value of the assets of each Plan that is subject to the funding rules of Section 412 of the Code or Section 302 of ERISA exceeds the present value of all benefits accrued under such Plan (determined based on those assumptions used to fund such Plan); (v) no “reportable event” (within the meaning of Section 4043(c) of ERISA) has occurred or to the knowledge of the Company is reasonably expected to occur; (vi) neither the Company nor any member of the Controlled Group has incurred, nor to the knowledge of the Company reasonably expects to incur, any liability under Title IV of ERISA (other than contributions to the Plan or premiums to the Pension Benefit Guaranty Corporation (the “**PBGC**”), in the ordinary course and without default) in respect of a Plan (including a “multiemployer plan”, within the meaning of Section 4001(a)(3) of ERISA); and (vii) to the knowledge of the Company, there is no pending audit or investigation by the Internal Revenue Service, the U.S. Department of Labor, the PBGC or any other governmental agency or any foreign regulatory agency with respect to any Plan. None of the following events has occurred or, to the knowledge of the Company, is reasonably likely to occur: (x) a material increase in the aggregate amount of contributions required to be made to all Plans by the Company or its subsidiaries in the current fiscal year of the Company and its subsidiaries compared to the amount of such contributions made during the Company and its subsidiaries’ most recently completed fiscal year; or (y) an increase that is material to the Company and its subsidiaries, taken as a whole, in the Company and its subsidiaries’ “accumulated post-retirement benefit obligations” (within the meaning of Statement of Financial Accounting Standards 106) compared to the amount of such obligations in the Company and its subsidiaries’ most recently completed fiscal year.

**(gg) Disclosure Controls.** The Company and its subsidiaries maintain an effective system of “disclosure controls and procedures” (as defined in Rule 13a-15(e) of the Exchange Act) that complies in all material respects 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.

**(hh) Accounting Controls.** The Company and its subsidiaries maintain systems of “internal control over financial reporting” (as defined in Rule 13a-15(f) of the Exchange Act) that have been designed to comply in all material respects with the requirements of the Exchange Act and have been designed by, or under the supervision of, their respective principal executive and principal financial officers, or persons performing similar functions, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP, including, but not limited to, internal accounting controls sufficient to provide reasonable assurance that (1) transactions are executed in accordance with management’s general or specific authorizations; (2) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain asset accountability; (3) access to assets is permitted only in accordance with management’s general or specific authorization; (4) 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 (5) interactive data in extensible Business Reporting Language included or incorporated by reference in the Registration Statement fairly presents the information called for in all material respects and is prepared in accordance with the Commission’s rules and guidelines applicable thereto. Except as disclosed in the Registration Statement, the Time of Sale Prospectus and the Prospectus, there are no material weaknesses in the Company’s internal control over financial reporting. 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 control over financial reporting.

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

**(jj) Insurance.** The Company and its subsidiaries have 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 the Company reasonably believes are adequate to protect the Company and its subsidiaries and their respective businesses; and neither the Company nor any of its subsidiaries has (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 in all material respects.

**(kk) FINRA Matters.** All of the information provided to the Underwriters or to counsel for the Underwriters by the Company, its counsel, its officers and directors and the holders of any securities (debt or equity) or options to acquire any securities of the Company in connection with the offering of the Offered Shares is true, complete, correct and compliant with FINRA’s rules and any letters, filings or other supplemental information provided to FINRA pursuant thereto or to conduct rules promulgated by the National Association of Securities Dealers, Inc. is true, complete and correct.

**(ll) No Unlawful Payments.** Neither the Company nor any of its subsidiaries nor, to the knowledge of the Company, any director, officer, agent, employee, affiliate or other person authorized to act on behalf of the Company or any of its subsidiaries has (i) used any corporate funds for any unlawful contribution, gift, entertainment or other unlawful expense relating to political activity; (ii) made any direct or indirect unlawful payment to any foreign or domestic government official or employee from corporate funds; (iii) violated or is in violation of any provision of the Foreign Corrupt Practices Act of 1977, as amended, or any applicable law or regulation implementing the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions, or committed an offence under the Bribery Act 2010 of the United Kingdom or any other applicable anti-bribery or anti-corruption law; or (iv) made, offered, agreed to or requested 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 and its subsidiaries have 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.

**(mm) Compliance with Anti-Money Laundering Laws.** The operations of the Company and its subsidiaries are and have been conducted at all times in material 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 or any of its subsidiaries conducts business, the rules and regulations thereunder and any related or similar rules, regulations or guidelines issued, administered or enforced by any governmental agency (collectively, the “**Anti-Money Laundering Laws**”) and no action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company or any of its subsidiaries with respect to the Anti-Money Laundering Laws is pending or, to the knowledge of the Company, threatened.

**(nn) No Conflicts with Sanctions Laws.** None of the Company, any of its subsidiaries or, to the knowledge of the Company, any director, officer, agent, employee, affiliate or other person associated with or authorized to act on behalf of the Company or any of its subsidiaries is currently the subject or the target of any sanctions administered or enforced by the U.S. government (including, without limitation, the Office of Foreign Assets Control of the U.S. Department of the Treasury or the U.S. Department of State and including, without limitation, the designation as a “specially designated national” or “blocked person”), the United Nations Security Council, the European Union, Her Majesty’s Treasury or other relevant sanctions authority (collectively, “**Sanctions**”), nor is the Company or any of its subsidiaries located, organized or resident in a country or territory that is the subject or target of Sanctions, including, without limitation, Burma/Myanmar, Cuba, Iran, North Korea, Sudan, Syria and the Crimea region of Ukraine (each, a “**Sanctioned Country**”); and the Company will not directly or indirectly use the proceeds of the offering of the Shares hereunder, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other person or entity (i) to fund or facilitate any activities of or business with any person that, at the time of such funding or facilitation, is the subject or target of Sanctions, (ii) to fund or facilitate any activities of or business in any Sanctioned Country or (iii) in any other manner that will result in a violation by any person (including any person participating in the transaction, whether as underwriter, advisor, investor or otherwise) of Sanctions. For the past five years, the Company and its subsidiaries have not knowingly engaged in and are not now knowingly engaged in any dealings or transactions with any person that at the time of the dealing or transaction is or was the subject or the target of Sanctions or with any Sanctioned Country.

**(oo) No Restrictions on Subsidiaries.** Except as prohibited by law, no wholly owned subsidiary of the Company is currently prohibited, directly or indirectly, under any agreement or other instrument to which it is a party or is subject, from paying any dividends to the Company, from making any other distribution on such wholly owned subsidiary’s capital stock, from repaying to the Company any loans or advances to such wholly owned subsidiary from the Company or from transferring any of such wholly owned subsidiary’s properties or assets to the Company or any other subsidiary of the Company.

**(pp) No Broker’s Fees.** Neither the Company nor any of its subsidiaries is a party to any contract, agreement or understanding with any person (other than this Agreement) that would give rise to a valid claim against the Company or any of its subsidiaries or any Underwriter for a brokerage commission, finder’s fee or like payment in connection with the offering and sale of the Shares.

**(qq) No Registration Rights.** Except as described in the Registration Statement, the Time of Sale Prospectus and the Prospectus, no person has the right to require the Company or any of its subsidiaries 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 Shares, except for such rights that have been waived.

**(rr) No Stabilization.** Neither the Company nor any of its subsidiaries, nor any of their respective directors, officers or controlling persons, has taken, directly or indirectly, any action that has constituted or is designed to or that would reasonably be expected to cause or result in, under the Exchange Act or otherwise, any stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Shares, including any stabilization or manipulation of the price of the Shares.

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

**(tt) 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 Time of Sale Prospectus or the Prospectus has been made or reaffirmed without a reasonable basis or has been disclosed other than in good faith.

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

**(vv) Sarbanes-Oxley Act.** There is and has been no failure on the part of the Company or, to the knowledge of the Company, any of the Company's directors or officers, in their capacities as such, to comply with any applicable provision of the Sarbanes-Oxley Act of 2002, as amended, and the rules and regulations promulgated in connection therewith, including Section 402 related to loans and Sections 302 and 906 related to certifications.

**(ww) Stock Exchange Listing.** The Shares (including the Offered Shares) are registered pursuant to Section 12(b) or 12(g) of the Exchange Act and are listed on the NASDAQ, and the Company has taken no action designed to, or likely to have the effect of, terminating the registration of the Shares under the Exchange Act or delisting the Shares from the NASDAQ, nor has the Company received any notification that the Commission or the NASDAQ is contemplating terminating such registration or listing. To the Company's knowledge, it is in compliance with all applicable listing requirements of the NASDAQ.

**(xx) No Contract Termination.** The Company has not sent or received any communication regarding termination of, or intent not to renew, any of the contracts or agreements referred to or described in the Time of Sale Prospectus, any preliminary prospectus or the Prospectus, or referred to or described in, or filed as an exhibit to, the Registration Statement, and no such termination or non-renewal has been threatened by the Company or, to the Company's knowledge, any other party to any such contract or agreement, which threat of termination or non-renewal has not been rescinded as of the date hereof.

**(yy) Compliance with Cuba Act.** The Company has complied with, and is and will be in compliance with, the provisions of that certain Florida act relating to disclosure of doing business with Cuba, codified as Section 517.075 of the Florida statutes, and the rules and regulations thereunder (collectively, the "**Cuba Act**") or is exempt therefrom.

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

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

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

For purposes of this Agreement, (A) “**BHC Act Affiliate**” has the meaning assigned to the term “affiliate” in, and shall be interpreted in accordance with, 12 U.S.C. § 1841(k); (B) “**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); (C) “**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; and (D) “**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.

**Section 2. Purchase, Sale and Delivery of the Offered Shares.**

(a) **The Firm Shares.** Upon the terms herein set forth, the Company agrees to issue and sell to the several Underwriters an aggregate of 5,390,000 Firm Shares. On the basis of the representations, warranties and agreements herein contained, and upon the terms but subject to the conditions herein set forth, the Underwriters agree, severally and not jointly, to purchase from the Company the respective number of Firm Shares set forth opposite their names on Schedule A. The purchase price per Firm Share to be paid by the several Underwriters to the Company shall be \$6.11 per share.

