
**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**

February 1, 2019

Date of report (Date of earliest event reported)

Leap Therapeutics, Inc.

(Exact name of registrant as specified in its charter)

Delaware

(State or other jurisdiction
of incorporation)

001-37990

(Commission
File Number)

27-4412575

(IRS Employer
Identification No.)

**47 Thorndike Street, Suite B1-1
Cambridge, MA**

(Address of principal executive offices)

02141

(Zip Code)

Registrant's telephone number, including area code **(617) 714-0360**

N/A

(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.

Item 1.01 Entry into a Material Definitive Agreement.

On February 1, 2019, Leap Therapeutics, Inc. (the “Company”) entered into an underwriting agreement (the “Underwriting Agreement”) with Raymond James & Associates, Inc. and Ladenburg Thalmann & Co. Inc., as representatives of the several underwriters listed therein (the “Underwriters”), relating to the issuance and sale in an underwritten public offering by the Company of 6,571,428 shares of the Company’s common stock, par value \$0.001 per share (the “Common Stock”), and warrants to purchase up to 6,571,428 shares of its Common Stock. Each share of Common Stock is being sold together with a warrant to purchase one share of Common Stock for a combined offering price of \$1.75 per share and accompanying warrant. The warrants are exercisable commencing on the date of issuance, will expire on February 5, 2026 and will have an exercise price of \$1.95 per share, subject to certain adjustments.

Under the terms of the Underwriting Agreement, the Company has granted the Underwriters an option, exercisable for 30 days, to purchase up to an additional 985,714 shares of its Common Stock offered in the public offering and/or warrants to purchase up to 985,714 shares of its Common Stock at the public offering price, less underwriting discounts and commissions. The net proceeds to the Company from the Offering are expected to be approximately \$10.5 million, after deducting underwriting discounts and commissions and estimated offering expenses payable by the Company, assuming no exercise by the Underwriters of its option to purchase additional shares of common stock or additional warrants, and excluding any proceeds the Company may receive upon exercise of the warrants being offered. The transactions contemplated by the Underwriting Agreement are expected to close on February 5, 2019, subject to the satisfaction of customary closing conditions. Raymond James & Associates, Inc. and Ladenburg Thalmann & Co. Inc. are acting as book-running managers for the offering.

The Company intends to use the net proceeds from the offering for general corporate purposes, which may include, without limitation, funding new clinical trials of DKN-01 and TRX518 and the continuation of ongoing studies, capital expenditures, working capital and general and administrative expenses.

The Underwriting Agreement contains customary representations, warranties and agreements by the Company, customary conditions to closing, indemnification obligations of the Company and the Underwriters, including for liabilities under the Securities Act of 1933, as amended (the “Securities Act”), and 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, including being qualified by confidential disclosures exchanged between the parties in connection with the execution of the Underwriting Agreement.

As part of the Underwriting Agreement, subject to certain exceptions, certain of the Company's officers, directors and five percent shareholders agreed not to sell or otherwise dispose of any of the Company's Common Stock held by them for a period ending 60 days after the date of the Underwriting Agreement without first obtaining the written consent of Raymond James & Associates, Inc. and Ladenburg Thalmann & Co. Inc.

A copy of the Underwriting Agreement is filed as Exhibit 1.1 to this Current Report and is incorporated herein by reference. A copy of the form of warrant is filed as Exhibit 4.1 to this Current Report and is incorporated herein by reference. The foregoing description of the Underwriting Agreement and warrants do not purport to be complete and the terms of the Underwriting Agreement and warrants are subject to, and qualified in their entirety by reference to, the Underwriting Agreement and warrants, which are filed herewith as Exhibits 1.1 and 4.1, respectively, and are incorporated herein by reference.

The Common Stock and warrants are being offered and sold pursuant to the Company's effective shelf registration statement on Form S-3 and an accompanying prospectus (Registration Statement No. 333-223419) filed with the Securities and Exchange Commission (the "SEC") on March 2, 2018 and declared effective by the SEC on March 16, 2018, as supplemented by a preliminary prospectus supplement filed with the SEC on January 31, 2019, and a final prospectus supplement to be filed with the SEC pursuant to Rule 424(b) under the Securities Act. A copy of the opinion of Morgan, Lewis & Bockius LLP relating to the legality of the issuance and sale of the shares of Common Stock, warrants and shares of Common Stock underlying the warrants in the offering is attached as Exhibit 5.1 hereto.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits.

<u>Exhibit Number</u>	<u>Description</u>
1.1	<u>Underwriting Agreement, dated February 1, 2019, by and among Leap Therapeutics, Inc., Raymond James & Associates, Inc. and Ladenburg Thalmann & Co. Inc., as representatives of the underwriters named therein</u>
4.1	<u>Form of Warrant</u>
5.1	<u>Opinion of Morgan, Lewis & Bockius LLP</u>
23.1	<u>Consent of Morgan, Lewis & Bockius LLP (included in Exhibit 5.1)</u>

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.

Leap Therapeutics, Inc.

Dated: February 1, 2019

By: /s/ Douglas Onsi
Name: Douglas Onsi
Title: Chief Financial Officer, General Counsel, Treasurer and Secretary

LEAP THERAPEUTICS, INC.

6,571,428 Shares* of Common Stock

**And Warrants to Purchase up to
6,571,428 Shares of Common Stock**

UNDERWRITING AGREEMENT

St. Petersburg, Florida
February 1, 2019

RAYMOND JAMES & ASSOCIATES, INC.
LADENBURG THALMANN & CO. INC.
As Representatives of the Several Underwriters

c/o Raymond James & Associates, Inc.
880 Carillon Parkway
St. Petersburg, FL 33716

c/o Ladenburg Thalmann & Co. Inc.
277 Park Avenue
26th Floor
New York, New York 10172

Ladies and Gentlemen:

Leap Therapeutics, Inc., a Delaware corporation (the "Company"), proposes, subject to the terms and conditions stated herein, to issue and sell to the several Underwriters named in Schedule I hereto (the "Underwriters"), an aggregate of (i) 6,571,428 shares (the "Firm Shares") of its Common Stock, par value \$0.001 per share (the "Common Stock") and (ii) warrants to purchase up to an aggregate of 6,571,428 shares of Common Stock on the terms and conditions set forth in the form of warrant attached as Exhibit A hereto (the "Firm Warrants," and together with the Firm Shares, the "Firm Securities"). All of the Firm Securities are to be issued and sold by the Company. The respective amounts of the Firm Securities to be purchased by each of the several Underwriters are set forth on Schedule I hereto. In addition, the Company has agreed to sell to the Underwriters, upon the terms and conditions stated herein, up to an additional (i) 985,714 shares

* Plus up to an additional 985,714 shares and/or warrants to purchase up to an additional 985,714 shares subject to Underwriter's over-allotment option.

of Common Stock (the “Additional Shares,” and together with the Firm Shares, the “Shares”) and/or (ii) warrants to purchase up to an aggregate of 985,714 shares of Common Stock (the “Additional Warrants,” and together with the Additional Shares, the “Additional Securities”). The Firm Warrants and Additional Warrants are referred to herein as the “Warrants” and the aggregate number of shares of Common Stock underlying the Warrants are referred to herein as the “Warrant Shares.” The Firm Securities, the Additional Securities, the Shares and the Warrant Shares are collectively referred to in this Agreement as the “Securities.” Raymond James & Associates, Inc. and Ladenburg Thalmann & Co. Inc. are acting as the representatives of the several Underwriters and in such capacity is referred to in this Agreement as the “Representatives.”

The Company wishes to confirm as follows its agreement with you and the other several Underwriters, on whose behalf you are acting, in connection with the several purchases of the Securities from the Company.

1. Registration Statement and Prospectus. The Company has prepared and filed with the Securities and Exchange Commission (the “Commission”) in accordance with the provisions of the Securities Act of 1933, as amended, and the rules and regulations of the Commission thereunder (collectively, the “Act”), a registration statement on Form S-3 (File No. 333-223419), including a base prospectus (the “Base Prospectus”), relating to, among other things, the Securities. Such registration statement, as amended, including the financial statements, exhibits and schedules thereto, at each time of effectiveness under the Act for purposes of Section 11 of the Act, as such section applies to the Underwriters (the “Effective Time”), including any required information deemed to be part thereof at the time of effectiveness pursuant to Rule 430B under the Act or the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder (collectively, the “Exchange Act”) is referred to in this Agreement as the “Registration Statement.” Any preliminary prospectus supplement to the Base Prospectus that describes the Securities and the offering thereof and is used prior to filing of the Prospectus (as defined below) is referred to in this Agreement, together with the Base Prospectus, as a “Preliminary Prospectus.” The term “Prospectus” shall mean the prospectus supplement relating to the Securities, together with the Base Prospectus, that is first filed pursuant to Rule 424(b) under the Act after the date and time that this Agreement is executed and delivered by the parties hereto. If the Company files another registration statement with the Commission to register a portion of the Securities pursuant to Rule 462(b) under the Act (the “Rule 462 Registration Statement”), then any reference to “Registration Statement” herein shall be deemed to include the registration statement on Form S-3 (File No. 333-223419) and the Rule 462 Registration Statement, as each such registration statement may be amended pursuant to the Act. For purposes of this Agreement, “free writing prospectus” has the meaning ascribed to it in Rule 405 under the Act, and “Issuer Free Writing Prospectus” shall mean each free writing prospectus prepared by or on behalf of the Company or used or referred to by the Company in connection with the offering of the Securities. “Time of Sale Information” shall mean the Preliminary Prospectus together with the pricing information identified in Schedule II hereto and all other information identified on Schedule II hereto. All references in this Agreement to the Registration Statement, the Rule 462 Registration Statement, a Preliminary Prospectus, the Prospectus or the Time of Sale Information, or any amendments or supplements to any of the

foregoing, shall be deemed to refer to and include any documents incorporated by reference therein, and shall include any copy thereof filed with the Commission pursuant to its Electronic Data Gathering, Analysis and Retrieval System ("EDGAR"). Any reference in this Agreement to the Registration Statement, any Preliminary Prospectus or the Prospectus shall be deemed to refer to and include the documents incorporated by reference therein pursuant to Item 12 of Form S-3 under the Act, as of the date of the Registration Statement, such Preliminary Prospectus or the Prospectus, as the case may be, and any reference to any amendment or supplement to the Registration Statement, any Preliminary Prospectus or the Prospectus shall be deemed to refer to and include any documents filed after such date under the Exchange Act that, upon filing, are incorporated by reference therein, as required by paragraph (b) of Item 12 of Form S-3. As used herein, the term "Incorporated Documents" means the documents that at the time of filing are incorporated by reference in the Registration Statement, any Preliminary Prospectus, the Prospectus or any amendment or supplement thereto.

2. Agreements to Sell and Purchase. Upon the terms and conditions set forth herein, the Company hereby agrees to issue and sell an aggregate of 6,571,428 Firm Shares and 6,571,428 Firm Warrants to the Underwriters. Upon the basis of the representations, warranties and agreements of the Company herein contained and subject to all the terms and conditions set forth herein, each Underwriter agrees, severally and not jointly, to purchase from the Company at a purchase price of \$1.645 per Firm Share and accompanying Firm Warrant, the number of Firm Securities set forth opposite the name of such Underwriter in Schedule I hereto.

The Company hereby also agrees to sell to the Underwriters, and, upon the basis of the representations, warranties and agreements of the Company herein contained and subject to all the terms and conditions set forth herein, the Underwriters shall have the right for 30 days from the date of the Prospectus to purchase from the Company up to 985,714 Additional Shares at a purchase price of \$1.6356 per share for the Additional Shares and/or 985,714 Additional Warrants at the purchase price of \$0.0094 per warrant for the Additional Warrants. If any Additional Securities are to be purchased, each Underwriter, severally and not jointly, agrees to purchase the number of Additional Securities (subject to such adjustments as you may determine to avoid fractional shares) that bears the same proportion to the total number of Additional Securities to be purchased by the Underwriter as the number of Firm Securities set forth opposite the name of such Underwriter in Schedule I hereto bears to the total number of Firm Securities. The option to purchase Additional Securities may be exercised, in whole or in part, at any time within 30 days after the date of the Prospectus.

3. Terms of Public Offering. The Company has been advised by you that the Underwriters propose to make a public offering of their respective portions of the Securities as soon after this Agreement has become effective as in your judgment is advisable and initially to offer the Securities upon the terms set forth in the Prospectus.

Not later than 12:00 p.m. on the second business day following the date the Securities are released by the Underwriters for sale to the public, the Company shall deliver or cause to be delivered copies of the Prospectus in such quantities and at such places as the Representatives shall request.

4. Delivery of the Shares and Payment Therefor. Delivery to the Underwriters of the Firm Securities and payment therefor shall be made at the offices of Raymond James & Associates, Inc., 880 Carillon Parkway, St. Petersburg, Florida 33716, at 10:00 a.m., St. Petersburg, Florida time, on February 5, 2019 or such other place, time and date not later than 1:30 p.m., St. Petersburg, Florida time, on February 5, 2019, as the Representatives shall designate by notice to the Company (the time and date of such closing are called the "Closing Date"). The place of closing for the Firm Securities and the Closing Date may be varied by agreement between the Representatives and the Company.