(b) **The First Closing Date.** Delivery of the Firm Shares to be purchased by the Underwriters and payment therefor shall be made at the offices of Covington & Burling LLP, 620 Eighth Avenue, New York, NY 10018 (or such other place as may be agreed to by the Company and the Representatives) at 9:00 a.m. New York City time, on January 29, 2019, or such other time and date not later than 1:30 p.m. New York City time, on February 8, 2019 as the Representatives shall designate by notice to the Company (the time and date of such closing are called the “**First Closing Date**”). The Company hereby acknowledges that circumstances under which the Representatives may provide notice to postpone the First Closing Date as originally scheduled include, but are not limited to, any determination by the Company or the Representatives to recirculate to the public copies of an amended or supplemented Prospectus or a delay as contemplated by the provisions of Section 11.

**(c) The Optional Shares; Option Closing Date.** In addition, on the basis of the representations, warranties and agreements herein contained, and upon the terms but subject to the conditions herein set forth, the Company hereby grants an option to the several Underwriters to purchase, severally and not jointly, up to an aggregate of 808,500 Optional Shares from the Company at the purchase price per share to be paid by the Underwriters for the Firm Shares, less an amount per share equal to any dividend or distribution declared by the Company and payable on the Firm Shares but not payable on Optional Shares. The option granted hereunder may be exercised at any time and from time to time in whole or in part upon notice by the Representatives to the Company, which notice may be given at any time within 30 days from the date of this Agreement. Such notice shall set forth (i) the aggregate number of Optional Shares as to which the Underwriters are exercising the option and (ii) the time, date and place at which the Optional Shares will be delivered (which time and date may be simultaneous with, but not earlier than, the First Closing Date; and in the event that such time and date are simultaneous with the First Closing Date, the term “**First Closing Date**” shall refer to the time and date of delivery of the Firm Shares and such Optional Shares). Any such time and date of delivery (if subsequent to the First Closing Date, being called an “**Option Closing Date**”) shall be determined by the Representatives and shall not be earlier than three or later than five full business days after delivery of such notice of exercise. If any Optional Shares are to be purchased, each Underwriter agrees, severally and not jointly, to purchase the number of Optional Shares (subject to such adjustments to eliminate fractional shares as the Representatives may determine) that bears the same proportion to the total number of Optional Shares to be purchased as the number of Firm Shares set forth on Schedule A opposite the name of such Underwriter bears to the total number of Firm Shares.

**(d) Public Offering of the Offered Shares.** The Representatives hereby advise the Company that the Underwriters intend to offer for sale to the public, initially on the terms set forth in the Registration Statement, the Time of Sale Prospectus and the Prospectus, their respective portions of the Offered Shares as soon after this Agreement has been executed as the Representatives, in their sole judgment, have determined is advisable and practicable.

**(e) Payment for the Offered Shares.** (i) Payment for the Offered Shares shall be made at the First Closing Date (and, if applicable, at each Option Closing Date) by wire transfer of immediately available funds to the order of the Company.

(ii) It is understood that the Representatives have been authorized, for their own accounts and the accounts of the several Underwriters, to accept delivery of and receipt for, and make payment of the purchase price for, the Firm Shares and any Optional Shares the Underwriters have agreed to purchase. The Representatives, each acting individually and not as Representatives of the Underwriters, may (but shall not be obligated to) make payment for any Offered Shares to be purchased by any Underwriter whose funds shall not have been received by the Representatives by the First Closing Date or the applicable Option Closing Date, as the case may be, for the account of such Underwriter, but any such payment shall not relieve such Underwriter from any of its obligations under this Agreement.

**(f) Delivery of the Offered Shares.** Delivery of the Firm Shares at the First Closing Date shall be made through the facilities of the Depository Trust Company (“DTC”), unless the Representatives shall otherwise instruct, against release of a wire transfer of immediately available funds for the amount of the purchase price therefor. The Company shall also deliver, or cause to be delivered to the Representatives for the accounts of the several Underwriters, through the facilities of the DTC the Optional Shares the Underwriters have agreed to purchase at the First Closing Date or the applicable Option Closing Date, as the case may be, against the release of a wire transfer of immediately available funds for the amount of the purchase price therefor. The Offered Shares shall be registered in such names and denominations as the Representatives shall have requested at least two full business days prior to the First Closing Date (or the applicable Option Closing Date, as the case may be) and shall be made available for inspection on the business day preceding the First Closing Date (or the applicable Option Closing Date, as the case may be) at a location in New York City as the Representatives may designate. Time shall be of the essence, and delivery at the time and place specified in this Agreement is a further condition to the obligations of the Underwriters.

### Section 3. Additional Covenants.

The Company further covenants and agrees with each Underwriter as follows:

**(a) Delivery of Registration Statement, Time of Sale Prospectus and Prospectus.** The Company shall furnish to you in New York City, without charge, prior to 10:00 a.m. New York City time on the business day next succeeding the date of this Agreement and during the period when a prospectus relating to the Offered Shares is required by the Securities Act to be delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule) in connection with sales of the Offered Shares, as many copies of the Time of Sale Prospectus, the Prospectus and any supplements and amendments thereto or to the Registration Statement as you may reasonably request.

**(b) Representatives' Review of Proposed Amendments and Supplements.** During the Prospectus Delivery Period, the Company (i) will furnish to the Representatives for review, a reasonable period of time prior to the proposed time of filing of any proposed amendment or supplement to the Registration Statement, a copy of each such amendment or supplement and (ii) will not amend or supplement the Registration Statement (including any amendment or supplement through incorporation of any report filed under the Exchange Act) without the Representatives' prior written consent, which consent shall not be unreasonably delayed, withheld or conditioned. Prior to amending or supplementing any preliminary prospectus, the Time of Sale Prospectus or the Prospectus (including any amendment or supplement through incorporation of any report filed under the Exchange Act), the Company shall furnish to the Representatives for review, a reasonable amount of time prior to the time of filing or use of the proposed amendment or supplement, a copy of each such proposed amendment or supplement. The Company shall not file or use any such proposed amendment or supplement without the Representatives' prior written consent, which consent shall not be unreasonably delayed, withheld or conditioned. The Company shall file with the Commission within the applicable period specified in Rule 424(b) under the Securities Act any prospectus required to be filed pursuant to such Rule.

**(c) Free Writing Prospectuses.** The Company shall furnish to the Representatives for review, a reasonable amount of time prior to the proposed time of filing or use thereof, a copy of each proposed free writing prospectus or any amendment or supplement thereto prepared by or on behalf of, used by, or referred to by the Company, and the Company shall not file, use or refer to any proposed free writing prospectus or any amendment or supplement thereto without the Representatives' prior written consent. The Company shall furnish to each Underwriter, without charge, as many copies of any free writing prospectus prepared by or on behalf of, used by or referred to by the Company as such Underwriter may reasonably request. If at any time during the Prospectus Delivery Period (but in any event if at any time through and including the First Closing Date) there occurred or occurs an event or development as a result of which any free writing prospectus prepared by or on behalf of, used by, or referred to by the Company conflicted or would conflict with the information contained in the Registration Statement or included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances prevailing at such time, not misleading, the Company shall promptly amend or supplement such free writing prospectus to eliminate or correct such conflict so that the statements in such free writing prospectus as so amended or supplemented will not include an 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 prevailing at such time, not misleading, as the case may be; *provided, however*, that prior to amending or supplementing any such free writing prospectus, the Company shall furnish to the Representatives for review, a reasonable amount of time prior to the proposed time of filing or use thereof, a copy of such proposed amended or supplemented free writing prospectus, and the Company shall not file, use or refer to any such amended or supplemented free writing prospectus without the Representatives' prior written consent, which consent shall not be unreasonably delayed, withheld or conditioned.

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

**(e) Amendments and Supplements to Time of Sale Prospectus.** If the Time of Sale Prospectus is being used to solicit offers to buy the Offered Shares at a time when the Prospectus is not yet available to prospective purchasers, and any event shall occur or condition exist as a result of which it is necessary to amend or supplement the Time of Sale Prospectus so that the Time of Sale Prospectus does not include an 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 when delivered to a prospective purchaser, not misleading, or if any event shall occur or condition exist as a result of which the Time of Sale Prospectus conflicts with the information contained in the Registration Statement, or if, in the opinion of counsel for the Underwriters, it is necessary to amend or supplement the Time of Sale Prospectus to comply with applicable law, the Company shall (subject to Section 3(b) and Section 3(c) hereof) promptly prepare, file with the Commission and furnish, at its own expense, to the Underwriters and to any dealer upon request, either amendments or supplements to the Time of Sale Prospectus so that the statements in the Time of Sale Prospectus as so amended or supplemented will not include an 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 when delivered to a prospective purchaser, not misleading or so that the Time of Sale Prospectus, as amended or supplemented, will no longer conflict with the information contained in the Registration Statement, or so that the Time of Sale Prospectus, as amended or supplemented, will comply with applicable law.

**(f) Certain Notifications and Required Actions.** After the date of this Agreement, the Company shall promptly advise the Representatives in writing of: (i) the receipt of any comments of, or requests for additional or supplemental information from, the Commission; (ii) the time and date of any filing of any post-effective amendment to the Registration Statement or any amendment or supplement to any preliminary prospectus, the Time of Sale Prospectus, any free writing prospectus or the Prospectus; (iii) the time and date that any post-effective amendment to the Registration Statement becomes effective; and (iv) the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto or any amendment or supplement to any preliminary prospectus, the Time of Sale Prospectus or the Prospectus or of any order preventing or suspending the use of any preliminary prospectus, the Time of Sale Prospectus, any free writing prospectus or the Prospectus, or of any proceedings to remove, suspend or terminate from listing or quotation the Shares from any securities exchange upon which they are listed for trading or included or designated for quotation, or of the threatening or initiation of any proceedings for any of such purposes. If the Commission shall enter any such stop order at any time, the Company will use its reasonable best efforts to obtain the lifting of such order at the earliest possible moment. Additionally, the Company agrees that it shall comply with all applicable provisions of Rule 424(b), Rule 433 and Rule 430B under the Securities Act and will use its reasonable efforts to confirm that any filings made by the Company under Rule 424(b) or Rule 433 were received in a timely manner by the Commission.

**(g) Amendments and Supplements to the Prospectus and Other Securities Act Matters.** If any event shall occur or condition exist as a result of which it is necessary to amend or supplement the Prospectus so that the Prospectus does not include an 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 when the Prospectus is delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule) to a purchaser, not misleading, or if in the opinion of the Representatives or counsel for the Underwriters it is otherwise necessary to amend or supplement the Prospectus to comply with applicable law, the Company agrees (subject to Section 3(b)) hereof to promptly prepare, file with the Commission and furnish, at its own expense, to the Underwriters and to any dealer upon reasonable request, amendments or supplements to the Prospectus so that the statements in the Prospectus as so amended or supplemented will not include an 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 when the Prospectus is delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule) to a purchaser, not misleading or so that the Prospectus, as amended or supplemented, will comply with applicable law. Neither the Representatives' consent to, nor delivery of, any such amendment or supplement shall constitute a waiver of any of the Company's obligations under Section 3(b) or Section 3(c).

**(h) Blue Sky Compliance.** The Company shall cooperate with the Representatives and counsel for the Underwriters to qualify or register the Offered Shares for sale under (or obtain exemptions from the application of) the state securities or blue sky laws or Canadian provincial securities laws (or other foreign laws) of those jurisdictions designated by the Representatives, shall comply with such laws and shall continue such qualifications, registrations and exemptions in effect so long as required for the distribution of the Offered Shares. The Company shall not be required to qualify as a foreign corporation or to take any action that would subject it to general service of process in any such jurisdiction where it is not presently qualified or where it would be subject to taxation as a foreign corporation. The Company will advise the Representatives promptly of the suspension of the qualification or registration of (or any such exemption relating to) the Offered Shares for offering, sale or trading in any jurisdiction or any initiation or threat of any proceeding for any such purpose, and in the event of the issuance of any order suspending such qualification, registration or exemption, the Company shall use its reasonable best efforts to obtain the withdrawal thereof at the earliest possible moment.

**(i) Use of Proceeds.** The Company shall apply the net proceeds from the sale of the Offered Shares sold by it in the manner described under the caption "Use of Proceeds" in the Registration Statement, the Time of Sale Prospectus and the Prospectus.

**(j) Transfer Agent.** The Company shall engage and maintain, at its expense, a registrar and transfer agent for the Shares.

**(k) Earnings Statement.** The Company will make generally available to its security holders and to the Representatives as soon as practicable an earnings statement (which need not be audited) covering a period of at least twelve months beginning with the first fiscal quarter of the Company commencing after the date of this Agreement that will satisfy the provisions of Section 11(a) of the Securities Act and the rules and regulations of the Commission thereunder.

**(l) Continued Compliance with Securities Laws.** The Company will comply with the Securities Act and the Exchange Act so as to permit the completion of the distribution of the Offered Shares as contemplated by this Agreement, the Registration Statement, the Time of Sale Prospectus and the Prospectus. Without limiting the generality of the foregoing, the Company will, during the period when a prospectus relating to the Offered Shares is required by the Securities Act to be delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule), file on a timely basis with the Commission and the NASDAQ all reports and documents required to be filed under the Exchange Act.

(m) *Listing.* The Company will use its best efforts to list, subject to notice of issuance, the Offered Shares on the NASDAQ.

(n) *Company to Provide Copy of the Prospectus in Form That May be Downloaded from the Internet.* If requested by the Representatives, the Company shall cause to be prepared and delivered, at its expense, within the applicable period specified in Rule 424(b) for the filing of the Final Prospectus Supplement, to the Representatives and to any other Underwriter an “**electronic Prospectus**” to be used by the Underwriters in connection with the offering and sale of the Offered Shares. As used herein, the term “**electronic Prospectus**” means a form of Time of Sale Prospectus, and any amendment or supplement thereto, that meets each of the following conditions: (i) it shall be encoded in an electronic format, satisfactory to the Representatives, that may be transmitted electronically by the Representatives and the other Underwriters to offerees and purchasers of the Offered Shares; (ii) it shall disclose the same information as the paper Time of Sale Prospectus, except to the extent that graphic and image material cannot be disseminated electronically, in which case such graphic and image material shall be replaced in the electronic Prospectus with a fair and accurate narrative description or tabular representation of such material, as appropriate; and (iii) it shall be in or convertible into a paper format or an electronic format, reasonably satisfactory to the Representatives, that will allow investors to store and have continuously ready access to the Time of Sale Prospectus at any future time, without charge to investors (other than any fee charged for subscription to the Internet as a whole and for on-line time). The Company hereby confirms that it has included or will include in the Prospectus filed pursuant to EDGAR or otherwise with the Commission and in the Registration Statement at the time it was declared effective an undertaking that, upon receipt of a request by an investor or his or her representative, the Company shall transmit or cause to be transmitted promptly, without charge, a paper copy of the Time of Sale Prospectus.

(o) *Agreement Not to Offer or Sell Additional Shares.* During the period commencing on and including the date hereof and continuing through and including the 90th day following the date of the Prospectus (such period being referred to herein as the “**Lock-up Period**”), the Company will not, without the prior written consent of Jefferies and RBC (which consent may be withheld in their sole discretion), directly or indirectly: (i) sell, offer to sell, contract to sell or lend any Shares or Related Securities (as defined below); (ii) effect any short sale, or establish or increase any “put equivalent position” (as defined in Rule 16a-1(h) under the Exchange Act) or liquidate or decrease any “call equivalent position” (as defined in Rule 16a-1(b) under the Exchange Act) of any Shares or Related Securities; (iii) pledge, hypothecate or grant any security interest in any Shares or Related Securities; (iv) in any other way transfer or dispose of any Shares or Related Securities; (v) enter into any swap, hedge or similar arrangement or agreement that transfers, in whole or in part, the economic risk of ownership of any Shares or Related Securities, regardless of whether any such transaction is to be settled in securities, in cash or otherwise; (vi) announce the offering of any Shares or Related Securities; (vii) file any registration statement under the Securities Act in respect of any Shares or Related Securities (other than as contemplated by this Agreement with respect to the Offered Shares and other than filings of Form S-8 registration statements relating to Company Stock Plans), or (viii) publicly announce the intention to do any of the foregoing; *provided, however,* that the Company may (A) effect the transactions contemplated hereby, (B) issue Shares or options to purchase Shares, or issue Shares upon exercise of options, or grant other equity awards pursuant to any Company Stock Plan, (C) issue Shares upon the exercise of warrants described as outstanding in the Registration Statement, the Time of Sale Prospectus and the Prospectus, or (D) issue Carveout Shares (as defined herein) not exceeding in the aggregate, after giving effect to any such issuance, that number of shares equal to five percent (5%) of the Company’s outstanding Shares, provided that the Company shall cause each recipient of Carveout Shares to execute and deliver to the Representatives a lock-up agreement substantially in the form of Exhibit D hereto for the balance of the 90-day restricted period. For purposes of the foregoing, “**Related Securities**” shall mean any options or warrants or other rights to acquire Shares or any securities exchangeable or exercisable for or convertible into Shares, or to acquire other securities or rights ultimately exchangeable or exercisable for, or convertible into, Shares; and “**Carveout Shares**” shall mean Shares issued in connection with mergers or acquisitions of business, entities, property or other assets, joint ventures or strategic alliances.

**(p) Future Reports to the Representatives.** During the period of three years hereafter, the Company will furnish to Jefferies, at 520 Madison Avenue, New York, New York 10022, Attention: Global Head of Syndicate: (i) as soon as practicable after the end of each fiscal year, copies of the Annual Report of the Company containing the balance sheet of the Company as of the close of such fiscal year and statements of income, stockholders' equity and cash flows for the year then ended and the opinion thereon of the Company's independent public or certified public accountants; (ii) as soon as practicable after the filing thereof, copies of each proxy statement, Annual Report on Form 10-K, Quarterly Report on Form 10-Q, Current Report on Form 8-K or other report filed by the Company with the Commission or any securities exchange; and (iii) as soon as available, copies of any report or communication of the Company furnished or made available generally to holders of its capital stock; *provided, however*, that the requirements of this Section 3(p) shall be satisfied to the extent that such reports, statement, communications, financial statements or other documents are available on EDGAR.

**(q) Investment Limitation.** The Company shall not invest or otherwise use the proceeds received by the Company from its sale of the Offered Shares in such a manner as would require the Company or any of its subsidiaries to register as an investment company under the Investment Company Act.

**(r) No Stabilization or Manipulation; Compliance with Regulation M.** The Company will not take, and will ensure that no affiliate of the Company will take, directly or indirectly, any action designed to or that might cause or result in stabilization or manipulation of the price of the Shares or any reference security with respect to the Shares, whether to facilitate the sale or resale of the Offered Shares or otherwise, and the Company will, and shall cause each of its affiliates to, comply with all applicable provisions of Regulation M.

**(s) Enforce Lock-Up Agreements.** During the Lock-up Period, the Company will enforce all agreements between the Company and any of its security holders that restrict or prohibit, expressly or in operation, the offer, sale or transfer of Shares or Related Securities or any of the other actions restricted or prohibited under the terms of the form of Lock-up Agreement. In addition, the Company will direct the transfer agent to place stop transfer restrictions upon any such securities of the Company that are bound by such "lock-up" agreements for the duration of the periods contemplated in such agreements, including, without limitation, "lock-up" agreements entered into by the Company's officers and directors pursuant to Section 6(l) hereof.

**(t) Company to Provide Interim Financial Statements.** Prior to the First Closing Date and each applicable Option Closing Date, the Company will furnish the Underwriters, as soon as they have been prepared by or are available to the Company, a copy of any unaudited interim financial statements of the Company for any period subsequent to the period covered by the most recent financial statements appearing in the Registration Statement and the Prospectus, if any.

**(u) Amendments and Supplements to Permitted Section 5(d) Communications.** If at any time following the distribution of any Permitted Section 5(d) Communication, there occurred or occurs an event or development as a result of which such Permitted Section 5(d) Communication included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances existing at that subsequent time, not misleading, the Company will promptly notify the Representatives and will promptly amend or supplement, at its own expense, such Permitted Section 5(d) Communication to eliminate or correct such untrue statement or omission.

**(v) Emerging Growth Company Status.** The Company will promptly notify the Representatives if the Company ceases to be an Emerging Growth Company at any time prior to the later of (i) the time when a prospectus relating to the Offered Shares is not required by the Securities Act to be delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule) and (ii) the expiration of the Lock-Up Period (as defined herein).

The Representatives, on behalf of the several Underwriters, may, in their sole discretion, waive in writing the performance by the Company of any one or more of the foregoing covenants or extend the time for their performance.