Delivery to the Underwriters of and payment for any Additional Securities to be purchased by the Underwriters shall be made at the offices of Raymond James & Associates, Inc., 880 Carillon Parkway, St. Petersburg, Florida 33716, at 10:00 a.m., St. Petersburg, Florida time, on such date or dates (the "Additional Closing Date") (which may be the same as the Closing Date, but shall in no event be earlier than the Closing Date nor earlier than two nor later than ten business days after the giving of the notice hereinafter referred to) as shall be specified in a written notice, from the Representatives on behalf of the Underwriters to the Company, of the Underwriters' determination to purchase a number, specified in such notice, of Additional Securities. Such notice may be given at any time within 30 days after the date of the Prospectus and must set forth the aggregate number of Additional Securities as to which the Underwriters are exercising the option. The place of closing for the Additional Securities and the Additional Closing Date may be varied by agreement between you and the Company.

The Firm Securities and any Additional Securities to be purchased hereunder shall be delivered to you on the Closing Date or the Additional Closing Date, as the case may be, against payment of the purchase price therefore by wire transfer of immediately available funds to an account specified in writing, not later than the close of business on the business day next preceding the Closing Date or the Additional Closing Date, as the case may be, by the Company. Payment for the Securities sold by the Company hereunder shall be delivered by the Representatives to the Company. Delivery of the Securities shall be made through the facilities of The Depository Trust Company unless the Representatives shall otherwise instruct.

It is understood that the Representatives have been authorized, for their own account and the accounts of the several Underwriters, to accept delivery of and receipt for, and make payment of the purchase price per Firm Share for the Firm Shares and per Additional Share for the Additional Shares, if any, that the Underwriters have agreed to purchase. Raymond James and Associates, Inc. and Ladenburg Thalmann & Co. Inc., each individually and not as Representatives of the Underwriters, may, but shall not be obligated to, make payment for any Securities to be purchased by any Underwriter whose funds shall not have been received by the Representatives by the Closing Date or the Additional 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.

5. Covenants and Agreements of the Company. The Company covenants and agrees with the several Underwriters as follows:

(a) The Company will use its reasonable best efforts to cause the Registration Statement and any amendments thereto to become effective, if it has not already become effective, and will advise you promptly and, if requested by you, will confirm such advice in writing (i) when the Registration Statement has become effective and 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 or the Prospectus and the time and date that any post-effective amendment to the Registration Statement becomes effective, (ii) if Rule 430B under the Act is employed, when the Prospectus has been timely filed pursuant to Rule 424(b) under the Act, (iii) of the receipt of any comments of the Commission, or any request by the Commission for amendments or supplements to the Registration Statement, any Preliminary Prospectus or the Prospectus or for additional information, (iv) of the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or of the suspension of qualification of the Securities for offering or sale in any jurisdiction or the initiation of any proceeding for such purposes and (v) within the period of time referred to in Section 5(h) hereof, of any change in the Company's condition (financial or other), business, prospects, properties, net worth or results of operations, or of any event that comes to the attention of the Company that makes any statement made in the Registration Statement, the Time of Sale Information or the Prospectus (as then amended or supplemented) untrue in any material respect or that requires the making of any additions thereto or changes therein in order to make the statements therein (in the case of the Prospectus, in light of the circumstances under which they were made) not misleading in any material respect, or of the necessity to amend or supplement the Prospectus (as then amended or supplemented) to comply with the Act or any other law. If at any time the Commission shall issue any stop order suspending the effectiveness of the Registration Statement, the Company will make every reasonable effort to obtain the withdrawal or lifting of such order at the earliest possible time. The Company will provide the Underwriters with copies of the form of Prospectus, in such number as the Underwriters may reasonably request, and file with the Commission such Prospectus in accordance with Rule 424(b) under the Act before the close of business on the first business day immediately following the date hereof.

(b) The Company will furnish to you, without charge, two signed duplicate originals of the Registration Statement as originally filed with the Commission and of each amendment thereto, including financial statements and all exhibits thereto, and will also furnish to you, without charge, such number of conformed copies of the Registration Statement as originally filed and of each amendment thereto as you may reasonably request.

(c) The Company will promptly file with the Commission any amendment or supplement to the Registration Statement, the Time of Sale Information or the Prospectus that may, in the judgment of the Company or the Representatives be required by the Act or requested by the Commission.

(d) The Company will furnish a copy of any amendment or supplement to the Registration Statement, the Time of Sale Information or the Prospectus or any Issuer Free Writing Prospectus to you and counsel for Underwriters and obtain your consent prior to filing any of those with the Commission.

(e) The Company will not make any offer relating to the Securities that would constitute an Issuer Free Writing Prospectus without your prior consent.

(f) The Company will retain in accordance with the Act all Issuer Free Writing Prospectuses not required to be filed pursuant to the Act; and if at any time after the date hereof any events shall have occurred as a result of which any Issuer Free Writing Prospectus, as then amended or supplemented, would conflict with the information in the Registration Statement, the most recent Preliminary Prospectus or the Prospectus or would include an untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading, or, if for any other reason it shall be necessary to amend or supplement any Issuer Free Writing Prospectus, to notify you and, upon your request, to file such document and to prepare and furnish without charge to each Underwriter as many copies as they may from time to time reasonably request of an amended or supplemented Issuer Free Writing Prospectus that will correct such conflict, statement or omission or effect such compliance.

(g) Prior to the execution and delivery of this Agreement, the Company has delivered or will deliver to you, without charge, in such quantities as you have requested or may hereafter reasonably request, copies of each form of the Preliminary Prospectus. Consistent with the provisions of Section 5(h) hereof, the Company consents to the use, in accordance with the provisions of the Act and with the securities or Blue Sky laws of the jurisdictions in which the Securities are offered by the several Underwriters and by dealers, prior to the date of the Prospectus, of each Preliminary Prospectus so furnished by the Company.

(h) As soon after the execution and delivery of this Agreement as is practicable and thereafter from time to time for such period as in the reasonable opinion of counsel for the Underwriters a prospectus is required by the Act to be delivered in connection with sales by any Underwriter or a dealer (the "Prospectus Delivery Period"), and for so long a period as you may request for the distribution of the Securities, the Company will deliver to each Underwriter and each dealer, without charge, as many copies of the Prospectus and the Time of Sale Information (and of any amendment or supplement thereto) as they may reasonably request. The Company consents to the use of the Prospectus and the Time of Sale Information (and of any amendment or supplement thereto) in accordance with the provisions of the Act and with the securities or Blue Sky laws of the jurisdictions in which the Securities are offered by the several Underwriters and by all dealers to whom Securities may be sold, both in connection with the offering and sale of the Securities and for such period of time thereafter as the Prospectus is required by the Act to be delivered in connection with sales by any Underwriter or dealer. If at any time prior to the later of (i) the completion of the distribution of the Securities pursuant to the offering contemplated by the Prospectus or (ii) the expiration of prospectus delivery requirements with respect to the Securities under Section 4(3) of the Act and Rule 174 thereunder, any event shall occur that in the judgment of the Company or in the opinion of

counsel for the Underwriters is required to be set forth in the Prospectus (as then amended or supplemented) or should be set forth therein in order to make the statements therein, in the light of the circumstances under which they were made, not misleading, or if it is necessary to supplement or amend the Prospectus to comply with the Act or any other law, the Company will forthwith prepare and, subject to Section 5(a) hereof, file with the Commission and use its reasonable best efforts to cause to become effective as promptly as possible an appropriate supplement or amendment thereto, and will furnish to each Underwriter who has previously requested Prospectuses, without charge, a reasonable number of copies thereof. In addition, during the Prospectus Delivery Period, the Company will file all documents required to be filed with the Commission pursuant to Sections 13, 14 and 15 of the Exchange Act in the manner and within the time periods required by the Exchange Act.

(i) The Company will use its reasonable best efforts to cooperate with you and counsel for the Underwriters in connection with the registration or qualification of the Securities for offering and sale by the several Underwriters and by dealers under the securities or Blue Sky laws of such jurisdictions as you may reasonably designate and will file such consents to service of process or other documents as may be reasonably necessary in order to effect and maintain such registration or qualification for so long as required to complete the distribution of the Securities; provided that in no event shall the Company be obligated to qualify to do business in any jurisdiction where it is not now so qualified or to take any action that would subject it to general service of process in suits, other than those arising out of the offering or sale of the Securities, as contemplated by this Agreement and the Prospectus, in any jurisdiction where it is not now so subject. In the event that the qualification of the Securities in any jurisdiction is suspended, the Company shall so advise you promptly in writing. If required, the Company will use its reasonable best efforts to qualify or register its Common Stock for sale in non-issuer transactions under (or obtain exemptions from the application of) the Blue Sky laws of each state where necessary to permit market making transactions and secondary trading and will comply with such Blue Sky laws and will continue such qualifications, registrations and exemptions in effect for so long as is required for the distribution of the Securities.

(j) The Company will make generally available to its security holders a consolidated earnings statement (in form complying with the provisions of Rule 158), which need not be audited, covering a twelve-month period commencing after the effective date of the Registration Statement and the Rule 462 Registration Statement, if any, and ending not later than 15 months thereafter, as soon as practicable after the end of such period, which consolidated earnings statement shall satisfy the provisions of Section 11(a) of the Act.

(k) During the period ending three years from the date hereof, the Company will furnish to you and, upon your request, to each of the other Underwriters, (i) as soon as available, a copy of each proxy statement, quarterly or annual report or other report of the Company mailed to stockholders or filed with the Commission, the Financial Industry Regulatory Authority, Inc. ("FINRA") or the Nasdaq Global Market ("Nasdaq") or any national securities exchange and (ii) from time to time such other information concerning the Company as you may reasonably request, *provided* that the Company's obligation pursuant to this Section 5(k) shall be satisfied to the extent the Company files or furnishes any such documents or report to EDGAR.

(l) If this Agreement shall terminate or shall be terminated after execution pursuant to any provision hereof (except pursuant to a termination under Section 12 hereof) or if this Agreement shall be terminated by the Underwriters because of any inability, failure or refusal on the part of the Company to perform in all material respects any agreement herein or to comply in all material respects with any of the terms or provisions hereof or to fulfill in all material respects any of the conditions of this Agreement, the Company agrees to pay or reimburse you and the other Underwriters for all reasonable out-of-pocket costs and expenses (including, without limitation, the fees and expenses of the Underwriters' outside attorneys) incurred by the Underwriters in connection herewith, not to exceed \$100,000.

(m) The Company will apply the net proceeds from the sale of the Securities to be sold by it hereunder in accordance in all material respects with the statements under the caption "Use of Proceeds" in the Prospectus.

(n) For a period commencing on the date hereof and ending on the 60th day after the date of the Prospectus (the "Lock-Up Period"), not to, directly or indirectly, (1) offer for sale, sell, pledge or otherwise dispose of (or enter into any transaction or device that is designed to, or could be expected to, result in the disposition by any person at any time in the future of) any shares of Common Stock or securities convertible into or exchangeable for Common Stock (other than the Common Stock issued pursuant to employee benefit plans, qualified stock option plans or other employee compensation plans existing on the date hereof or pursuant to currently outstanding options, warrants or rights), including, without limitation, any sales pursuant to the Distribution Agreement, dated as of September 7, 2018, by and between the Company and Raymond James & Associates, Inc., or any similar arrangement, or sell or grant options, rights or warrants with respect to any shares of Common Stock or securities convertible into or exchangeable for Common Stock (other than the grant of options pursuant to option plans existing on the date hereof), (2) enter into any swap or other derivatives transaction that transfers to another, in whole or in part, any of the economic benefits or risks of ownership of such shares of Common Stock, whether any such transaction described in clause (1) or (2) above is to be settled by delivery of Common Stock or other securities, in cash or otherwise, (3) file or cause to be filed a registration statement, including any amendments, with respect to the registration of any shares of Common Stock or securities convertible, exercisable or exchangeable into Common Stock or any other securities of the Company or (4) publicly disclose the intention to do any of the foregoing, in each case without the prior written consent of the Representatives on behalf of the Underwriters, and to cause each officer, director and stockholder of the Company set forth on Schedule III hereto to furnish to the Representatives, prior to the Initial Delivery Date, a letter or letters, substantially in the form of Exhibit B hereto (the "**Lock-Up Agreements**").

(o) Prior to the Closing Date or the Additional Closing Date, as the case may be, at the reasonable request of the Underwriters, the Company will furnish to you, as promptly as possible following your request, copies of any unaudited interim consolidated financial statements of the Company and its subsidiaries for any period subsequent to the periods covered

by the financial statements appearing in the Prospectus.

(p) The Company will comply with all provisions of any undertakings contained in the Registration Statement.

(q) The Company will not at any time, directly or indirectly, take any action designed, or which might reasonably be expected to cause or result in, or which will constitute, stabilization or manipulation of the price of the shares of Common Stock to facilitate the sale or resale of any of the Securities.

(r) The Company will timely file with Nasdaq all documents and notices required by the Nasdaq of companies that have or will issue securities that are traded on the Nasdaq.

(s) The Company shall engage and maintain, at its expense, a transfer agent and, if necessary under the jurisdiction of its incorporation or the rules of any national securities exchange on which the Common Stock is listed, a registrar (which, if permitted by applicable laws and rules may be the same entity as the transfer agent) for the Common Stock.