**Section 4. Payment of Expenses.** The Company agrees to pay all costs, fees and expenses incurred in connection with the performance of its obligations hereunder and in connection with the transactions contemplated hereby, including without limitation (i) all expenses incident to the issuance and delivery of the Offered Shares (including all printing and engraving costs), (ii) all fees and expenses of the registrar and transfer agent of the Shares, (iii) all necessary issue, transfer and other stamp taxes in connection with the issuance and sale of the Offered Shares to the Underwriters, (iv) all fees and expenses of the Company's counsel, independent public or certified public accountants and other advisors, (v) all costs and expenses incurred in connection with the preparation, printing, filing, shipping and distribution of the Registration Statement (including financial statements, exhibits, schedules, consents and certificates of experts), the Time of Sale Prospectus, the Prospectus, any free writing prospectus prepared by or on behalf of, used by, or referred to by the Company, and each preliminary prospectus, each Permitted Section 5(d) Communication, and all amendments and supplements thereto, and this Agreement, (vi) all filing fees, attorneys' fees and expenses incurred by the Company or the Underwriters in connection with qualifying or registering (or obtaining exemptions from the qualification or registration of) all or any part of the Offered Shares for offer and sale under the state securities or blue sky laws or the provincial securities laws of Canada, and, if requested by the Representatives, preparing and printing a "Blue Sky Survey" or memorandum and a "Canadian wrapper," and any supplements thereto, advising the Underwriters of such qualifications, registrations and exemptions, (vii) the costs, fees and expenses incurred by the Underwriters in connection with determining their compliance with the rules and regulations of FINRA related to the Underwriters' participation in the offering and distribution of the Offered Shares, including any related filing fees and the legal fees of, and disbursements by, counsel to the Underwriters not to exceed \$15,000 (exclusive of any filing fees) without the prior written consent of the Company, when taken together with the amount incurred in connection with clause (vi) above, (viii) the costs and expenses of the Company relating to investor presentations on any "road show", any Permitted Section 5(d) Communication or any Section 5(d) Oral Communication undertaken in connection with the offering of the Offered Shares, including, without limitation, expenses associated with the preparation or dissemination of any electronic road show, expenses associated with the production of road show slides and graphics, fees and expenses of any consultants engaged in connection with the road show presentations with the prior approval of the Company, travel and lodging expenses of the representatives, employees and officers of the Company and any such consultants, and 50% of the cost of any aircraft chartered in connection with the road show (the remaining 50% of the cost of such aircraft to be paid by the Underwriters), (ix) the fees and expenses associated with listing the Offered Shares on the NASDAQ, and (x) all other fees, costs and expenses of the nature referred to in Item 14 of Part II of the Registration Statement. Any amount payable to the Underwriters hereunder may be deducted from the purchase price for the Offered Shares. Except as provided in this Section 4 or in Section 7, Section 9 or Section 10 hereof, the Underwriters shall pay their own expenses, including the fees and disbursements of their counsel.

**Section 5. Covenant of the Underwriters.** Each Underwriter severally and not jointly covenants with the Company not to take any action that would result in the Company being required to file with the Commission pursuant to Rule 433(d) under the Securities Act a free writing prospectus prepared by or on behalf of such Underwriter that otherwise would not, but for such actions, be required to be filed by the Company under Rule 433(d).

**Section 6. Conditions of the Obligations of the Underwriters.** The respective obligations of the several Underwriters hereunder to purchase and pay for the Offered Shares as provided herein on the First Closing Date and, with respect to the Optional Shares, each Option Closing Date, shall be subject to the accuracy of the representations and warranties on the part of the Company set forth in Section 1 hereof as of the date hereof and as of the First Closing Date as though then made and, with respect to the Optional Shares, as of each Option Closing Date as though then made, to the timely performance by the Company of its covenants and other obligations hereunder, and to each of the following additional conditions:

(a) **Comfort Letter.** On the date hereof, the Representatives shall have received from EisnerAmper LLP, independent registered public accountants for the Company, a letter dated the date hereof addressed to the Underwriters, in form and substance satisfactory to the Representatives, containing statements and information of the type ordinarily included in accountant's "comfort letters" to underwriters, delivered according to Statement of Auditing Standards No. 72 (or any successor bulletin), with respect to the audited and unaudited financial statements and certain financial information contained in the Registration Statement, the Time of Sale Prospectus, and each free writing prospectus, if any.

(b) **Compliance with Registration Requirements; No Stop Order; No Objection from FINRA.**

(i) The Company shall have filed the Prospectus with the Commission (including the information previously omitted from the Registration Statement pursuant to Rule 430B under the Securities Act) in the manner and within the time period required by Rule 424(b) under the Securities Act.

(ii) No stop order suspending the effectiveness of the Registration Statement or any post-effective amendment to the Registration Statement shall be in effect, and no proceedings for such purpose shall have been instituted or threatened by the Commission.

(iii) If a filing has been made with FINRA, FINRA shall have raised no objection to the fairness and reasonableness of the underwriting terms and arrangements.

(c) **No Material Adverse Change.** For the period from and after the date of this Agreement and through and including the First Closing Date and, with respect to any Optional Shares purchased after the First Closing Date, each Option Closing Date, in the judgment of the Representatives there shall not have occurred any Material Adverse Change.

(d) **Opinion of Counsel for the Company.** On each of the First Closing Date and each Option Closing Date, the Representatives shall have received the opinion of Lowenstein Sandler LLP, counsel for the Company, dated as of such date, in form and substance reasonably satisfactory to the Representatives.

(e) **Opinion of Intellectual Property Counsel.** On each of the First Closing Date and each Option Closing Date, the Representatives shall have received the opinion of Lowenstein Sandler LLP, counsel for the Company with respect to intellectual property matters, dated as of such date, in form and substance reasonably satisfactory to the Representatives.

(f) **Opinion of Counsel for the Underwriters.** On each of the First Closing Date and each Option Closing Date the Representatives shall have received the opinion of Covington & Burling LLP, counsel for the Underwriters in connection with the offer and sale of the Offered Shares, in form and substance reasonably satisfactory to the Representatives, dated as of such date.

**(g) Officers' Certificate.** On each of the First Closing Date and each Option Closing Date, the Representatives shall have received a certificate executed by the Chief Executive Officer or President of the Company and the Chief Financial Officer of the Company, dated as of such date, to the effect set forth in Section 6(b) and further to the effect that:

(i) for the period from and including the date of this Agreement through and including such date, there has not occurred any Material Adverse Change;

(ii) the representations, warranties and covenants of the Company set forth in Section 1 of this Agreement are true and correct with the same force and effect as though expressly made on and as of such date; and

(iii) the Company has complied with all the agreements hereunder and satisfied all the conditions on its part to be performed or satisfied hereunder at or prior to such date.

**(h) Bring-down Comfort Letter.** On each of the First Closing Date and each Option Closing Date the Representatives shall have received from EisnerAmper LLP, independent registered public accountants for the Company, a letter dated such date, in form and substance satisfactory to the Representatives, which letter shall: (i) reaffirm the statements made in the letter furnished by them pursuant to Section 6(a), except that the specified date referred to therein for the carrying out of procedures shall be no more than three business days prior to the First Closing Date or the applicable Option Closing Date, as the case may be; and (ii) cover certain financial information contained in the Prospectus.

**(i) Lock-Up Agreements.** On or prior to the date hereof, the Company shall have furnished to the Representatives an agreement in the form of Exhibit D hereto from each of the persons listed on Exhibit E hereto, and each such agreement shall be in full force and effect on each of the First Closing Date and each Option Closing Date.

**(j) Rule 462(b) Registration Statement.** In the event that a Rule 462(b) Registration Statement is filed in connection with the offering contemplated by this Agreement, such Rule 462(b) Registration Statement shall have been filed with the Commission on the date of this Agreement and shall have become effective automatically upon such filing.

**(k) Additional Documents.** On or before each of the First Closing Date and each Option Closing Date, the Representatives and counsel for the Underwriters shall have received such information, documents and opinions as they may reasonably request for the purposes of enabling them to pass upon the issuance and sale of the Offered Shares as contemplated herein, or in order to evidence the accuracy of any of the representations and warranties, or the satisfaction of any of the conditions or agreements, herein contained; and all proceedings taken by the Company in connection with the issuance and sale of the Offered Shares as contemplated herein and in connection with the other transactions contemplated by this Agreement shall be satisfactory in form and substance to the Representatives and counsel for the Underwriters.

If any condition specified in this Section 6 is not satisfied when and as required to be satisfied, this Agreement may be terminated by the Representatives by notice from the Representatives to the Company at any time on or prior to the First Closing Date and, with respect to the Optional Shares, at any time on or prior to the applicable Option Closing Date, which termination shall be without liability on the part of any party to any other party, except that Section 4, Section 7, Section 9 and Section 10 shall at all times be effective and shall survive such termination.

**Section 7. Reimbursement of Underwriters' Expenses.** If this Agreement is terminated by the Representatives pursuant to Section 6, Section 11 or Section 12, or if the sale to the Underwriters of the Offered Shares on the First Closing Date is not consummated because of any refusal, inability or failure on the part of the Company to perform any agreement herein or to comply with any provision hereof, the Company agrees to reimburse the Representatives and the other Underwriters (or such Underwriters as have terminated this Agreement with respect to themselves), severally, upon demand for all out-of-pocket expenses that shall have been reasonably incurred by the Representatives and the other Underwriters in connection with the proposed purchase and the offering and sale of the Offered Shares, including, but not limited to, fees and disbursements of counsel, printing expenses, travel expenses, postage, facsimile and telephone charges.

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

**Section 9. Indemnification.**

**(a) Indemnification of the Underwriters.** The Company agrees to indemnify and hold harmless each Underwriter, its affiliates, directors, officers, employees and agents, and each person, if any, who controls any Underwriter within the meaning of the Securities Act or the Exchange Act against any loss, claim, damage, liability or expense, as reasonably incurred, to which such Underwriter or such affiliate, director, officer, employee, agent or controlling person may become subject, under the Securities Act, the Exchange Act, other federal or state statutory law or regulation, or the laws or regulations of foreign jurisdictions where Offered Shares have been offered or sold or at common law or otherwise (including in settlement of any litigation, if such settlement is effected with the written consent of the Company), insofar as such loss, claim, damage, liability or expense (or actions in respect thereof as contemplated below) arises out of or is based upon (i) any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, or any amendment thereto, or the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading; or (ii) any untrue statement or alleged untrue statement of a material fact included in any preliminary prospectus, the Time of Sale Prospectus, any free writing prospectus that the Company has used, referred to or filed, or is required to file, pursuant to Rule 433(d) of the Securities Act, any Marketing Material, any Section 5(d) Written Communication or the Prospectus (or any amendment or supplement to the foregoing), or the omission or alleged omission to state therein a material fact necessary in order to make the statements, in the light of the circumstances under which they were made, not misleading; or (iii) any act or failure to act or any alleged act or failure to act by any Underwriter in connection with, or relating in any manner to, the Shares or the offering contemplated hereby, and which is included as part of or referred to in any loss, claim, damage, liability or action arising out of or based upon any matter covered by clause (i) or (ii) above; and to reimburse each Underwriter and each such affiliate, director, officer, employee, agent and controlling person for any and all expenses (including the fees and disbursements of counsel) as such expenses are incurred by such Underwriter or such affiliate, director, officer, employee, agent or controlling person in connection with investigating, defending, settling, compromising or paying any such loss, claim, damage, liability, expense or action; *provided, however*, that the foregoing indemnity agreement shall not apply to any loss, claim, damage, liability or expense to the extent, but only to the extent, arising out of or based upon any untrue statement or alleged untrue statement or omission or alleged omission made in reliance upon and in conformity with information relating to any Underwriter furnished to the Company by the Representatives in writing expressly for use in the Registration Statement, any preliminary prospectus, the Time of Sale Prospectus, any such free writing prospectus, any Marketing Material, any Section 5(d) Written Communication or the Prospectus (or any amendment or supplement thereto), it being understood and agreed that the only such information consists of the information described in Section 9(b) below. The indemnity agreement set forth in this Section 9(a) shall be in addition to any liabilities that the Company may otherwise have.

***Indemnification of the Company, its Directors and Officers Stockholders.*** Each Underwriter agrees, severally and not jointly, to indemnify and hold harmless the Company, each of its directors, each of its officers who signed the Registration Statement and each person, if any, who controls the Company within the meaning of the Securities Act or the Exchange Act, against any loss, claim, damage, liability or expense, as incurred, to which the Company, or any such director, officer or controlling person may become subject, under the Securities Act, the Exchange Act, or other federal or state statutory law or regulation, or at common law or otherwise (including in settlement of any litigation, if such settlement is effected with the written consent of such Underwriter), insofar as such loss, claim, damage, liability or expense (or actions in respect thereof as contemplated below) arises out of or is based upon (i) any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, or any amendment thereto, or any omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading or (ii) any untrue statement or alleged untrue statement of a material fact included in any preliminary prospectus, the Time of Sale Prospectus, any free writing prospectus that the Company has used, referred to or filed, or is required to file, pursuant to Rule 433 of the Securities Act, any Section 5(d) Written Communication or the Prospectus (or any such amendment or supplement) or the omission or alleged omission to state therein a material fact necessary in order to make the statements, in the light of the circumstances under which they were made, not misleading, in each case to the extent, but only to the extent, that such untrue statement or alleged untrue statement or omission or alleged omission was made in the Registration Statement, such preliminary prospectus, the Time of Sale Prospectus, such free writing prospectus, such Section 5(d) Written Communication or the Prospectus (or any such amendment or supplement), in reliance upon and in conformity with information relating to such Underwriter furnished to the Company by the Representatives in writing expressly for use therein; and to reimburse the Company, or any such director, officer or controlling person for any and all expenses (including the fees and disbursements of counsel) as such expenses are incurred by the Company, or any such director, officer, or controlling person in connection with investigating, defending, settling, compromising or paying any such loss, claim, damage, liability, expense or action. The Company hereby acknowledges that the only information that the Representatives have furnished to the Company expressly for use in the Registration Statement, any preliminary prospectus, the Time of Sale Prospectus, any free writing prospectus that the Company has filed, or is required to file, pursuant to Rule 433(d) of the Securities Act, any Section 5(d) Written Communication or the Prospectus (or any amendment or supplement to the foregoing) are the statements set forth in the sentences relating to the concession to certain dealers in the first paragraph under the caption “Underwriting—Commission and Expenses,” the first and third sentences of the first paragraph, the second paragraph, the third paragraph, the first, second and fifth sentences of the fourth paragraph, and the first sentence of the sixth paragraph under the caption “Underwriting—Stabilization,” (collectively, the “Underwriter Information”). The indemnity agreement set forth in this Section 9(b) shall be in addition to any liabilities that each Underwriter may otherwise have.

**(b) Notifications and Other Indemnification Procedures.** Promptly after receipt by an indemnified party under this Section 9 of notice of the commencement of any action, such indemnified party will, if a claim in respect thereof is to be made against an indemnifying party under this Section 9, notify the indemnifying party in writing of the commencement thereof, but the omission so to notify the indemnifying party will not relieve the indemnifying party from any liability which it may have to any indemnified party to the extent the indemnifying party is not materially prejudiced as a proximate result of such failure and shall not in any event relieve the indemnifying party from any liability that it may have otherwise than on account of this indemnity agreement. In case any such action is brought against any indemnified party and such indemnified party seeks or intends to seek indemnity from an indemnifying party, the indemnifying party will be entitled to participate in, and, to the extent that it shall elect, jointly with all other indemnifying parties similarly notified, by written notice delivered to the indemnified party promptly after receiving the aforesaid notice from such indemnified party, to assume the defense thereof with counsel reasonably satisfactory to such indemnified party; *provided, however*, that if the defendants in any such action include both the indemnified party and the indemnifying party and the indemnified party shall have reasonably concluded that a conflict may arise between the positions of the indemnifying party and the indemnified party in conducting the defense of any such action or that there may be legal defenses available to it and/or other indemnified parties which are different from or additional to those available to the indemnifying party, the indemnified party or parties shall have the right to select separate counsel to assume such legal defenses and to otherwise participate in the defense of such action on behalf of such indemnified party or parties. Upon receipt of notice from the indemnifying party to such indemnified party of such indemnifying party's election so to assume the defense of such action and approval by the indemnified party of counsel, the indemnifying party will not be liable to such indemnified party under this Section 9 for any legal or other expenses subsequently incurred by such indemnified party in connection with the defense thereof unless (i) the indemnified party shall have employed separate counsel in accordance with the proviso to the preceding sentence (it being understood, however, that the indemnifying party shall not be liable for the fees and expenses of more than one separate counsel (together with local counsel), representing the indemnified parties who are parties to such action), which counsel (together with any local counsel) for the indemnified parties shall be selected by Jefferies (in the case of counsel for the indemnified parties referred to in Section 9(a) above) or by the Company (in the case of counsel for the indemnified parties referred to in Section 9(b) above) or (ii) the indemnifying party shall not have employed counsel satisfactory to the indemnified party to represent the indemnified party within a reasonable time after notice of commencement of the action or (iii) the indemnifying party has authorized in writing the employment of counsel for the indemnified party at the expense of the indemnifying party, in each of which cases the fees and expenses of counsel shall be at the expense of the indemnifying party and shall be paid as they are incurred.

**(c) Settlements.** The indemnifying party under this Section 9 shall not be liable for any settlement of any proceeding effected without its written consent, but if settled with such consent or if there be a final judgment for the plaintiff, the indemnifying party agrees to indemnify the indemnified party against any loss, claim, damage, liability or expense by reason of such settlement or judgment. Notwithstanding the foregoing sentence, if at any time an indemnified party shall have requested an indemnifying party to reimburse the indemnified party for fees and expenses of counsel as contemplated by Section 9(c) hereof, the indemnifying party shall be liable for any settlement of any proceeding effected without its written consent if (i) such settlement is entered into more than 30 days after receipt by such indemnifying party of the aforesaid request and (ii) such indemnifying party shall not have reimbursed the indemnified party in accordance with such request prior to the date of such settlement. No indemnifying party shall, without the prior written consent of the indemnified party, effect any settlement, compromise or consent to the entry of judgment in any pending or threatened action, suit or proceeding in respect of which any indemnified party is or could have been a party and indemnity was or could have been sought hereunder by such indemnified party, unless such settlement, compromise or consent includes an unconditional release of such indemnified party from all liability on claims that are the subject matter of such action, suit or proceeding and does not include an admission of fault or culpability or a failure to act by or on behalf of such indemnified party.

**Section 10. Contribution.** If the indemnification provided for in Section 9 is for any reason held to be unavailable to or otherwise insufficient to hold harmless an indemnified party in respect of any losses, claims, damages, liabilities or expenses referred to therein, then each indemnifying party shall contribute to the aggregate amount paid or payable by such indemnified party, as incurred, as a result of any losses, claims, damages, liabilities or expenses referred to therein (i) in such proportion as is appropriate to reflect the relative benefits received by the Company, on the one hand, and the Underwriters, on the other hand, from the offering of the Offered Shares pursuant to this Agreement or (ii) if the allocation provided by clause (i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company, on the one hand, and the Underwriters, on the other hand, in connection with the statements or omissions which resulted in such losses, claims, damages, liabilities or expenses, as well as any other relevant equitable considerations. The relative benefits received by the Company, on the one hand, and the Underwriters, on the other hand, in connection with the offering of the Offered Shares pursuant to this Agreement shall be deemed to be in the same respective proportions as the total proceeds from the offering of the Offered Shares pursuant to this Agreement (before deducting expenses) received by the Company, and the total underwriting discounts and commissions received by the Underwriters, in each case as set forth on the front cover page of the Prospectus, bear to the aggregate initial public offering price of the Offered Shares as set forth on such cover. The relative fault of the Company, on the one hand, and the Underwriters, on the other hand, shall be determined by reference to, among other things, whether any such untrue or alleged untrue statement of a material fact or omission or alleged omission to state a material fact relates to information supplied by the Company, on the one hand, or the Underwriters, on the other hand, and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission.

The amount paid or payable by a party as a result of the losses, claims, damages, liabilities and expenses referred to above shall be deemed to include, subject to the limitations set forth in Section 9(c), any legal or other fees or expenses reasonably incurred by such party in connection with investigating or defending any action or claim. The provisions set forth in Section 9(c) with respect to notice of commencement of any action shall apply if a claim for contribution is to be made under this Section 10; *provided, however*, that no additional notice shall be required with respect to any action for which notice has been given under Section 9(c) for purposes of indemnification.

The Company and the Underwriters agree that it would not be just and equitable if contribution pursuant to this Section 10 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 which does not take account of the equitable considerations referred to in this Section 10.