6. Representations and Warranties of the Company. The Company hereby represents and warrants to each Underwriter on the date hereof, and shall be deemed to represent and warrant to each Underwriter on the Closing Date and the Additional Closing Date, as the case may be, that:

(a) The Company satisfies all of the requirements of the Act for use of Form S-3 for the offering of Securities contemplated hereby. The Company was not at the time of initial filing of the Registration Statement and at the earliest time thereafter that the Company or another offering participant made a bona fide offer (within the meaning of Rule 164(h)(2) of the Act) of the Common Stock, is not on the date hereof and will not be on the applicable Delivery Date an “ineligible issuer” (as defined in Rule 405 under the Act).

(b) The Registration Statement conformed, and any amendment to the Registration Statement filed after the date hereof will conform in all material respects when filed, to the requirements of the Act. The most recent Preliminary Prospectus conformed, and the Prospectus will conform, in all material respects when filed with the Commission pursuant to Rule 424(b).

(c) The Registration Statement does not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading; *provided*, that no representation or warranty is made as to information contained in or omitted from the Registration Statement in reliance upon and in conformity with written information furnished to the Company through the Representatives by or on behalf of any Underwriter specifically for inclusion therein.

(d) The Incorporated Documents heretofore filed, when they were filed (or, if any amendment with respect to any such document was filed, when such amendment was filed),

conformed in all material respects with the requirements of the Exchange Act and the rules and regulations thereunder, and any further Incorporated Documents so filed will, when they are filed, conform in all material respects with the requirements of the Exchange Act and the rules and regulations thereunder; no such Incorporated Document when it was filed (or, if an amendment with respect to any such document was filed, when such amendment was filed), contained an untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading; and no such further Incorporated Document, when it is filed, will contain an untrue statement of a material fact or will omit to state a material fact required to be stated therein or necessary in order to make the statements therein not misleading.

(e) The Prospectus will not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading; *provided* that no representation or warranty is made as to information contained in or omitted from the Prospectus in reliance upon and in conformity with written information furnished to the Company through the Representatives by or on behalf of any Underwriter specifically for inclusion therein.

(f) The Time of Sale Information does not, and will not at the time of sale of the Securities, contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading; *provided* that no representation or warranty is made as to information contained in or omitted from the Time of Sale Information in reliance upon and in conformity with written information furnished to the Company through the Representatives by or on behalf of any Underwriter specifically for inclusion therein.

(g) Each Issuer Free Writing Prospectus (including, without limitation, any road show that is a free writing prospectus under Rule 433 under the Act), when considered together with the Time of Sale Information at the time of sale of the Securities, did not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

(h) Each Issuer Free Writing Prospectus conformed or will conform in all material respects to the requirements of the Act on the date of first use, and in reliance upon representations from the Representatives, the Company has complied with all prospectus delivery and any filing requirements applicable to such Issuer Free Writing Prospectus pursuant to the Act. The Company has not made any offer relating to the Securities that would constitute an Issuer Free Writing Prospectus without the prior written consent of the Representatives. The Company has retained in accordance with the Act all Issuer Free Writing Prospectuses that were not required to be filed pursuant to the Act. The Company has taken all actions necessary so that any “road show” (as defined in Rule 433 under the Act) in connection with the offering of the Securities will not be required to be filed pursuant to the Act.

(i) The capitalization of the Company is and will be as set forth in the Time

of Sale Information and the Prospectus as of the dates set forth therein. All the outstanding shares of Common Stock of the Company have been, and as of the Closing Date and the Additional Closing Date, as the case may be, will be, duly authorized and validly issued, are fully paid and nonassessable and are free of any preemptive or similar rights; except as set forth in the Registration Statement, the Time of Sale Information and the Prospectus, the Company is not a party to or bound by any outstanding options, warrants or similar rights to subscribe for, or contractual obligations to issue, sell, transfer or acquire, any of its capital stock or any securities convertible into or exchangeable for any of such capital stock; the Securities to be issued and sold to the Underwriters by the Company hereunder have been duly authorized and, when issued and delivered to the Underwriters against full payment therefor in accordance with the terms hereof will be validly issued, fully paid and nonassessable and free of any preemptive or similar rights; the capital stock of the Company conforms to the description thereof in the Registration Statement, the Time of Sale Information and the Prospectus (or any amendment or supplement thereto); and the delivery of certificates for the Securities being sold by the Company against payment therefor pursuant to the terms of this Agreement will pass valid title to the Securities being sold by the Company, free and clear of any claim, encumbrance or defect in title, to the several Underwriters purchasing such shares in good faith and without notice of any lien, claim or encumbrance. The certificates for the Securities being sold by the Company are in valid and sufficient form.

(j) Each of the Company and its subsidiaries is duly organized and validly existing as a corporation, limited liability company or other organization in good standing under the laws of the jurisdiction of its incorporation or organization with full corporate or organizational power and authority to own, lease and operate its properties and to conduct its business as presently conducted and as described in the Registration Statement, the Time of Sale Information and the Prospectus (and any amendment or supplement thereto) and is duly registered and qualified to conduct its business and is in good standing in each jurisdiction or place where the nature of its properties or the conduct of its business requires such registration or qualification, except where the failure to so register or qualify has not had or will not have a material adverse effect on the condition (financial or other), business, properties, net worth, results of operations or prospects of the Company and its subsidiaries, taken as a whole (a "Material Adverse Effect").

(k) The issued shares of capital stock of each of the Company's subsidiaries have been duly authorized and validly issued, are fully paid and nonassessable and are owned by the Company free and clear of any security interests, liens, encumbrances, equities or claims. The Company does not have any subsidiaries and does not own a material interest in or control, directly or indirectly, any other corporation, partnership, joint venture, association, trust or other business organization, except as set forth in Exhibit 21 to the Company's Annual Report on Form 10-K for its fiscal year ended December 31, 2017, which is incorporated by reference into the Prospectus (or any amendment or supplement thereto). As used in this Agreement, subsidiaries shall mean direct and indirect subsidiaries of the Company.

(l) Except as would not have, individually or in the aggregate, a Material Adverse Effect, there are no legal or governmental proceedings pending or threatened, against

the Company or its subsidiaries or to which the Company or its subsidiaries or any of their properties are subject, that are required to be described in the Registration Statement, the Time of Sale Information or the Prospectus (or any amendment or supplement thereto) but are not described as required. Except as described in the Registration Statement, the Time of Sale Information and Prospectus, there is no action, suit, inquiry, proceeding or investigation by or before any court or governmental or other regulatory or administrative agency or commission pending or, to the knowledge of the Company, threatened, against or involving the Company or its subsidiaries, which might individually or in the aggregate prevent or adversely affect the transactions contemplated by this Agreement or result in a Material Adverse Effect, nor to the Company's knowledge, is there any basis for any such action, suit, inquiry, proceeding or investigation. There are no agreements, contracts, indentures, leases or other instruments that are required to be described in the Registration Statement, the Time of Sale Information or the Prospectus (or any amendment or supplement thereto) or to be filed as an exhibit to the Registration Statement that are not described, filed or incorporated by reference in the Registration Statement, the Time of Sale Information and the Prospectus as required by the Act. All such contracts to which the Company or any of its subsidiaries is a party have been duly authorized, executed and delivered by the Company or the applicable subsidiary, constitute valid and binding agreements of the Company or the applicable subsidiary and are enforceable against the Company or the applicable subsidiary in accordance with the terms thereof, except as enforceability thereof may be limited by (i) the application of bankruptcy, reorganization, insolvency and other laws affecting creditors' rights generally and (ii) equitable principles being applied at the discretion of a court before which any proceeding may be brought. Neither the Company nor the applicable subsidiary has received notice or been made aware that any other party is in breach of or default to the Company under any of such contracts.

(m) Neither the Company nor any of its subsidiaries is (i) in violation of (A) its certificate of incorporation or bylaws, or other organizational documents, (B) any federal, state or foreign law, ordinance, administrative or governmental rule or regulation applicable to the Company or any of its subsidiaries, the violation of which would have a Material Adverse Effect or (C) any decree of any federal, state or foreign court or governmental agency or body having jurisdiction over the Company or any of its subsidiaries, the violation of which, in the cases of clauses (B) and (C) of this Section 6(m), would have a Material Adverse Effect; or (ii) in default in any material respect in the performance of any obligation, agreement or condition contained in (A) any bond, debenture, note or any other evidence of indebtedness or (B) any agreement, indenture, lease or other instrument (each of (A) and (B), an "Existing Instrument") to which the Company or any of its subsidiaries is a party or by which any of their properties may be bound, which default would have a Material Adverse Effect; and to the knowledge of the Company, there does not exist any state of facts that constitutes an event of default on the part of the Company or any of its subsidiaries as defined in such documents or that, with notice or lapse of time or both, would constitute such an event of default.

(n) The Company's execution and delivery of this Agreement and the performance by the Company of its obligations under this Agreement have been duly and validly authorized by the Company and has been duly executed and delivered by the Company, and this Agreement constitutes a valid and legally binding agreement of the Company, enforceable

against the Company in accordance with its terms, except to the extent enforceability may be limited by (i) the application of bankruptcy, reorganization, insolvency and other laws affecting creditors' rights generally and (ii) equitable principles being applied at the discretion of a court before which any proceeding may be brought, except as rights to indemnity and contribution hereunder may be limited by federal or state securities laws.

(o) None of the issuance and sale of the Securities by the Company, the execution, delivery or performance of this Agreement by the Company nor the consummation by the Company of the transactions contemplated hereby (i) requires any consent, approval, authorization or other order of or registration or filing with, any court, regulatory body, administrative agency or other governmental body, agency or official (except such as may be required for the registration of the Securities under the Act, the listing of the Shares and Warrant Shares for trading on the Nasdaq, the registration of the Common Stock under the Securities Exchange Act of 1934, as amended, and the rules and regulations of the Commission thereunder (collectively, the "Exchange Act") and compliance with the securities or Blue Sky laws of various jurisdictions, all of which will be, or have been, effected in accordance with this Agreement and except for FINRA's clearance of the underwriting terms of the offering contemplated hereby as required under FINRA's Rules of Fair Practice), (ii) conflicts with or will conflict with or constitutes or will constitute a breach of, or a default under, the Company's certificate of incorporation or the Company's bylaws or any agreement, indenture, lease or other instrument to which the Company or any of its subsidiaries is a party or by which any of its properties may be bound, (iii) violates any statute, law, regulation, ruling, filing, judgment, injunction, order or decree applicable to the Company or any of its subsidiaries or any of their properties, or (iv) results in a breach of, or default or Debt Repayment Triggering event (as defined below) under, or results 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, or requires the consent of any other party to, any Existing Instrument, except for such conflicts, breaches, defaults, liens, charges or encumbrances that will not, individually or in the aggregate, result in a Material Adverse Effect. As used herein, a "Debt Repayment Triggering Event" means any event or condition that gives, or with the giving of notice or lapse of time would give, the holder of any note, debenture or other evidence of indebtedness (or any person acting on such holder's behalf) the right to require the repurchase, redemption or repayment of all or a portion of such indebtedness by the Company or any of its subsidiaries.

(p) Except as described in the Registration Statement, Time of Sale Information and the Prospectus, and except for options to purchase capital stock issued pursuant to the Company's Amended and Restated 2012 Equity Incentive Plan, 2016 Equity Incentive Plan and the assumed Macrocore 2013 Plan and 2008 Plan, neither the Company nor any of its subsidiaries has outstanding and at the Closing Date and the Additional Closing Date, as the case may be, will have outstanding any options to purchase, or any warrants to subscribe for, or any securities or obligations convertible into, or any contracts or commitments to issue or sell, any shares of Common Stock or any such warrants or convertible securities or obligations. No holder of securities of the Company has rights to the registration of any securities of the Company as a result of or in connection with the filing of the Registration Statement or the consummation of the transactions contemplated hereby that have not been satisfied or heretofore

waived in writing.

(q) EisnerAmper LLP, the certified public accountants who have certified the financial statements (including the related notes thereto and supporting schedules) filed as part of the Registration Statement, the Time of Sale Information and the Prospectus (or any amendment or supplement thereto), are independent public accountants as required by the Act and the Exchange Act.

(r) The financial statements, together with related schedules and notes, included in the Registration Statement, the Time of Sale Information and the Prospectus (and any amendment or supplement thereto), present fairly in all material respects the financial condition, results of operations, cash flows and changes in financial position of the Company on the basis stated in the Registration Statement at the respective dates or for the respective periods to which they apply; such statements and related schedules and notes have been prepared in accordance with generally accepted accounting principles consistently applied throughout the periods involved, except as disclosed therein; and the other financial and statistical information and data set forth in the Registration Statement, the Time of Sale Information and the Prospectus (and any amendment or supplement thereto) is accurately presented and prepared on a basis consistent with such financial statements and the books and records of the Company. No other financial statements or schedules are required to be included in the Registration Statement.