Notwithstanding the provisions of this Section 10, no Underwriter shall be required to contribute any amount in excess of the underwriting discounts and commissions received by such Underwriter in connection with the Offered Shares underwritten by it and distributed to the public. 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 this Section 10 are several, and not joint, in proportion to their respective underwriting commitments as set forth opposite their respective names on Schedule A. For purposes of this Section 10, each affiliate, director, officer, employee and agent of an Underwriter and each person, if any, who controls an Underwriter within the meaning of the Securities Act or the Exchange Act shall have the same rights to contribution as such Underwriter, and each director of the Company, each officer of the Company who signed the Registration Statement, and each person, if any, who controls the Company within the meaning of the Securities Act and the Exchange Act shall have the same rights to contribution as the Company.

**Section 11. Default of One or More of the Several Underwriters.** If, on the First Closing Date or any Option Closing Date any one or more of the several Underwriters shall fail or refuse to purchase Offered Shares that it or they have agreed to purchase hereunder on such date, and the aggregate number of Offered Shares which such defaulting Underwriter or Underwriters agreed but failed or refused to purchase does not exceed 10% of the aggregate number of the Offered Shares to be purchased on such date, the Representatives may make arrangements satisfactory to the Company for the purchase of such Offered Shares by other persons, including any of the Underwriters, but if no such arrangements are made by such date, the other Underwriters shall be obligated, severally and not jointly, in the proportions that the number of Firm Shares set forth opposite their respective names on Schedule A bears to the aggregate number of Firm Shares set forth opposite the names of all such non-defaulting Underwriters, or in such other proportions as may be specified by the Representatives with the consent of the non-defaulting Underwriters, to purchase the Offered Shares which such defaulting Underwriter or Underwriters agreed but failed or refused to purchase on such date. If, on the First Closing Date or any Option Closing Date any one or more of the Underwriters shall fail or refuse to purchase Offered Shares and the aggregate number of Offered Shares with respect to which such default occurs exceeds 10% of the aggregate number of Offered Shares to be purchased on such date, and arrangements satisfactory to the Representatives and the Company for the purchase of such Offered Shares are not made within 48 hours after such default, this Agreement shall terminate without liability of any party to any other party except that the provisions of Section 4, Section 7, Section 9 and Section 10 shall at all times be effective and shall survive such termination. In any such case either the Representatives or the Company shall have the right to postpone the First Closing Date or the applicable Option Closing Date, as the case may be, but in no event for longer than seven days in order that the required changes, if any, to the Registration Statement and the Prospectus or any other documents or arrangements may be effected.

As used in this Agreement, the term “**Underwriter**” shall be deemed to include any person substituted for a defaulting Underwriter under this Section 11. Any action taken under this Section 11 shall not relieve any defaulting Underwriter from liability in respect of any default of such Underwriter under this Agreement.

**Section 12. Termination of this Agreement .** Prior to the purchase of the Firm Shares by the Underwriters on the First Closing Date, this Agreement may be terminated by Jefferies by notice given to the Company if at any time: (i) trading or quotation in any of the Company’s securities shall have been suspended or limited by the Commission or by the NASDAQ, or trading in securities generally on either the NASDAQ or the NYSE shall have been suspended or limited, or minimum or maximum prices shall have been generally established on any of such stock exchanges; (ii) a general banking moratorium shall have been declared by any of federal, New York, or Massachusetts authorities; (iii) there shall have occurred any outbreak or escalation of national or international hostilities or any crisis or calamity, or any change in the United States or international financial markets, or any substantial change or development involving a prospective substantial change in United States’ or international political, financial or economic conditions, as in the judgment of Jefferies is material and adverse and makes it impracticable to market the Offered Shares in the manner and on the terms described in the Time of Sale Prospectus or the Prospectus or to enforce contracts for the sale of securities; (iv) in the reasonable judgment of Jefferies there shall have occurred any Material Adverse Change; or (v) the Company shall have sustained a loss by strike, fire, flood, earthquake, accident or other calamity of such character as in the judgment of Jefferies may interfere materially with the conduct of the business and operations of the Company regardless of whether or not such loss shall have been insured. Any termination pursuant to this Section 12 shall be without liability on the part of (a) the Company to any Underwriter, except that the Company shall be obligated to reimburse the expenses of the Representatives and the other Underwriters pursuant to Section 4 or Section 7 hereof or (b) any Underwriter to the Company; *provided, however,* that the provisions of Section 9 and Section 10 shall at all times be effective and shall survive such termination.

**Section 13. No Advisory or Fiduciary Relationship.** The Company acknowledge and agrees that (a) the purchase and sale of the Offered Shares pursuant to this Agreement, including the determination of the public offering price of the Offered Shares and any related discounts and commissions, is an arm's-length commercial transaction between the Company, on the one hand, and the several Underwriters, on the other hand, (b) in connection with the offering contemplated hereby and the process leading to such transaction, each Underwriter is and has been acting solely as a principal and is not the agent or fiduciary of the Company, or its stockholders, or its creditors, employees or any other party, (c) no Underwriter has assumed or will assume an advisory or fiduciary responsibility in favor of the Company with respect to the offering contemplated hereby or the process leading thereto (irrespective of whether such Underwriter has advised or is currently advising the Company on other matters) and no Underwriter has any obligation to the Company with respect to the offering contemplated hereby except the obligations expressly set forth in this Agreement, (d) the Underwriters and their respective affiliates may be engaged in a broad range of transactions that involve interests that differ from those of the Company, and (e) the Underwriters have not provided any legal, accounting, regulatory or tax advice with respect to the offering contemplated hereby and the Company has consulted its own legal, accounting, regulatory and tax advisors to the extent it deemed appropriate.

**Section 14. Representations and Indemnities to Survive Delivery.** The respective indemnities, agreements, representations, warranties and other statements of the Company, of its officers and of the several Underwriters set forth in or made pursuant to this Agreement will remain in full force and effect, regardless of any investigation made by or on behalf of any Underwriter or the Company or any of its or their partners, officers or directors or any controlling person, as the case may be, and, anything herein to the contrary notwithstanding, will survive delivery of and payment for the Offered Shares sold hereunder and any termination of this Agreement.

**Section 15. Notices.** All communications hereunder shall be in writing and shall be mailed, hand delivered or telecopied and confirmed to the parties hereto as follows:

If to the Representatives:	Jefferies LLC 520 Madison Avenue New York, New York 10022 Facsimile: (646) 619-4437 Attention: General Counsel
and to:	RBC Capital Markets, LLC 200 Vesey Street New York, New York 10281 Facsimile: (212) 428-3026 Attention: General Counsel
with a copy to:	Covington & Burling LLP 620 Eighth Avenue New York, New York 10018 Attention: Donald Murray
If to the Company:	Corbus Pharmaceuticals Holdings, Inc. 500 River Ridge Drive Norwood, MA 02062 Email: smoran@corbuspharma.com Attention: Sean Moran Chief Financial Officer
with a copy to:	Lowenstein Sandler LLP 1251 Avenue of the Americas New York, New York 10020 Facsimile: (973) 507-2476 Attention: Steven M. Skolnick

Any party hereto may change the address for receipt of communications by giving written notice to the others.

**Section 16. Successors.** This Agreement will inure to the benefit of and be binding upon the parties hereto, including any substitute Underwriters pursuant to Section 11 hereof, and to the benefit of the affiliates, directors, officers, employees, agents and controlling persons referred to in Section 9 and Section 10, and in each case their respective successors, and no other person will have any right or obligation hereunder. The term “**successors**” shall not include any purchaser of the Offered Shares as such from any of the Underwriters merely by reason of such purchase.

**Section 17. Partial Unenforceability.** The invalidity or unenforceability of any section, paragraph or provision of this Agreement shall not affect the validity or enforceability of any other section, paragraph or provision hereof. If any section, paragraph or provision of this Agreement is for any reason determined to be invalid or unenforceable, there shall be deemed to be made such minor changes (and only such minor changes) as are necessary to make it valid and enforceable.

**Section 18. Governing Law Provisions.** This Agreement shall be governed by and construed in accordance with the internal laws of the State of New York applicable to agreements made and to be performed in such state. Any legal suit, action or proceeding arising out of or based upon this Agreement or the transactions contemplated hereby (“**Related Proceedings**”) may be instituted in the federal courts of the United States of America located in the Borough of Manhattan in the City of New York or the courts of the State of New York in each case located in the Borough of Manhattan in the City of New York (collectively, the “**Specified Courts**”), and each party irrevocably submits to the exclusive jurisdiction (except for proceedings instituted in regard to the enforcement of a judgment of any such court (a “**Related Judgment**”), as to which such jurisdiction is non-exclusive) of such courts in any such suit, action or proceeding. Service of any process, summons, notice or document by mail to such party’s address set forth above shall be effective service of process for any suit, action or other proceeding brought in any such court. The parties irrevocably and unconditionally waive any objection to the laying of venue of any suit, action or other proceeding in the Specified Courts and irrevocably and unconditionally waive and agree not to plead or claim in any such court that any such suit, action or other proceeding brought in any such court has been brought in an inconvenient forum.

**Section 19. General Provisions.** This Agreement constitutes the entire agreement of the parties to this Agreement and supersedes all prior written or oral and all contemporaneous oral agreements, understandings and negotiations with respect to the subject matter hereof. This Agreement may be executed in two or more counterparts, each one of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument. This Agreement may not be amended or modified unless in writing by all of the parties hereto, and no condition herein (express or implied) may be waived unless waived in writing by each party whom the condition is meant to benefit. The section headings herein are for the convenience of the parties only and shall not affect the construction or interpretation of this Agreement.

Each of the parties hereto acknowledges that it is a sophisticated business person who was adequately represented by counsel during negotiations regarding the provisions hereof, including, without limitation, the indemnification provisions of Section 9 and the contribution provisions of Section 10, and is fully informed regarding said provisions. Each of the parties hereto further acknowledges that the provisions of Section 9 and Section 10 hereof fairly allocate the risks in light of the ability of the parties to investigate the Company, its affairs and its business in order to assure that adequate disclosure has been made in the Registration Statement, any preliminary prospectus, the Time of Sale Prospectus, each free writing prospectus and the Prospectus (and any amendments and supplements to the foregoing), as contemplated by the Securities Act and the Exchange Act.

If the foregoing is in accordance with your understanding of our agreement, kindly sign and return to the Company the enclosed copies hereof, whereupon this instrument, along with all counterparts hereof, shall become a binding agreement in accordance with its terms.