(s) Except as disclosed in the Registration Statement, the Time of Sale Information and the Prospectus (or any amendment or supplement thereto) since the date of the last balance sheet included in or incorporated by reference into the Prospectus, (i) neither the Company nor any of its subsidiaries has incurred any material liabilities or obligations, indirect, direct or contingent, or entered into any transaction that is not in the ordinary course of business, (ii) neither the Company nor any of its subsidiaries has sustained any material loss or interference with its business or properties from fire, flood, windstorm, accident or other calamity, whether or not covered by insurance, (iii) neither the Company nor any of its subsidiaries has paid or declared any dividends or other distributions with respect to its capital stock and the Company is not in default under the terms of any class of capital stock of the Company or any outstanding debt obligations, (iv) there has not been any change in the authorized or outstanding capital stock of the Company or any material change in the indebtedness of the Company (other than in the ordinary course of business) and (v) there has not been any material adverse change, or any development involving or that may reasonably be expected to result in a Material Adverse Effect, in the condition (financial or otherwise), business, properties, net worth, result of operations or prospects of the Company.

(t) All offers and sales of the Company's capital stock and other debt or other securities prior to the date hereof were made in compliance with or were the subject of an available exemption from the Act and all other applicable state and federal laws or regulations, or any actions under the Act or any state or federal laws or regulations in respect of any such offers or sales are effectively barred by effective waivers or statutes of limitation.

(u) The Common Stock (including the Shares and Warrant Shares) is

registered pursuant to Section 12(b) of the Exchange Act and is 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 Common Stock under the Exchange Act or delisting the Common Stock from the Nasdaq, nor has the Company received any notification that the Commission or the Nasdaq is contemplating terminating such registration or listing.

(v) Other than excepted activity pursuant to Regulation M under the Exchange Act, the Company has not taken and will not take, directly or indirectly, any action that constituted, or any action designed to, or that might reasonably be expected to cause or result in or constitute, under the Act or otherwise, stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Shares or Warrant Shares or for any other purpose.

(w) The Company and each of its subsidiaries have filed, or have applied for an extension of time to file, all tax returns required to be filed (other than certain state or local tax returns, as to which the failure to file, individually or in the aggregate, would not have a Material Adverse Effect), which filed returns are complete and correct, and neither the Company nor any subsidiary is in default in the payment of any taxes that were payable pursuant to said filed returns or any assessments with respect thereto unless the same has been contested in good faith. Except as disclosed in the Registration Statement, the Time of Sale Information and the Prospectus, all deficiencies asserted as a result of any federal, state, local or foreign tax audits have been paid or finally settled and no issue has been raised in any such audit that, by application of the same or similar principles, reasonably could be expected to result in a proposed deficiency for any other period not so audited. There are no outstanding agreements or waivers extending the statutory period of limitation applicable to any federal, state, local or foreign tax return for any period. On the Closing Date and the Additional Closing Date, as the case may be, all stock transfer and other taxes that are required to be paid in connection with the sale of the Securities to be sold by the Company to the Underwriters will have been fully paid by the Company and all laws imposing such taxes will have been complied with.

(x) Except as set forth in the Registration Statement, the Time of Sale Information and the Prospectus, there are no transactions with “affiliates” (as defined in Rule 405 under the Act) or any officer, director or security holder of the Company (whether or not an affiliate) that are required by the Act to be disclosed in the Registration Statement, the Time of Sale Information or the Prospectus. Additionally, no relationship, direct or indirect, exists between the Company or any of its subsidiaries on the one hand, and the directors, officers, stockholders, customers or suppliers of the Company or any subsidiary on the other hand that is required by the Act to be disclosed in the Registration Statement, the Time of Sale Information and the Prospectus that is not so disclosed.

(y) The Company is not an “investment company” or an “affiliated person” of, or “promoter” or “principal underwriter” for, an investment company within the meaning of the Investment Company Act of 1940, as amended.

(z) Except as otherwise disclosed in the Registration Statement, the Time of Sale Information and the Prospectus, each of the Company and its subsidiaries has good and valid title to all property (real and personal) described in the Registration Statement, the Time of Sale Information and the Prospectus as being owned by it, free and clear of all liens, claims, security interests or other encumbrances except (i) such as are described in the Registration Statement, the Time of Sale Information and the Prospectus or (ii) such as do not have or will not result in a Material Adverse Effect to the use of the property or the conduct of the business of the Company. All property (real and personal) held under lease by the Company and its subsidiaries is held by it under valid, subsisting and enforceable leases with only such exceptions as in the aggregate are not materially burdensome and do not have or result in a Material Adverse Effect to the use of the property or the conduct of the business of the Company.

(aa) Except as otherwise disclosed in the Registration Statement, the Time of Sale Information and the Prospectus, each of the Company and its subsidiaries has all permits, licenses, franchises, approvals, consents and authorizations of governmental or regulatory authorities (hereinafter “permit” or “permits”) as are necessary to own its properties and to conduct its business in the manner described in the Registration Statement, the Time of Sale Information and the Prospectus, subject to such qualifications as may be set forth in the Registration Statement, the Time of Sale Information and the Prospectus, except where the failure to have obtained any such permit has not had and will not have a Material Adverse Effect; each of the Company and its subsidiaries has operated and is operating its business in material compliance with and not in material violation of all of its obligations with respect to each such permit and no event has occurred that allows, or after notice or lapse of time would allow, revocation or termination of any such permit or result in any other material impairment of the rights of any such permit, subject in each case to such qualification as may be set forth in the Registration Statement, the Time of Sale Information and the Prospectus; and, except as described in the Registration Statement, the Time of Sale Information and the Prospectus, such permits contain no restrictions that are materially burdensome to the Company or any of its subsidiaries.

(bb) The consolidated financial statements of the Company, together with the related schedules and notes thereto, set forth or incorporated by reference in the Registration Statement, the Time of Sale Information and the Prospectus present fairly in all material respects (i) the financial condition of the Company and its consolidated subsidiaries as of the dates indicated and (ii) the consolidated results of operations, stockholders’ equity and changes in cash flows of the Company and its consolidated subsidiaries for the periods therein specified; and such financial statements and related schedules and notes thereto have been prepared in conformity with United States generally accepted accounting principles, consistently applied throughout the periods involved (except as otherwise stated therein and subject, in the case of unaudited financial statements, to the absence of footnotes and normal year-end adjustments). There are no other financial statements (historical or pro forma) that are required to be included or incorporated by reference in the Registration Statement, the Time of Sale Information and the Prospectus; and the Company does not have any material liabilities or obligations, direct or contingent (including any off-balance sheet obligations), not disclosed in the Registration Statement, the Time of Sale Information and the Prospectus; and all disclosures contained in the

Registration Statement, the Time of Sale Information and the Prospectus regarding “non-GAAP financial measures” (as such term is defined by the rules and regulations of the Commission) comply with Regulation G of the Exchange Act and Item 10(e) of Regulation S-K under the Act, to the extent applicable, and present fairly in all material respects the information shown therein and the Company’s basis for using such measures. 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.

(cc) The Company and its subsidiaries maintain a system of internal accounting controls sufficient to provide reasonable assurances that (i) transactions are executed in accordance with management’s general or specific authorizations, (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with generally accepted accounting principles and to maintain accountability for assets, (iii) access to assets is permitted only in accordance with management’s general or specific authorizations and (iv) the recorded accountability for assets is compared with existing assets at reasonable intervals and appropriate action is taken with respect to any differences and (v) the interactive data in eXtensible Business Reporting Language included or incorporated by reference in the Registration Statement 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.

(dd) The Company has established and maintains and evaluates “disclosure controls and procedures” (as such term is defined in Rule 13a-15 and 15d-15 under the Exchange Act); such disclosure controls and procedures are designed to ensure that material information relating to the Company, including its consolidated subsidiaries, is made known to the Company’s Chief Executive Officer and its Chief Financial Officer by others within those entities, and such disclosure controls and procedures are effective to perform the functions for which they were established; the Company’s independent 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 control over financial reporting which are reasonably likely to adversely affect the Company’s ability to record, process, summarize, and report financial data and (ii) any fraud, whether or not material, known to the Company, that involves management or other employees who have a significant role in the Company’s internal control over financial reporting; since the date of the most recent evaluation of such disclosure controls and procedures, except as described in the Registration Statement, the Preliminary Prospectus and the Prospectus, there have been no significant changes in internal control over financial reporting or in other factors that has materially affected or is reasonably likely to materially affect internal control over financial reporting, including any corrective actions with regard to significant deficiencies and material weaknesses; the principal executive officers (or their equivalents) and principal financial officers (or their equivalents) of the Company have made all certifications required by the Sarbanes-Oxley Act (the “Sarbanes-Oxley Act”) and any related rules and regulations promulgated by the Commission, and the statements contained in each such certification are complete and correct; the Company and its subsidiaries are, and the Company has taken all necessary actions to ensure that the Company’s directors and officers in their capacities as such are, each in compliance in all material respects with all applicable

effective provisions of the Sarbanes-Oxley Act and the rules and regulations of the Commission and Nasdaq promulgated thereunder.

(ee) The Company and, to the knowledge of the Company, the Company's directors or officers, in their capacities as such, are each in compliance in all material respects with Section 402 of the Sarbanes-Oxley Act and the rules and regulations promulgated thereunder.

(ff) The Company has not, prior to the date hereof, made any offer or sale of securities which could be "integrated" for purposes of the Act with the offer and sale of the Securities pursuant to the Registration Statement, the Time of Sale Information and the Prospectus; and except as disclosed in the Registration Statement, the Time of Sale Information and the Prospectus, the Company has not sold or issued any security during the 180-day period preceding the date of the Prospectus, including but not limited to any sales pursuant to Rule 144A or Regulation D or S under the Act, other than shares of Common Stock used pursuant to employee benefit plans, qualified stock option plans or the employee compensation plans or pursuant to outstanding options, rights or warrants as described in the Registration Statement, the Time of Sale Information and the Prospectus.

(gg) Neither the Company nor any of its subsidiaries nor, to the knowledge of the Company, any director, officer, agent, employee or affiliate of the Company or any of its subsidiaries is aware of or has taken any action, directly or indirectly, that would result in a violation by such persons of the Foreign Corrupt Practices Act of 1977, as amended, and the rules and regulations thereunder (the "Foreign Corrupt Practices Act"), including, without limitation, making use of the mails or any means or instrumentality of interstate commerce corruptly in furtherance of an offer, payment, promise to pay or authorization of the payment of any money, or other property, gift, promise to give, or authorization of the giving of anything of value to any "foreign official" (as such term is defined in the Foreign Corrupt Practices Act) or any foreign political party or official thereof or any candidate for foreign political office, in contravention of the Foreign Corrupt Practices Act; and the Company, its subsidiaries and, to the knowledge of the Company, its affiliates have conducted their businesses in compliance in all material respects with the Foreign Corrupt Practices Act and have instituted and maintain policies and procedures designed to ensure, and which are reasonably expected to continue to ensure, continued compliance in all material respects therewith.

(hh) Neither the Company nor any of its subsidiaries nor, to the knowledge of the Company, any director, officer, agent, employee or affiliate of the Company or any of its subsidiaries is currently subject to any U.S. sanctions administered by the Office of Foreign Assets Control of the U.S. Department of the Treasury ("OFAC"); and the Company will not directly or indirectly use the proceeds of the offering, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other person or entity, for the purpose of financing the activities of any person currently subject to any U.S. sanctions administered by OFAC.

(ii) The operations of the Company and its subsidiaries are and have been conducted at all times in compliance in all material respects with applicable financial

recordkeeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the “United and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001” (the “Patriot Act”) or the money laundering statutes of all jurisdictions, the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any governmental agency.

(jj) No labor problem or dispute with the employees of the Company or any of its subsidiaries exists, or, to the Company’s knowledge, is threatened or imminent, which would reasonably be expected to result in a Material Adverse Effect. The Company is not aware that any key employee or significant group of employees of the Company or any of its subsidiaries plans to terminate employment with the Company or any of its subsidiaries. Neither the Company nor any of its subsidiaries has engaged in any unfair labor practice, and except for matters which would not, individually or in the aggregate, result in a Material Adverse Effect, (i) there is (A) no unfair labor practice complaint pending or, to the Company’s knowledge, threatened against the Company or any of its subsidiaries before the National Labor Relations Board, and no grievance or arbitration proceeding arising out of or under collective bargaining agreements is pending or to the Company’s knowledge, threatened, (B) no strike, labor dispute, slowdown or stoppage pending or, to the Company’s knowledge, threatened against the Company or any of its subsidiaries and (C) no union representation dispute currently existing concerning the employees of the Company or any of its subsidiaries and (ii) to the Company’s knowledge, (A) no union organizing activities are currently taking place concerning the employees of the Company or any of its subsidiaries and (B) there has been no violation of any federal, state, local or foreign law relating to discrimination in the hiring, promotion or pay of employees, any applicable wage or hour laws or any provision of the Employee Retirement Income Security Act of 1974 (“ERISA”) or the rules and regulations promulgated thereunder concerning the employees of the Company or any of its subsidiaries.

(kk) Except as otherwise disclosed in the Registration Statement, the Time of Sale Information and the Prospectus, the Company and its subsidiaries are (i) in compliance with any and all applicable federal, state, local and foreign laws and regulations relating to the protection of human health and safety, the environment or hazardous or toxic substances or wastes, pollutants or contaminants (“Environmental Laws”), (ii) have received all permits, licenses or other approvals required of them under applicable Environmental Laws to conduct their respective businesses and (iii) are in compliance with all terms and conditions of any such permit, license or approval, except where such noncompliance with Environmental Laws, failure to receive required permits, licenses or other approvals or failure to comply with the terms and conditions of such permits, licenses or other approvals would not, individually or in the aggregate, have a Material Adverse Effect. Except as set forth in the Registration Statement, the Time of Sale Information and the Prospectus, neither the Company nor any of its subsidiaries has been named as a “potentially responsible party” under the Comprehensive Environmental Response Compensation and Liability Act of 1980, as amended. Except as set forth in the Registration Statement, Time of Sale Information and the Prospectus, neither the Company nor any of its subsidiaries owns, leases or occupies any property that appears on any list of hazardous sites compiled by any state or local governmental agency. There are no costs or liabilities

associated with Environmental Laws (including, without limitation, any capital or operating expenditures required for clean-up, closure of properties or compliance with Environmental Laws or any permit, license or approval, any related constraints on operating activities and any potential liabilities to third parties) which would, individually or in the aggregate, result in a Material Adverse Effect.

(ll) Except as otherwise disclosed in the Registration Statement, the Time of Sale Information and the Prospectus, each of the Company and its subsidiaries owns and has full right, title and interest in and to, or has valid licenses to use, each material trade name, trademark, service mark, patent, copyright, approval, trade secret and other similar rights (collectively “Intellectual Property”) under which the Company and its subsidiaries conduct all or any material part of its business, and the Company has not created any lien or encumbrance on, or granted any right or license with respect to, any such Intellectual Property except where the failure to own or obtain a license or right to use any such Intellectual Property would not, individually or in the aggregate, have a Material Adverse Effect; there is no claim pending against the Company or its subsidiaries with respect to any Intellectual Property and the Company and its subsidiaries have not received notice or otherwise become aware that any Intellectual Property that it uses or has used in the conduct of its business infringes upon or conflicts with the rights of any third party. Neither the Company nor any of its subsidiaries has become aware that any material Intellectual Property that it uses or has used in the conduct of its business infringes upon or conflicts with the rights of any third party.

(mm) There is no legal or governmental proceeding to which the Company or any subsidiary is a party or of which any property or assets of the Company or any subsidiary is the subject, including any proceeding before the United States Food and Drug Administration of the U.S. Department of Health and Human Services (“FDA”) or comparable federal, state, local or foreign governmental bodies (it being understood that ordinary course of business interactions between the Company and the FDA and such comparable governmental bodies relating to the nonclinical and clinical development and product review and approval process shall not be deemed proceedings for purposes of this representation), which is required to be described in the Registration Statement, the Time of Sale Information or the Prospectus or a document incorporated by reference therein and is not described therein, or which, singularly or in the aggregate, if determined adversely to the Company or any subsidiary, could reasonably be expected to have a Material Adverse Effect; and to the best of the Company’s knowledge, no such proceedings are threatened or contemplated by governmental authorities or threatened by others. The Company and each subsidiary is in compliance with all applicable federal, state, local and foreign laws, regulations, orders and decrees governing its business as prescribed by the FDA, or any other federal, state or foreign agencies or bodies engaged in the regulation of pharmaceuticals, medical devices, biologics, cellular, tissue or gene therapies or biohazardous substances or materials, except where noncompliance would not, singularly or in the aggregate, have a Material Adverse Effect. All preclinical studies and clinical trials conducted by or on behalf of the Company or any subsidiary to support approval for commercialization of the Company’s or any subsidiary’s products have been conducted by the Company or such subsidiary, as applicable, or to the Company’s knowledge by third parties, in compliance with all applicable federal, state or foreign laws, rules, orders and regulations, except for such failure or

failures to be in compliance as could not reasonably be expected to have, singularly or in the aggregate, a Material Adverse Effect.

(nn) The Company has procured Lock-Up Agreements, in the form of Exhibit B attached hereto, from each of persons or entities listed on Schedule III.

(oo) To the Company's knowledge, there are no affiliations or associations between (i) any member of FINRA and (ii) the Company or any of the Company's officers, directors, 5% or greater security holders or any beneficial owner of the Company's unregistered equity securities that were acquired at any time on or after the 180th day immediately preceding the date the Registration Statement was initially filed with the Commission, except as otherwise disclosed in the Registration Statement, the Time of Sale Information and the Prospectus.

(pp) Except as otherwise disclosed in the Registration Statement, the Time of Sale Information and the Prospectus, the Company and each of its subsidiaries are insured by insurers of recognized financial responsibility against such losses and risks and in such amounts as are prudent and customary in the businesses in which it is engaged; and neither the Company nor any of its subsidiaries has reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage from similar insurers as may be necessary to continue its business at a comparable cost.

(qq) Except as otherwise disclosed in the Registration Statement, the Time of Sale Information and the Prospectus, the Company and its subsidiaries and any "employee benefit plan" (as defined under ERISA) established or maintained by the Company, its subsidiaries or their "ERISA Affiliates" (as defined below) are in compliance in all material respects with ERISA and all other applicable state and federal laws. "ERISA Affiliate" means, with respect to the Company or a subsidiary, any member of any group or organization described in Sections 414(b), (c), (m) or (o) of the Code of which the Company or such subsidiary is a member. No "reportable event" (as defined in ERISA) has occurred or is reasonably expected to occur with respect to any "employee benefit plan" established or maintained by the Company, its subsidiaries or any of their ERISA Affiliates. No "employee benefit plan" established or maintained by the Company, its subsidiaries or any of their ERISA Affiliates, if such "employee benefit plan" were terminated, would have any "amount of unfunded benefit liabilities" (as defined in ERISA). Neither the Company, its subsidiaries nor any of their ERISA Affiliates has incurred or reasonably expects to incur any liability under (i) Title IV of ERISA with respect to termination of, or withdrawal from, any "employee benefit plan" or (ii) Sections 412, 4971, 4975 or 4980B of the Code. Each "employee benefit plan" established or maintained by the Company, its subsidiaries or any of their ERISA Affiliates that is intended to be qualified under Section 401(a) of the Code is so qualified and nothing has occurred, whether by action or failure to act, that would cause the loss of such qualification.

7. Expenses. Whether or not the transactions contemplated hereby are consummated or this Agreement becomes effective or is terminated, the Company agrees to pay or cause to be paid the following: (i) the fees, disbursements and expenses of the Company's counsel and accountants in connection with the registration of the Shares and Warrant Shares under the Act

and all other expenses in connection with the preparation, printing and filing of the Registration Statement, the Time of Sale Information and the Prospectus and amendments and supplements thereto and the mailing and delivering of copies thereof and of any Preliminary Prospectus to the Underwriters and dealers; (ii) the printing and delivery (including postage, air freight charges and charges for counting and packaging) of such copies of the Registration Statement, the Prospectus, each Preliminary Prospectus, the Time of Sale Information, the Blue Sky memoranda, this Agreement and all amendments or supplements to any of them as may be reasonably requested for use in connection with the offering and sale of the Securities; (iii) consistent with the provisions of Section 5(i), all expenses in connection with the qualification of the Securities for offering and sale under state securities laws or Blue Sky laws, including reasonable attorneys' fees and out-of-pocket expenses of the counsel for the Underwriters in connection therewith; (iv) the filing fees incident to securing any required review by FINRA of the fairness of the terms of the sale of the Securities and the reasonable fees and disbursements of the Underwriters' counsel relating thereto; (v) the fees and expenses associated with including the Shares and Warrant Shares on the Nasdaq; (vi) the cost of preparing stock certificates and Warrants; (vii) the costs and charges of any transfer agent or registrar; (viii) the cost of the tax stamps, if any, in connection with the issuance and delivery of the Securities to the respective Underwriters; and (ix) the transportation, lodging, graphics and other expenses incidental to the Company's preparation for and participation in the "roadshow" for the offering contemplated hereby. Except as provided in this Section 7 and in Section 8 hereof, the Underwriters shall pay their own expenses, including the fees and disbursements of their counsel, provided, that upon the closing of the sale of the Securities, the Company shall pay or reimburse the Underwriters for the reasonable out-of-pocket costs and expenses (including, without limitation, the fees and expenses of the Underwriters' outside attorneys) incurred by the Underwriters in connection herewith, not to exceed \$100,000. In addition, in the event that the proposed offering is terminated for the reasons set forth in Section 5(l) hereof, the Company agrees to reimburse the Underwriters as provided in Section 5(l), which, for the avoidance of doubt, is without duplication of the reimbursement amount to be paid under this Section 7.

8. Indemnification and Contribution. Subject to the limitations in this paragraph below, the Company agrees to indemnify and hold harmless you and each other Underwriter, the directors, officers, employees and agents of each Underwriter, and each person, if any, who controls any Underwriter within the meaning of Section 15 of the Act or Section 20 of the Exchange Act from and against any and all losses, claims, damages, liabilities and expenses, including reasonable costs of investigation and attorneys' fees and expenses (collectively, "Damages") arising out of or based upon (i) any untrue statement or alleged untrue statement of a material fact contained in any Preliminary Prospectus, in the Registration Statement, the Time of Sale Information, any Issuer Free Writing Prospectus or the Prospectus or in any amendment or supplement 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 (in the case of the Prospectus, in light of the circumstances under which they were made) not misleading, except to the extent that any such Damages arise out of or are based upon an untrue statement or omission or alleged untrue statement or omission that has been made therein or omitted therefrom in reliance upon and in conformity with the information furnished in writing to the Company by or on behalf of any Underwriter through you, expressly for use in connection therewith or (ii) any

inaccuracy in or breach of the representations and warranties of the Company contained herein or any failure of the Company to perform its obligations hereunder or under law; provided, however, that with respect to any untrue statement or omission made in any Preliminary Prospectus, the indemnity agreement contained in this paragraph shall not inure to the benefit of any Underwriter (or to the benefit of any person controlling such Underwriter or to any officer, director, employee or agent of any Underwriter) from whom the person asserting any such Damages purchased the Securities concerned if both (A) a copy of the Time of Sale Information was not sent or given to such person at or prior to the written confirmation of the sale of such Securities to such person as required by the Act and (B) the untrue statement or omission in the Preliminary Prospectus was corrected in the Time of Sale Information. This indemnification shall be in addition to any liability that the Company may otherwise have.

In addition to its other obligations under this Section 8, the Company agrees that, as an interim measure during the pendency of any claim, action, investigation, inquiry or other proceeding arising out of or based upon any statement or omission, or any inaccuracy in the representations and warranties of the Company herein or failure to perform its obligations hereunder, all as set forth in this Section 8, the party against whom indemnification is being sought will reimburse each Underwriter on a monthly basis for all reasonable legal or other out-of-pocket expenses incurred in connection with investigating or defending any such claim, action, investigation, inquiry or other proceeding (to the extent documented by reasonably itemized invoices therefor), notwithstanding the absence of a judicial determination as to the propriety and enforceability of the obligation of the Company to reimburse each Underwriter for such expenses and the possibility that such payments might later be held to have been improper by a court of competent jurisdiction. To the extent that any such interim reimbursement payment is so held to have been improper, each Underwriter shall promptly return it to the person(s) from whom it was received. Any such interim reimbursement payments that are not made to the Underwriters within 30 days of a request for reimbursement shall bear interest compounded daily at a rate determined on the basis of the base lending rate announced from time to time by The Wall Street Journal from the date of such request.

If any action or claim shall be brought against any Underwriter or any person controlling any Underwriter in respect of which indemnity may be sought against the Company, such Underwriter or such controlling person shall promptly notify in writing the party(s) against whom indemnification is being sought (the "indemnifying party" or "indemnifying parties"), and such indemnifying party(s) shall assume the defense thereof, including the employment of counsel reasonably acceptable to such Underwriter or such controlling person and the payment of all reasonable fees of and expenses incurred by such counsel. Such Underwriter or any such controlling person shall have the right to employ separate counsel in any such action and participate in the defense thereof, but the fees and expenses of such counsel shall be at the expense of such Underwriter or such controlling person, unless (i) the indemnifying party(s) has (have) agreed in writing to pay such fees and expenses, (ii) the indemnifying party(s) has (have) failed to assume the defense and employ counsel reasonably acceptable to the Underwriter or such controlling person or (iii) the named parties to any such action (including any impleaded parties) include both such Underwriter or such controlling person and the indemnifying party(s), and such Underwriter or such controlling person shall have been advised by its counsel that one

or more legal defenses may be available to the Underwriter that may not be available to the Company, or that representation of such indemnified party and any indemnifying party(s) by the same counsel would be inappropriate under applicable standards of professional conduct (whether or not such representation by the same counsel has been proposed) due to actual or potential differing interests between them (in which case the indemnifying party(s) shall not have the right to assume the defense of such action on behalf of such Underwriter or such controlling person (but the Company shall not be liable for the fees and expenses of more than one counsel for the Underwriters and such controlling persons)). The indemnifying party(s) shall not be liable for any settlement of any such action effected without its (their several) written consent, but if settled with such written consent, or if there be a final judgment for the plaintiff in any such action, the indemnifying party(s) agree(s) to indemnify and hold harmless any Underwriter and any such controlling person from and against any loss, claim, damage, liability or expense by reason of such settlement or judgment, but in the case of a judgment only to the extent stated in the first paragraph of this Section 8.