Very truly yours,

**CORBUS PHARMACEUTICALS HOLDINGS, INC.**

By: /s/ Yuval Cohen

Name: Yuval Cohen, PhD

Title: Chief Executive Officer

The foregoing Underwriting Agreement is hereby confirmed and accepted by the Representatives in New York, New York as of the date first above written.

**JEFFERIES LLC**

By: /s/ Charles Glazer

Name: Charles Glazer

Title: Managing Director

**RBC CAPITAL MARKETS, LLC**

By: /s/ Lorenzo Paoletti

Name: Lorenzo Paoletti

Title: Managing Director

*For themselves and as Representatives of the several Underwriters named in Schedule A hereto*

<b>Underwriters</b>	<b>Number of Firm Shares to be Purchased</b>
Jefferies LLC	2,695,000
RBC Capital Markets, LLC	1,509,200
JMP Securities LLC	539,000
Oppenheimer & Co. Inc.	431,200
B. Riley FBR Inc.	215,600
<b>Total</b>	<b>5,390,000</b>

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**Free Writing Prospectuses Included in the Time of Sale Prospectus**

None.

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**Permitted Section 5(d) Communications**

None.

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**Form of Lock-up Agreement**

[Date]

Jefferies LLC  
520 Madison Avenue  
New York, New York 10022

RBC Capital Markets, LLC  
200 Vesey Street  
New York, New York 10281

*As Representatives of the Underwriters*

RE: Corbus Pharmaceuticals Holdings, Inc. (the “**Company**”)

Ladies & Gentlemen:

The undersigned is an officer or director of the Company or a record or beneficial owner of shares of common stock, par value \$0.0001 per share, of the Company (“**Shares**”) or of securities convertible into or exchangeable or exercisable for Shares. The Company proposes to conduct a public offering of Shares (the “**Offering**”) for which Jefferies LLC (“**Jefferies**”) and RBC Capital Markets, LLC (“**RBC**”) will act as the representatives of the underwriters. The undersigned recognizes that the Offering will benefit each of the Company and the undersigned. The undersigned acknowledges that the underwriters are relying on the representations and agreements of the undersigned contained in this letter agreement in conducting the Offering and, at a subsequent date, in entering into an underwriting agreement (the “**Underwriting Agreement**”) and other underwriting arrangements with the Company with respect to the Offering.

Annex A sets forth definitions for capitalized terms used in this letter agreement that are not defined in the body of this agreement. Those definitions are a part of this agreement.

In consideration of the foregoing, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the undersigned hereby agrees that, during the Lock-up Period, the undersigned will not (and will cause any Family Member not to), without the prior written consent of Jefferies and RBC, which may withhold their consent in their sole discretion:

- Sell or Offer to Sell any Shares or Related Securities currently or hereafter owned either of record or beneficially (as defined in Rule 13d-3 under the Exchange Act) by the undersigned or such Family Member,
- enter into any Swap,
- make any demand for, or exercise any right with respect to, the registration under the Securities Act of the offer and sale of any Shares or Related Securities, or cause to be filed a registration statement, prospectus or prospectus supplement (or an amendment or supplement thereto) with respect to any such registration, or
- publicly announce any intention to do any of the foregoing.

The foregoing will not apply to the registration of the offer and sale of the Shares, and the sale of the Shares to the underwriters, in each case as contemplated by the Underwriting Agreement. In addition, the foregoing will not apply to (i) sales or transfers of Shares solely in connection with the “cashless” exercise of Company stock options outstanding on the date hereof for the purpose of exercising such stock options (provided that in connection therewith Shares are not sold into the public market by a facilitating broker-dealer or otherwise and provided that any remaining Shares received upon such exercise will be subject to the terms hereof), (ii) the disposition of Shares to the Company in a transaction exempt from Section 16(b) of the Exchange Act solely in connection with the payment of taxes due, (iii) distributions of Shares or Related Securities to general or limited partners, members, shareholders, affiliates or wholly owned subsidiaries of the undersigned or any investment fund or other entity controlled or managed by the undersigned, (iv) transfers or dispositions of Shares or Related Securities to any corporation, partnership, limited liability company or other entity all of the beneficial ownership interests of which are held by the undersigned or a Family Member of the undersigned in a transaction not involving a disposition for value, (v) transfers to the Company of Shares or any Related Security in connection with (A) termination of employment or other termination of a service provider and pursuant to agreements wherein the Company has the option to repurchase such Shares or Related Securities, or (B) agreements wherein the Company has a right of first refusal with respect to transfers of such Shares, (vi) the establishment of any contract, instruction or plan (a “**Plan**”) that satisfies all of the requirements of Rule 10b5-1(c)(1)(i)(B) under the Exchange Act provided that no sales of the undersigned’s Shares or Related Securities shall be made pursuant to such a Plan prior to the expiration of the Lock-up Period, (vii) the transfer of Shares or Related Securities by gift or intestate succession to a Family Member or to a trust whose beneficiaries consist exclusively of one or more of the undersigned and/or a Family Member and (viii) Shares or Related Securities to be transferred as a gift or gifts or charitable contributions; and *provided, however*, that (A) in any such case, it shall be a condition to a transfer pursuant to subparagraphs (iii), (iv), (vii) and (viii) that each transferee executes and delivers to Jefferies and RBC an agreement in form and substance satisfactory to Jefferies and RBC stating that such transferee is receiving and holding such Shares and/or Related Securities subject to the provisions of this letter agreement and agrees not to Sell or Offer to Sell such Shares and/or Related Securities, engage in any Swap or engage in any other activities restricted under this letter agreement except in accordance with this letter agreement (as if such transferee had been an original signatory hereto), and (B) in any such case it shall be a condition to a transfer that prior to the expiration of the Lock-up Period, no public disclosure or filing under the Exchange Act by any party to the transfer (donor, donee, transferor or transferee) shall be required, or made voluntarily, reporting a reduction in beneficial ownership of Shares or Related Securities in connection with such transfer.

The undersigned further agrees that the foregoing provisions shall be equally applicable to any Company-directed Shares the undersigned may purchase or otherwise receive in the Offering (including pursuant to a directed share program).

The undersigned also agrees and consents to the entry of stop transfer instructions with the Company’s transfer agent and registrar against the transfer of Shares and/or Related Securities held by the undersigned and the undersigned’s Family Members, if any, except in compliance with the foregoing restrictions.

With respect to the Offering only, the undersigned waives any registration rights relating to registration under the Securities Act of the offer and sale of any Shares and/or any Related Securities owned either of record or beneficially by the undersigned, including any rights to receive notice of the Offering.

The undersigned confirms that the undersigned has not, and has no knowledge that any Family Member has, directly or indirectly, taken any action designed to or that might reasonably be expected to cause or result in the stabilization or manipulation of the price of any security of the Company to facilitate the sale of the Shares. The undersigned will not, and will cause any Family Member not to take, directly or indirectly, any such action.

Whether or not the Offering occurs as currently contemplated or at all depends on market conditions and other factors. The Offering will only be made pursuant to the Underwriting Agreement, the terms of which are subject to negotiation between the Company and the underwriters.

The undersigned hereby represents and warrants that the undersigned has full power, capacity and authority to enter into this letter agreement. This letter agreement is irrevocable and will be binding on the undersigned and the successors, heirs, personal representatives and assigns of the undersigned.

This letter agreement shall be governed by, and construed in accordance with, the laws of the State of New York.

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Signature

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Printed Name of Person Signing

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

**Certain Defined Terms  
Used in Lock-up Agreement**

For purposes of the letter agreement to which this Annex A is attached and of which it is made a part:

- “**Call Equivalent Position**” shall have the meaning set forth in Rule 16a-1(b) under the Exchange Act.
- “**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**” as used above shall have the meaning set forth in Rule 16a-1(e) under the Exchange Act.
- “**Lock-up Period**” shall mean the period beginning on the date hereof and continuing through the close of trading on the date that is 90 days after the date of the Prospectus (as defined in the Underwriting Agreement).
- “**Put Equivalent Position**” shall have the meaning set forth in Rule 16a-1(h) under the Exchange Act.
- “**Related Securities**” shall mean any options or warrants or other rights to acquire Shares or any securities exchangeable or exercisable for or convertible into Shares, or to acquire other securities or rights ultimately exchangeable or exercisable for or convertible into Shares.
- “**Securities Act**” shall mean the Securities Act of 1933, as amended.
- “**Sell or Offer to Sell**” shall mean to:
  - sell, offer to sell, contract to sell or lend,
  - effect any short sale or establish or increase a Put Equivalent Position or liquidate or decrease any Call Equivalent Position
  - pledge, hypothecate or grant any security interest in, or
  - in any other way transfer or dispose of,in each case whether effected directly or indirectly.
- “**Swap**” shall mean any swap, hedge or similar arrangement or agreement that transfers, in whole or in part, the economic risk of ownership of Shares or Related Securities, regardless of whether any such transaction is to be settled in securities, in cash or otherwise.

Capitalized terms not defined in this Annex A shall have the meanings given to them in the body of this lock-up agreement.

**Directors and Officers**

Directors:

Alan Holmer  
Avery Catlin  
David Hochmann  
John Jenkins  
Paris Panayiotopoulos

Officers:

Yuval Cohen  
Mark Tepper  
Barbara White  
Sean Moran



January 25, 2019

Corbus Pharmaceuticals Holdings, Inc.  
500 River Ridge Drive  
Norwood, Massachusetts 02062

Ladies and Gentlemen:

We have acted as counsel to Corbus Pharmaceuticals Holdings, Inc., a Delaware corporation (the “**Company**”), in connection with (i) the preparation and filing of the Registration Statement on Form S-3 (Registration No. 333-222447) filed with the Securities and Exchange Commission (the “**Commission**”) under the Securities Act of 1933, as amended (the “**Securities Act**”), (as so filed and as amended, the “**Registration Statement**”) and the related prospectus contained in the Registration Statement (the “**Base Prospectus**”) and (ii) the preparation and filing of the prospectus supplement, dated January 25, 2019 (the “**Prospectus Supplement**”) relating to the issuance and sale by the Company of up to 6,198,500 shares of common stock, par value \$0.0001 per share (the “**Common Stock**”) of the Company (the “**Shares**”) (including 808,500 shares of Common Stock issuable by the Company upon exercise of an option to purchase additional shares granted by the Company to the underwriters).