Each Underwriter agrees, severally and not jointly, to indemnify and hold harmless the Company, its directors, its officers who sign the Registration Statement and any person who controls the Company within the meaning of Section 15 of the Act or Section 20 of the Exchange Act, to the same extent as the foregoing several indemnity from the Company to each Underwriter, but only with respect to information furnished in writing by or on behalf of such Underwriter through you expressly for use in the Registration Statement, the Prospectus, the Time of Sale Information, any Issuer Free Writing Prospectus or any Preliminary Prospectus, or any amendment or supplement thereto. If any action or claim shall be brought or asserted against the Company, any of its directors, any of its officers or any such controlling person based on the Registration Statement, the Prospectus, the Time of Sale Information or any Preliminary Prospectus, or any amendment or supplement thereto, and in respect of which indemnity may be sought against any Underwriter pursuant to this paragraph, such Underwriter shall have the rights and duties given to the Company by the immediately preceding paragraph (except that if the Company shall have assumed the defense thereof such Underwriter shall not be required to do so, but may employ separate counsel therein and participate in the defense thereof, but the fees and expenses of such counsel shall be at such Underwriter's expense), and the Company, its directors, any such officers and any such controlling persons, shall have the rights and duties given to the Underwriters by the immediately preceding paragraph.

In any event, the Company will not, without the prior written consent of the Representatives, settle or compromise or consent to the entry of any judgment in any proceeding or threatened claim, action, suit or proceeding in respect of which the indemnification may be sought hereunder (whether or not the Representatives or any person who controls the Representatives within the meaning of Section 15 of the Act or Section 20 of the Exchange Act is a party to such claim, action, suit or proceeding) unless such settlement, compromise or consent includes an unconditional release of all Underwriters and such controlling persons from all liability arising out of such claim, action, suit or proceeding.

If the indemnification provided for in this Section 8 is unavailable or insufficient for any reason whatsoever to an indemnified party in respect of any Damages referred to herein, then an

indemnifying party, in lieu of indemnifying such indemnified party, shall contribute to the amount paid or payable by such indemnified party as a result of such Damages (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 and sale of the Securities 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 and several fault of the Company on the one hand, and the Underwriters on the other hand, in connection with the statements or omissions that resulted in such Damages as well as any other relevant equitable considerations. The relative and several benefits received by the Company on the one hand, and the Underwriters on the other hand, shall be deemed to be in the same proportion as the total net proceeds from the offering (before deducting expenses) received by the Company bear to the total underwriting discounts and commissions received by the Underwriters, in each case as set forth in the table on the cover page of the Prospectus; provided that, in the event that the Underwriters shall have purchased any Additional Securities hereunder, any determination of the relative benefits received by the Company or the Underwriters from the offering of the Securities shall include the net proceeds (before deducting expenses) received by the Company and the underwriting discounts and commissions received by the Underwriters, from the sale of such Additional Securities, in each case computed on the basis of the respective amounts set forth in the notes to the table on the cover page of the Prospectus. The relative fault of the Company on the one hand, and the Underwriters on the other hand, shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Company on the one hand, or by 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 Company and the Underwriters agree that it would not be just and equitable if contribution pursuant to this Section 8 was determined by a pro rata allocation (even if the Underwriters were treated as one entity for such purpose) or by any other method of allocation that does not take into account the equitable considerations referred to in the immediately preceding paragraph. The amount paid or payable by an indemnified party as a result of the Damages referred to in the immediately preceding paragraph shall be deemed to include, subject to the limitations set forth above, any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim. Notwithstanding the provisions of this Section 8, no Underwriter shall be required to contribute any amount in excess of the amount of the underwriting commissions received by such underwriter in connection with the Securities underwritten by it and distributed to the public. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the 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 8 are several in proportion to the respective numbers of Firm Securities set forth opposite their names in Schedule I hereto (or such numbers of Firm Securities increased as set forth in Section 10 hereof) and not joint.

Notwithstanding the second paragraph of this Section 8, any Damages for which an

indemnified party is entitled to indemnification or contribution under this Section 8 shall be paid by the indemnifying party to the indemnified party as Damages are incurred after receipt of reasonably itemized invoices therefor. The indemnity, contribution and reimbursement agreements contained in this Section 8 and the representations and warranties of the Company set forth in this Agreement shall remain operative and in full force and effect, regardless of (i) any investigation made by or on behalf of any Underwriter or any person controlling any Underwriter, the Company, its directors or officers or any person controlling the Company, (ii) acceptance of any Securities and payment therefor hereunder and (iii) any termination of this Agreement. A successor to any Underwriter or any person controlling any Underwriter, or to the Company, its directors or officers or any person controlling the Company, shall be entitled to the benefits of the indemnity, contribution and reimbursement agreements contained in this Section 8.

It is agreed that any controversy arising out of the operation of the interim reimbursement arrangements set forth in the second paragraph of this Section 8, including the amounts of any requested reimbursement payments and the method of determining such amounts, shall be settled by arbitration conducted pursuant to the Code of Arbitration Procedure of FINRA. Any such arbitration must be commenced by service of a written demand for arbitration or written notice of intention to arbitrate, therein electing the arbitration tribunal. In the event the party demanding arbitration does not make such designation of an arbitration tribunal in such demand or notice, then the party responding to said demand or notice is authorized to do so. Such arbitration would be limited to the operation of the interim reimbursement provisions contained in the second and fourth paragraphs of this Section 8, and would not resolve the ultimate propriety or enforceability of the obligation to reimburse expenses that is created by the provisions of the second paragraph of this Section 8.

9. Conditions of Underwriters' Obligations. The several obligations of the Underwriters to purchase the Firm Securities hereunder are subject to the following conditions:

(a) All filings required by Rules 424(b), 430B and 462 under the Act shall have been timely made.

(b) You shall be reasonably satisfied that since the respective dates as of which information is given in the Registration Statement, the Time of Sale Information and Prospectus, (i) there shall not have been any change in the capital stock of the Company or any material change in the indebtedness (other than in the ordinary course of business) of the Company, (ii) except as set forth or contemplated by the Registration Statement, the Time of Sale Information or the Prospectus, no material oral or written agreement or other transaction shall have been entered into by the Company that is not in the ordinary course of business or that could reasonably be expected to result in a material reduction in the future earnings of the Company, (iii) no loss or damage (whether or not insured) to the property of the Company shall have been sustained that had or could reasonably be expected to have a Material Adverse Effect, (iv) no legal or governmental action, suit or proceeding affecting the Company or any of its properties that is material to the Company or that affects or could reasonably be expected to affect the transactions contemplated by this Agreement shall have been instituted or, to the

Company's knowledge, threatened and (v) there shall not have been any material change in the condition (financial or otherwise), business, management, results of operations or prospects of the Company or its subsidiaries that makes it impractical or inadvisable in your judgment to proceed with the public offering or purchase of the Securities as contemplated hereby.

(c) You shall have received on the Closing Date or Additional Closing Date, as the case may be, an opinion of Morgan, Lewis & Bockius LLP, counsel to the Company, in the form reasonably satisfactory to the Representatives.

(d) You shall have received on the Closing Date or Additional Closing Date, as the case may be, an opinion of Foley Hoag LLP, as intellectual property counsel to the Company, in the form reasonably satisfactory to the Representatives.

(e) You shall have received on the Closing Date or Additional Closing Date, as the case may be, an opinion of Hamilton, Brook, Smith & Reynolds, P.C., as intellectual property counsel to the Company, in the form reasonably satisfactory to the Representatives.

(f) You shall have received on the Closing Date or Additional Closing Date, as the case may be, an opinion of Mintz, Levin, Cohn, Ferris, Glovsky & Popeo P.C., counsel for the Underwriters, in the form reasonably satisfactory to the Representatives.

(g) You shall have received a letter addressed to you and dated the date hereof and the Closing Date or the Additional Closing Date, as the case may be, from the firm of EisnerAmper LLP, independent certified public accountants, substantially in the form heretofore approved by you.

(h) (i) No stop order suspending the effectiveness of the Registration Statement shall have been issued by the Commission and no proceedings for that purpose shall be pending or, to the knowledge of the Company, shall be threatened or contemplated by the Commission at or prior to the Closing Date or Additional Closing Date, as the case may be; (ii) no order suspending the effectiveness of the Registration Statement or the qualification or registration of the Securities under the securities or Blue Sky laws of any jurisdiction shall be in effect and no proceeding for such purpose shall be pending or, to the knowledge of the Company, threatened or contemplated by the authorities of any jurisdiction; (iii) any request for additional information on the part of the staff of the Commission or any such authorities shall have been complied with to the satisfaction of the staff of the Commission or such authorities; (iv) after the date hereof, no amendment or supplement to the Registration Statement, any Preliminary Prospectus or the Prospectus shall have been filed unless a copy thereof was first submitted to you and you did not object thereto in good faith; and (v) all of the representations and warranties of the Company contained in this Agreement shall be true and correct in all material respects (except for such representations and warranties qualified by materiality, which representations and warranties shall be true and correct in all respects) on and as of the date hereof and on and as of the Closing Date or Additional Closing Date, as the case may be, as if made on and as of the Closing Date or Additional Closing Date, as the case may be, and you shall have received a certificate, dated the Closing Date and signed by the chief executive officer and the chief

financial officer of the Company (or such other officers as are acceptable to you) to the effect set forth in this Section 9(h) and in Sections 9(b) and 9(i) hereof.

(i) The Company shall not have failed in any material respect at or prior to the Closing Date or the Additional Closing Date, as the case may be, to have performed or complied with any of its agreements herein contained and required to be performed or complied with by it hereunder at or prior to the Closing Date or Additional Closing Date, as the case may be.

(j) The Company shall have furnished or caused to have been furnished to you such further certificates and documents as you shall have reasonably requested.

(k) At or prior to the Closing Date, you shall have received the written commitment Lock-Up Agreements from each of the persons and entities listed on Schedule III not to directly or indirectly (i) sell, offer or contract to sell or otherwise dispose of or transfer any shares of Company Securities (as defined in such Lock-Up Agreements), whether now owned or acquired after the date of the Prospectus or with respect to which the power of disposition is acquired after the date of the Prospectus, or file any registration statement under the Act with respect to the foregoing or (ii) enter into any swap or other agreement or any other agreement that transfers, in whole or in part, directly or indirectly, the economic consequences of ownership of Company Securities whether any such swap or transaction is to be settled by delivery of Company Securities, in cash or otherwise; other than as provided in such written commitment before the expiration of 60 days from the Closing Date, without the prior written consent of the Representatives.

(l) The Shares and Warrant Shares shall have been approved for listing on the Nasdaq.

(m) You shall have received a letter from the Corporate Financing Department of FINRA confirming that such Department has determined to raise no objections with respect to the fairness or reasonableness of the underwriting terms and arrangements of the offering contemplated hereby.

All such opinions, certificates, letters and other documents will be in compliance with the provisions hereof only if they are reasonably satisfactory in form and substance to you and your counsel.

The several obligations of the Underwriters to purchase Additional Securities hereunder are subject to the satisfaction on and as of the Additional Closing Date of the conditions set forth in this Section 9, except that, if the Additional Closing Date is other than the Closing Date, the certificates, opinions and letters referred to in this Section 9 shall be dated as of the Additional Closing Date and the opinions called for by paragraphs (c), (d), (e) and (f) shall be revised to reflect the sale of Additional Securities.

If any of the conditions hereinabove provided for in this Section 9 shall not have been

satisfied when and as required by this Agreement, this Agreement may be terminated by you by notifying the Company of such termination in writing or by telegram at or prior to such Closing Date, but you shall be entitled to waive any of such conditions.

10. Effective Date of Agreement. This Agreement shall become effective upon the execution and delivery hereof by the parties hereto; *provided, however*, that the provisions of Sections 7 and 8 shall survive the termination of this Agreement.

11. Defaulting Underwriters. If any one or more of the Underwriters shall fail or refuse to purchase Firm Securities that it or they have agreed to purchase hereunder, and the aggregate number of Firm Securities that such defaulting Underwriter or Underwriters agreed but failed or refused to purchase is not more than one-tenth of the aggregate number of the Firm Securities, each non-defaulting Underwriter shall be obligated, severally, in the proportion in which the number of Firm Securities set forth opposite its name in Schedule I hereto bears to the aggregate number of Firm Securities set forth opposite the names of all non-defaulting Underwriters or in such other proportion as you may specify in the Agreement Among Underwriters, to purchase the Firm Securities that such defaulting Underwriter or Underwriters agreed, but failed or refused to purchase. If any Underwriter or Underwriters shall fail or refuse to purchase Firm Securities and the aggregate number of Firm Securities with respect to which such default occurs is more than one-tenth of the aggregate number of Firm Securities and arrangements satisfactory to you and the Company for the purchase of such Firm Securities are not made within 48 hours after such default, this Agreement will terminate without liability on the part of any non-defaulting Underwriter or the Company. In any such case that does not result in termination of this Agreement, either you or the Company shall have the right to postpone the Closing Date, but in no event for longer than seven (7) days, in order that the required changes, if any, in the Registration Statement and the Prospectus or any other documents or arrangements may be effected. Any action taken under this paragraph shall not relieve any defaulting Underwriter from liability in respect of any such default of any such Underwriter under this Agreement.