The Shares are to be issued and sold by the Company pursuant to the Underwriting Agreement, dated as of January 25, 2019 (the “**Underwriting Agreement**”), among the Company, Jefferies LLC and RBC Capital Markets LLC, as representatives of the several underwriters named therein, the form of which is being filed with the Commission as Exhibit 1.1 to the Company’s Current Report on Form 8-K, filed on the date hereof.

In connection with this opinion, we have (i) investigated such questions of law, (ii) examined originals or certified, conformed or reproduction copies of such agreements, instruments, documents and records of the Company, such certificates of public officials and such other documents and (iii) received such information from officers and representatives of the Company as we have deemed necessary or appropriate for the purposes of this opinion.

In all such examinations, we have assumed the legal capacity of all natural persons, the genuineness of all signatures, the authenticity of original and certified documents and the conformity to original or certified documents of all copies submitted to us as conformed or reproduction copies. As to various questions of fact relevant to the opinion expressed herein, we have relied upon, and assume the accuracy of, the representations and warranties set forth in the Underwriting Agreement, and certificates and oral or written statements and other information of or from public officials and officers and representatives of the Company.

Based upon the foregoing and subject to the limitations, qualifications and assumptions set forth herein, we are of the opinion that the Shares have been duly authorized for issuance, and when issued and paid for in accordance with the terms and conditions of the Underwriting Agreement, the Shares will be validly issued, fully paid and non-assessable.

The opinion expressed herein is limited to the applicable provisions of the General Corporation Law of the State of Delaware (the “**DGCL**”), as currently in effect, and reported judicial decisions interpreting such provisions of the DGCL.

The opinion expressed herein is limited to the matters stated herein and no opinion is implied or may be inferred beyond the matters expressly stated herein. We undertake no obligation to supplement this letter if any applicable laws change after the date hereof or if we become aware of any facts that might change the opinion expressed herein after that date or for any other reason.

We hereby consent to the filing of this opinion as Exhibit 5.1 to the Current Report on Form 8-K filed by the Company on the date hereof and which is incorporated by reference into the Registration Statement and to the references to this firm under the caption “Legal Matters” in the Prospectus Supplement. In giving these consents, we do not admit that we are “experts” within the meaning of Section 11 of the Securities Act or within the category of persons whose consent is required by Section 7 of the Securities Act.

Very truly yours,

/s/ Lowenstein Sandler LLP

Lowenstein Sandler LLP

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### Corbus Pharmaceuticals Announces Proposed Public Offering of Common Stock

**Norwood, MA, January 24, 2019** – Corbus Pharmaceuticals Holdings, Inc. (NASDAQ: CRBP) (“Corbus” or the “Company”), a clinical stage drug development company with the industry’s leading pipeline focused on treating inflammatory and fibrotic diseases through the endocannabinoid system pathways, today announced that it plans to offer and sell shares of its common stock in an underwritten registered public offering. All of the shares in the offering are to be sold by Corbus. The offering is subject to market conditions, and there can be no assurance as to whether or when the offering may be completed, or the actual size or terms of the offering.

Corbus intends to use the net proceeds of the proposed underwritten offering to fund its continued development of lenabasum and the compounds recently licensed from Jenrin and for general corporate purposes, which may include funding preclinical studies and clinical trials, manufacturing lenabasum and the Jenrin compounds for clinical trials and commercial launch, and acquisitions or investments in businesses, products or technologies that are complementary, and to increase its working capital and fund capital expenditures.

Jefferies and RBC Capital Markets are acting as joint book-running managers for the offering. Corbus intends to grant the underwriters a 30-day option to purchase up to an additional 15% of the shares of common stock sold in the public offering.

A registration statement relating to these securities has been filed with the Securities and Exchange Commission and became effective on January 17, 2018.

A preliminary prospectus supplement and accompanying base prospectus relating to and describing the terms of the offering will be filed with the SEC. The securities described above have not been qualified under any state blue sky laws. This press release shall not constitute an offer to sell or the solicitation of an offer to buy these securities, nor shall there be any sale of these securities in any state or other jurisdiction in which such offer, solicitation or sale would be unlawful prior to the registration or qualification under the securities laws of any such state or other jurisdiction. The offering can be made only by means of a prospectus, copies of which may be obtained at the SEC’s website at [www.sec.gov](http://www.sec.gov), or by request at Jefferies LLC, Attention: Equity Syndicate Prospectus Department, 520 Madison Avenue, 2nd Floor, New York, New York 10022, by telephone at (877) 821-7388, or by email at [Prospectus\\_Department@Jefferies.com](mailto:Prospectus_Department@Jefferies.com); or from RBC Capital Markets, LLC, Attention: Prospectus Department, 200 Vesey Street, 8th Floor, New York, NY 10281, or by telephone at (866) 375-6829, or by email at [equityprospectus@rbccm.com](mailto:equityprospectus@rbccm.com).

#### About Corbus

Corbus Pharmaceuticals Holdings, Inc. is a Phase 3 clinical-stage pharmaceutical company focused on the development and commercialization of novel therapeutics to treat inflammatory and fibrotic diseases by leveraging its pipeline of endocannabinoid system-targeting synthetic drug candidates. The Company’s lead product candidate, lenabasum, is a novel, synthetic, oral, selective cannabinoid receptor type 2 (CB2) agonist designed to resolve chronic inflammation and fibrotic processes. Lenabasum is currently being evaluated in systemic sclerosis, cystic fibrosis, dermatomyositis, and systemic lupus erythematosus.

Corbus licensed the exclusive worldwide rights to develop, manufacture and market drug candidates from more than 600 novel compounds targeting the endocannabinoid system from Jenrin Discovery LLC. The pipeline includes CRB-4001, a second generation, peripherally-restricted, selective cannabinoid receptor type 1 (CB1) inverse agonist designed to eliminate blood-brain barrier penetration and subsequent brain CB1 receptor occupancy that mediates the neuropsychiatric adverse events associated with first-generation CB1 inverse agonists. Potential indications for CRB-4001 include nonalcoholic steatohepatitis, primary biliary cholangitis, idiopathic pulmonary fibrosis, radiation-induced pulmonary fibrosis, myocardial fibrosis after myocardial infarction and acute interstitial nephritis, among others. Corbus plans to enter a Phase 1 study of CRB-4001 in 2019, intended to be followed by a National Institutes of Health (NIH)-funded proof-of-concept Phase 2 study.



### **Forward-Looking Statements**

Statements in this press release that are not statements of historical fact are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements include, without limitation, statements about Corbus' expectations regarding the completion, timing and size of its public offering and the anticipated use of proceeds therefrom. Words such as "believe," "anticipate," "plan," "expect," "intend," "may," "goal," "potential" and similar expressions are intended to identify forward-looking statements, though not all forward-looking statements necessarily contain these identifying words. Among the factors that could cause actual results to differ materially from those indicated in the forward-looking statements are risks and uncertainties associated with market conditions and the satisfaction of customary closing conditions related to the offering, as well as risks and uncertainties associated with Corbus' business and finances in general, including the risks and uncertainties in the section captioned "Risk Factors" in the preliminary prospectus supplement related to the public offering that will be filed with the SEC and the Company's most recently filed Annual Report on Form 10-K and subsequently filed Quarterly Reports on Form 10-Q. There can be no assurances that we will be able to complete the proposed offering on the anticipated terms, or at all. You are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of this press release. All forward-looking statements are qualified in their entirety by this cautionary statement, and Corbus undertakes no obligation to revise or update any forward-looking statements to reflect events or circumstances after the date of this press release.

### **Corbus Investor Contacts:**

#### **Institutional Investor Inquiries**

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Email: [ir@corbuspharma.com](mailto:ir@corbuspharma.com)

#### **All Other Investor Inquiries**

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#### **Media Contact**

Corbus Pharmaceuticals, Inc.  
Lindsey Smith  
Email: [mediainfo@corbuspharma.com](mailto:mediainfo@corbuspharma.com)





### **Corbus Pharmaceuticals Announces Pricing of Public Offering of Common Stock**

**Norwood, MA, January 25, 2019** – Corbus Pharmaceuticals Holdings, Inc. (NASDAQ: CRBP) (“Corbus” or the “Company”), a clinical stage drug development company with the industry’s leading pipeline focused on treating inflammatory and fibrotic diseases through the endocannabinoid system pathways, today announced the pricing of an underwritten public offering of 5,390,000 shares of its common stock at a public offering price of \$6.50 per share, for a total public offering size of approximately \$35 million, before deducting underwriting discounts and estimated offering expenses. In addition, Corbus has granted the underwriters a 30-day option to purchase up to an additional 808,500 shares of its common stock on the same terms and conditions. All of the shares in the offering are being sold by Corbus. The offering is expected to close on or about January 29, 2019, subject to customary closing conditions.

Corbus intends to use the net proceeds of the proposed underwritten offering to fund its continued development of lenabasum and the compounds recently licensed from Jenrin and for general corporate purposes, which may include funding preclinical studies and clinical trials, manufacturing lenabasum and the Jenrin compounds for clinical trials and commercial launch, and acquisitions or investments in businesses, products or technologies that are complementary, and to increase its working capital and fund capital expenditures.

Jefferies and RBC Capital Markets are acting as joint book-running managers for the offering. JMP Securities, Oppenheimer & Co. and B. Riley FBR are acting as co-managers.

The offering is being made pursuant to a registration statement that was filed with the U.S. Securities and Exchange Commission (the “SEC”) and became effective on January 17, 2018. The securities described above have not been qualified under any state blue sky laws. This press release shall not constitute an offer to sell or the solicitation of an offer to buy these securities, nor shall there be any sale of these securities in any state or other jurisdiction in which such offer, solicitation or sale would be unlawful prior to the registration or qualification under the securities laws of any such state or other jurisdiction. Copies of the final prospectus supplement (when available) and accompanying prospectus relating to these securities may also be obtained by sending a request to Jefferies LLC, Attention: Equity Syndicate Prospectus Department, 520 Madison Avenue, 2nd Floor, New York, New York 10022, by telephone at (877) 821-7388, or by email at [Prospectus\\_Department@Jefferies.com](mailto:Prospectus_Department@Jefferies.com); or from RBC Capital Markets, LLC, Attention: Prospectus Department, 200 Vesey Street, 8th Floor, New York, NY 10281, or by telephone at (866) 375-6829, or by email at [equityprospectus@rbccm.com](mailto:equityprospectus@rbccm.com).

#### **About Corbus**

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