12. Termination of Agreement. This Agreement shall be subject to termination in your absolute discretion, without liability on the part of any Underwriter to the Company by notice to the Company, if prior to the Closing Date or the Additional Closing Date (if different from the Closing Date and then only as to the Additional Securities), as the case may be, in your sole judgment, (i) trading in the Company's Common Stock shall have been suspended by the Commission or the Nasdaq, (ii) trading in securities generally on the NYSE or Nasdaq shall have been suspended or materially limited, or minimum or maximum prices shall have been generally established on such exchange, or additional material governmental restrictions, not in force on the date of this Agreement, shall have been imposed upon trading in securities generally by any such exchange or by order of the Commission or any court or other governmental authority, (iii) a general moratorium on commercial banking activities shall have been declared by either federal or New York State authorities or (iv) there shall have occurred any outbreak or escalation of hostilities or other international or domestic calamity, crisis or change in political, financial or economic conditions or other material event the effect of which on the financial markets of the United States is such as to make it, in your judgment, impracticable or inadvisable to market the

Securities or to enforce contracts for the sale of the Securities. Notice of such cancellation shall be promptly given to the Company and its counsel by telegraph, teletype or telephone and shall be subsequently confirmed by letter.

13. Information Furnished by the Underwriters. The Company acknowledges that the fourth and eleventh through fourteenth paragraphs under the caption "Underwriting" in any Preliminary Prospectus, constitute the only information furnished by or on behalf of the Underwriters through you or on your behalf as such information is referred to in Sections 6(a), 6(b) and 8 hereof.

14. Miscellaneous. Except as otherwise provided in Sections 5 and 12 hereof, notice given pursuant to any of the provisions of this Agreement shall be in writing and shall be delivered

(i) to the Company

Leap Therapeutics, Inc.
47 Thorndike St., Suite B1-1
Cambridge, Massachusetts 02141
Attention: Chief Financial Officer

with a copy to

Morgan, Lewis & Bockius LLP
One Federal St.
Boston, Massachusetts 02110
Attention: Julio Vega, Esq.

(ii) to the Underwriters

Raymond James & Associates, Inc.
880 Carillon Parkway
St. Petersburg, Florida 33716
Attention: General Counsel

Ladenburg Thalmann & Co. Inc.
277 Park Ave
26th Floor
New York, New York 10172
Attention: David Strupp

with a copy to

Mintz, Levin, Cohn, Ferris, Glovsky & Popeo P.C.
666 Third Avenue

This Agreement has been and is made solely for the benefit of the several Underwriters, the Company and its directors and officers.

15. Applicable Law; Counterparts. This Agreement shall be governed by and construed in accordance with the laws of the State of New York without reference to choice of law principles thereunder.

This Agreement may be signed in various counterparts, which together shall constitute one and the same instrument.

This Agreement shall be effective when, but only when, at least one counterpart hereof shall have been executed on behalf of each party hereto.

The Company and the Underwriters each hereby irrevocably waive any right they may have to a trial by jury in respect to any claim based upon or arising out of this Agreement or the transactions contemplated hereby.

16. No Fiduciary Duty. Notwithstanding any pre-existing relationship, advisory or otherwise, between the parties or any oral representations or assurances previously or subsequently made by any of the Underwriters, the Company acknowledges and agrees that (i) nothing herein shall create a fiduciary or agency relationship between the Company, on the one hand, and the Underwriters, on the other hand; (ii) the Underwriters have been retained solely to act as underwriters and are not acting as advisors, expert or otherwise, to either the Company in connection with this offering, the sale of the Securities or any other services the Underwriters may be deemed to be providing hereunder, including, without limitation, with respect to the public offering price of the Securities; (iii) the relationship between the Company, on the one hand, and the Underwriters, on the other hand, is entirely and solely commercial, and the price of the Securities was established by the Company and the Underwriters based on discussions and arms' length negotiations and the Company understands and accepts the terms, risks and conditions of the transactions contemplated by this Agreement; (iv) any duties and obligations that the Underwriters may have to the Company shall be limited to those duties and obligations specifically stated herein; and (v) notwithstanding anything in this Agreement to the contrary, the Company acknowledges that the Underwriters may have financial interests in the success of the Offering that are not limited to the difference between the price to the public and the purchase price paid to the Company for the shares and such interests may differ from the interests of the Company, and the Underwriters have no obligation to disclose, or account to the Company for any benefit they may derive from such additional financial interests. The Company hereby waives and releases, to the fullest extent permitted by the applicable law, any claims it may have against the Underwriters with respect to any breach or alleged breach of fiduciary duty and agrees that the Underwriters shall have no liability (whether direct or indirect) to the Company in respect of such a fiduciary duty claim or to any person asserting a fiduciary duty claim on behalf

of or in right of the Company or any of its shareholders, managers, employees or creditors.

17. Research Analyst Independence. The Company acknowledges that (a) the Underwriters' research analysts and research departments are required to be independent from their respective investment banking divisions and are subject to certain regulations and internal policies and (b) the Underwriters' research analysts may hold views and make statements or investment recommendations and/or publish research reports with respect to the Company, the value of the Common Stock and/or the offering that differ from the views of their respective investment banking divisions. The Company hereby waives and releases, to the fullest extent permitted by law, any claims that it may have against the Underwriters with respect to any conflict of interest that may arise from the fact that the views expressed by the Underwriters' independent research analysts and research departments may be different from or inconsistent with the views or advice communicated to the Company by any Underwriter's investment banking division. The Company acknowledges that each of the Underwriters is a full service securities firm and as such, from time to time, subject to applicable securities laws, may effect transactions for its own account or the account of its customers and hold long or short positions in debt or equity securities of the companies that are the subject of the transactions contemplated by this Agreement.

Please confirm that the foregoing correctly sets forth the agreement among the Company and the several Underwriters.

Very truly yours,

LEAP THERAPEUTICS, INC.

/s/ Christopher K. Mirabelli
President and Chief Executive Officer

CONFIRMED as of the date first above mentioned, on behalf of the Representatives and the other several Underwriters named in Schedule I hereto.

RAYMOND JAMES & ASSOCIATES, INC.

By: /s/ Ed Newman
Name: Ed Newman
Title: Managing Director

LADENBURG THALMANN & CO. INC.

By: /s/ David Strupp
Name: David Strupp
Title: Managing Director

SCHEDULE I

Name	Number of Firm Shares	Number of Firm Warrants
Raymond James & Associates, Inc.	3,942,857	3,942,857
Ladenburg Thalmann & Co. Inc.	2,628,571	2,628,571
Total:	6,571,428	6,571,428

SCHEDULE II

Pricing Information

Price per Firm Share and accompanying Firm Warrant to the public: \$1.75

Price per Firm Share and accompanying Firm Warrant to the Underwriters: \$1.645

Number of Firm Shares: 6,571,428

Number of Firm Warrants: 6,571,428

Price per Additional Share: \$1.6356

Price per Additional Warrant: \$0.0094

SCHEDULE III

Persons Subject to Lock-up

Christopher Mirabelli
Douglas Onsi
Augustine Lawlor
James Cavanaugh
Thomas Dietz
William Li
John Littlechild
Joseph Loscalzo
Nissim Mashiach
Monica Bertagnolli
HealthCare Ventures VIII, L.P.
HealthCare Strategic Fund, L.P.
HealthCare Ventures IX, L.P.

EXHIBIT A

Form of Warrant

[FORM OF WARRANT]

LEAP THERAPEUTICS, INC.

WARRANT TO PURCHASE COMMON STOCK

Warrant No.:
Number of Shares of Common Stock:
Date of Issuance: [], 2019 (“**Issuance Date**”)

Leap Therapeutics, a company organized under the laws of Delaware (the “**Company**”), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, [HOLDER], the registered holder hereof or its permitted assigns (the “**Holder**”), is entitled, subject to the terms set forth below, to purchase from the Company, at the Exercise Price (as defined in Section 1(b) below) then in effect, at any time or times on or after the Issuance Date (the “**Exercisability Date**”), but not after 11:59 p.m., New York time, on the Expiration Date, (as defined in Section 16 below), () (1) fully paid non-assessable shares of Common Stock (as defined in Section 16 below), subject to adjustment as provided herein (the “**Warrant Shares**”). Except as otherwise defined herein, capitalized terms in this Warrant to Purchase Common Stock (including any Warrants to Purchase Common Stock issued in exchange, transfer or replacement hereof, this “**Warrant**”), shall have the meanings set forth in Section 16. This Warrant is one of the Warrants to Purchase Common Stock (the “**Warrants**”) issued pursuant to (i) that certain Underwriting Agreement, dated as of [], 2019 (the “**Subscription Date**”) by and among the Company and Raymond James & Associates, Inc. and Ladenburg Thalmann & Co. Inc., (ii) the Company’s Registration Statement on Form S-3 (File number 333-223419) (the “**Registration Statement**”), and (iii) the Company’s prospectus supplement dated as of [], 2019.

1. EXERCISE OF WARRANT.

(a) Mechanics of Exercise. Subject to the terms and conditions hereof (including, without limitation, the limitations set forth in Section 1(f)), this Warrant may be exercised by the Holder at any time or times on or after the Issuance Date, in whole or in part, by delivery (whether via facsimile, electronic mail or otherwise) of a written notice, in the form attached hereto as Exhibit A (the “**Exercise Notice**”), of the Holder’s election to exercise this Warrant. Within one (1) Trading Day following the delivery of the Exercise Notice, the Holder shall make payment to the Company of an amount equal to the Exercise Price in effect on the date of such exercise multiplied by the number of Warrant Shares as to which this Warrant is being exercised (the “**Aggregate Exercise Price**”) in cash by wire transfer of immediately available funds or, if the provisions of Section 1(d) are applicable, by notifying the Company that this Warrant is being exercised pursuant to a Cashless Exercise (as defined in Section 1(d)). The Holder shall not be required to deliver the original Warrant in order to effect an exercise hereunder, nor shall any ink-original signature or medallion guarantee (or other type of guarantee or notarization) with respect to any Exercise Notice be required. Execution and delivery of the

(1) Insert []% of the number of shares of Common Stock purchased pursuant to the Underwriting Agreement.

Exercise Notice with respect to less than all of the Warrant Shares shall have the same effect as cancellation of the original Warrant and issuance of a new Warrant evidencing the right to purchase the remaining number of Warrant Shares not exercised pursuant to the Exercise Notice and the Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in full, in which case, the Holder shall surrender this Warrant to the Company for cancellation within three (3) Trading Days following the date on which the final Notice of Exercise is delivered to the Company. On or before the first (1st) Trading Day following the date on which the Holder has delivered the applicable Exercise Notice, the Company shall transmit by facsimile or electronic mail an acknowledgment of confirmation of receipt of the Exercise Notice, in the form attached to the Exercise Notice, to the Holder and the Company's transfer agent (the "**Transfer Agent**"). So long as the Holder delivers the Aggregate Exercise Price (or notice of a Cashless Exercise) on or prior to the first (1st) Trading Day following the date on which the Exercise Notice has been delivered to the Company, then on or prior to the earlier of (i) the second (2nd) Trading Day and (ii) the number of Trading Days comprising the Standard Settlement Period, in each case following the date on which the Exercise Notice has been delivered to the Company, or, if the Holder does not deliver the Aggregate Exercise Price (or notice of a Cashless Exercise) on or prior to the first (1st) Trading Day following the date on which the Exercise Notice has been delivered to the Company, then on or prior to the first (1st) Trading Day following the date on which the Aggregate Exercise Price (or notice of a Cashless Exercise) is delivered (such earlier date, the "**Share Delivery Date**"), the Company shall (A) if the Transfer Agent is participating in The Depository Trust Company ("**DTC**") Fast Automated Securities Transfer Program, direct the Transfer Agent to credit such aggregate number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the Holder's or its designee's balance account with DTC through its Deposit / Withdrawal At Custodian system, or (B) if the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program, issue and dispatch by overnight courier to the address as specified in the Exercise Notice, a certificate, registered in the name of the Holder or its designee, for the number of Warrant Shares to which the Holder is entitled pursuant to such exercise. Notwithstanding the foregoing, so long as the Transfer Agent is participating in the DTC Fast Automated Securities Transfer Program with respect to any Exercise Notice(s) delivered by 12:00 p.m. (New York City time) on the applicable Exercisability Date (along with the respective Aggregate Exercise Price or notice of Cashless Exercise, as appropriate), the Company agrees to deliver the Warrant Shares subject to the applicable exercise notice(s) by 4:00 p.m. (New York City time) on the applicable Exercisability Date. The Company shall be responsible for all fees and expenses of the Transfer Agent and all fees and expenses with respect to the issuance of Warrant Shares via DTC, if any, including without limitation for same day processing. Upon the Share Delivery Date, the Holder shall be deemed for all corporate purposes to have become the holder of record and beneficial owner of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date such Warrant Shares are credited to the Holder's DTC account or the date of delivery of the certificates evidencing such Warrant Shares, as the case may be. If this Warrant is physically delivered to the Company in connection with any exercise pursuant to this Section 1(a) and the number of Warrant Shares represented by this Warrant submitted for exercise is greater than the number of Warrant Shares being acquired upon an exercise, then the Company shall as soon as practicable and in no event later than three (3) Trading Days after any exercise and at its own expense, issue and deliver to the Holder (or its designee) a new Warrant

(in accordance with Section 7(d)) representing the right to purchase the number of Warrant Shares issuable immediately prior to such exercise under this Warrant, less the number of Warrant Shares with respect to which this Warrant is exercised. No fractional Warrant Shares are to be issued upon the exercise of this Warrant, but rather the number of Warrant Shares to be issued shall be rounded down to the nearest whole number. The Company shall pay any and all transfer, stamp, issuance and similar taxes, costs and expenses (including, without limitation, fees and expenses of the Transfer Agent) which may be payable with respect to the issuance and delivery of Warrant Shares upon exercise of this Warrant. The Company's obligations to issue and deliver Warrant Shares in accordance with the terms and subject to the conditions hereof are absolute and unconditional, irrespective of any action or inaction by the Holder to enforce the same, any waiver or consent with respect to any provision hereof, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination; provided, however, that the Company shall not be required to deliver Warrant Shares with respect to an exercise prior to the Holder's delivery of the Aggregate Exercise Price (or notice of a Cashless Exercise) with respect to such exercise.

(b) Exercise Price. For purposes of this Warrant, "**Exercise Price**" means \$[] per Warrant Share, subject to adjustment as provided herein.

(c) Company's Failure to Timely Deliver Securities. If either (i) the Company shall fail for any reason or for no reason on or prior to the applicable Share Delivery Date, (A) if the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program, to issue to the Holder a certificate for the number of shares of Common Stock to which the Holder is entitled and register such Common Stock on the Company's share register or (B) if the Transfer Agent is participating in the DTC Fast Automated Securities Transfer Program, to credit the Holder's balance account with DTC, for such number of shares of Common Stock to which the Holder is entitled upon the Holder's exercise of this Warrant or (ii) a registration statement (which may be the Registration Statement) covering the issuance or resale of the Warrant Shares that are the subject of the Exercise Notice (the "**Exercise Notice Warrant Shares**") is not available for the issuance or resale, as applicable, of such Exercise Notice Warrant Shares and (A) the Company fails to promptly, but in no event later than one (1) Business Day after such registration statement becomes unavailable, to so notify the Holder and (B) the Company is unable to deliver the Exercise Notice Warrant Shares electronically without any restrictive legend by crediting such aggregate number of Exercise Notice Warrant Shares to the Holder's or its designee's balance account with DTC through its Deposit / Withdrawal At Custodian system (the event described in the immediately foregoing clause (ii) is hereinafter referred to as a "**Notice Failure**" and, together with the event described in clause (i) above, an "**Exercise Failure**"), then, in addition to all other remedies available to the Holder, if on or prior to the applicable Share Delivery Date either (X) if the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program, the Company shall fail to issue and deliver a certificate to the Holder and register such shares of Common Stock on the Company's share register or, if the Transfer Agent is participating in the DTC Fast Automated Securities Transfer Program, credit the Holder's balance account with DTC for the number of shares of Common Stock to which the Holder is entitled upon the Holder's exercise hereunder or pursuant to the Company's obligation pursuant to clause (2) below or (Y) a Notice Failure occurs, and if on or after such Share Delivery Date the Holder purchases (in an open market transaction or otherwise) Common Stock to deliver in satisfaction of a sale by the Holder of shares of Common Stock

issuable upon such exercise that the Holder anticipated receiving from the Company (a “**Buy-In**”), then the Company shall, within five (5) Trading Days after the Holder’s request and in the Holder’s discretion, either (1) pay cash to the Holder in an amount equal to the Holder’s total purchase price (including brokerage commissions and other out-of-pocket expenses, if any) for the shares of Common Stock so purchased (the “**Buy-In Price**”), at which point the Company’s obligation to deliver such certificate (and to issue such shares of Common Stock) or credit such Holder’s balance account with DTC for such shares of Common Stock shall terminate, or (2) promptly honor its obligation to deliver to the Holder a certificate or certificates representing such shares of Common Stock or credit such Holder’s balance account with DTC, as applicable, and pay cash to the Holder in an amount equal to the excess (if any) of the Buy-In Price over the product of (I) such number of shares of Common Stock, times (II) any trading price of the Common Stock selected by the Holder in writing as in effect at any time during the period beginning on the applicable Exercise Date and ending on the applicable Share Delivery Date. Nothing shall limit the Holder’s right to pursue any other remedies available to it hereunder, at law or in equity, including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company’s failure to timely deliver certificates representing Warrant Shares (or to electronically deliver such Warrant Shares) upon the exercise of this Warrant as required pursuant to the terms hereof. While this Warrant is outstanding, the Company shall cause its transfer agent to participate in the DTC Fast Automated Securities Transfer Program. In addition to the foregoing rights, (a) if the Company fails to deliver the applicable number of Warrant Shares upon an exercise pursuant to Section 1 by the applicable Share Delivery Date, then the Holder shall have the right to rescind such exercise in whole or in part and retain and/or have the Company return, as the case may be, any portion of this Warrant that has not been exercised pursuant to such Exercise Notice; provided that the rescission of an exercise shall not affect the Company’s obligation to make any payments that have accrued prior to the date of such notice pursuant to this Section 1(c) or otherwise, and (b) if a registration statement (which may be the Registration Statement) covering the issuance or resale of the Warrant Shares that are subject to an Exercise Notice is not available for the issuance or resale, as applicable, of such Exercise Notice Warrant Shares and the Holder has submitted an Exercise Notice prior to receiving notice of the non-availability of such registration statement and the Company has not already delivered the Warrant Shares underlying such Exercise Notice electronically without any restrictive legend by crediting such aggregate number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the Holder’s or its designee’s balance account with DTC through its Deposit / Withdrawal At Custodian system, the Holder shall have the option, by delivery of notice to the Company, to (x) rescind such Exercise Notice in whole or in part and retain or have returned, as the case may be, any portion of this Warrant that has not been exercised pursuant to such Exercise Notice; provided that the rescission of an Exercise Notice shall not affect the Company’s obligation to make any payments that have accrued prior to the date of such notice pursuant to this Section 1(c) or otherwise, and/or (y) switch some or all of such Exercise Notice from a cash exercise to a Cashless Exercise. In addition to the foregoing, if the Company fails for any reason to deliver to the Holder the Warrant Shares subject to an Exercise Notice by the Share Delivery Date, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each \$1,000 of Warrant Shares subject to such exercise (based on the Weighted Average Price of the Common Stock on the date of the applicable Exercise Notice), \$10 per Trading Day (increasing to \$20 per Trading Day on the fifth

Trading Day after such liquidated damages begin to accrue) for each Trading Day after such Share Delivery Date until such Warrant Shares are delivered or Holder rescinds such exercise.

(d) **Cashless Exercise.** Notwithstanding anything contained herein to the contrary, if a registration statement (which may be the Registration Statement) covering the issuance or resale of the Exercise Notice Warrant Shares is not available for the issuance or resale, as applicable, of such Exercise Notice Warrant Shares, the Holder may, in its sole discretion, exercise this Warrant in whole or in part and, in lieu of making the cash payment otherwise contemplated to be made to the Company upon such exercise in payment of the Aggregate Exercise Price, elect instead to receive upon such exercise the “Net Number” of shares of Common Stock determined according to the following formula (a “**Cashless Exercise**”):

$$\text{Net Number} = \frac{(A \times B) - (A \times C)}{B}$$

For purposes of the foregoing formula:

A= the total number of shares with respect to which this Warrant is then being exercised.

B= as applicable: (i) the Closing Sale Price of the Common Stock on the Trading Day immediately preceding the date of the applicable Exercise Notice if such Exercise Notice is (1) both executed and delivered pursuant to Section 1(a) hereof on a day that is not a Trading Day or (2) both executed and delivered pursuant to Section 1(a) hereof on a Trading Day prior to the opening of “regular trading hours” (as defined in Rule 600(b)(64) of Regulation NMS promulgated under the federal securities laws) on such Trading Day, (ii) at the option of the Holder, either (y) the Weighted Average Price on the Trading Day immediately preceding the date of the applicable Notice of Exercise or (z) the Bid Price of the Common Stock as of the time of the Holder’s execution of the applicable Exercise Notice if such Exercise Notice is executed during “regular trading hours” on a Trading Day and is delivered within two (2) hours thereafter (including until two (2) hours after the close of “regular trading hours” on a Trading Day) pursuant to Section 1(a) hereof or (iii) the Closing Sale Price of the Common Stock on the date of the applicable Exercise Notice if the date of such Exercise Notice is a Trading Day and such Exercise Notice is both executed and delivered pursuant to Section 1(a) hereof after the close of “regular trading hours” on such Trading Day.

C= the Exercise Price then in effect for the applicable Warrant Shares at the time of such exercise.

If Warrant Shares are issued in such a cashless exercise, the Company acknowledges and agrees that in accordance with Section 3(a)(9) of the Securities Act of 1933, as amended, the Warrant Shares shall take on the registered characteristics of the Warrants being exercised, and the holding period of the Warrants being exercised may be tacked on to the

holding period of the Warrant Shares. The Company agrees not to take any position contrary to this Section 1(d).

(e) Disputes. In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Company shall promptly issue to the Holder the number of Warrant Shares that are not disputed and resolve such dispute in accordance with Section 11.

(f) Beneficial Ownership. Notwithstanding anything to the contrary contained herein, the Company shall not effect the exercise of any portion of this Warrant, and the Holder shall not have the right to exercise any portion of this Warrant, pursuant to the terms and conditions of this Warrant and any such exercise shall be null and void and treated as if never made, to the extent that after giving effect to such exercise, the Holder together with the other Attribution Parties collectively would beneficially own in excess of [4.99][9.99]% (the “**Maximum Percentage**”)(2) of the number of shares of Common Stock outstanding immediately after giving effect to such exercise. For purposes of the foregoing sentence, the aggregate number of shares of Common Stock beneficially owned by the Holder and the other Attribution Parties shall include the number of shares of Common Stock held by the Holder and all other Attribution Parties plus the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which the determination of such sentence is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (i) exercise of the remaining, unexercised portion of this Warrant beneficially owned by the Holder or any of the other Attribution Parties and (ii) exercise or conversion of the unexercised or unconverted portion of any other securities of the Company (including, without limitation, any convertible notes or convertible preferred stock or warrants, including the other Warrants) beneficially owned by the Holder or any other Attribution Party subject to a limitation on conversion or exercise analogous to the limitation contained in this Section 1(f). For purposes of this Section 1(f), beneficial ownership shall be calculated in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended (the “**1934 Act**”). For purposes of this Warrant, in determining the number of outstanding shares of Common Stock the Holder may acquire upon the exercise of this Warrant without exceeding the Maximum Percentage, the Holder may rely on the number of outstanding shares of Common Stock as reflected in (A) the Company’s most recent Annual Report on Form 10-K, Quarterly Report on Form 10-Q and Current Reports on Form 8-K or other public filing with the Securities and Exchange Commission (the “**SEC**”), as the case may be, (B) a more recent public announcement by the Company or (C) any other written notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding (the “**Reported Outstanding Share Number**”). If the Company receives an Exercise Notice from the Holder at a time when the actual number of outstanding shares of Common Stock is less than the Reported Outstanding Share Number, the Company shall (X) notify the Holder in writing of the number of shares of Common Stock then outstanding and, to the extent that such Exercise Notice would otherwise cause the Holder’s beneficial ownership, as determined pursuant to this Section 1(f), to exceed the Maximum Percentage, the Holder must notify the Company of a reduced number of Warrant Shares to be purchased

(2) NTD: Please advise of percentage.

pursuant to such Exercise Notice (the number of shares by which such purchase is reduced, the “**Reduction Shares**”) and (Y) as soon as reasonably practicable, the Company shall return to the Holder any exercise price paid by the Holder for the Reduction Shares. For any reason at any time, upon the written or oral request of the Holder, the Company shall within one (1) Business Day confirm orally and in writing or by electronic mail to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder and any other Attribution Party since the date as of which the Reported Outstanding Share Number was reported. In the event that the issuance of Common Stock to the Holder upon exercise of this Warrant results in the Holder and the other Attribution Parties being deemed to beneficially own, in the aggregate, more than the Maximum Percentage of the number of outstanding shares of Common Stock (as determined under Section 13(d) of the 1934 Act), the number of shares so issued by which the Holder’s and the other Attribution Parties’ aggregate beneficial ownership exceeds the Maximum Percentage (the “**Excess Shares**”) shall be deemed null and void and shall be cancelled ab initio, and the Holder shall not have the power to vote or to transfer the Excess Shares. As soon as reasonably practicable after the issuance of the Excess Shares has been deemed null and void, the Company shall return to the Holder the exercise price paid by the Holder for the Excess Shares. Upon delivery of a written notice to the Company, the Holder may from time to time increase or decrease the Maximum Percentage to any other percentage [not in excess of 9.99%] as specified in such notice; provided that (i) any such increase in the Maximum Percentage will not be effective until the sixty-first (61st) day after such notice is delivered to the Company and (ii) any such increase or decrease will apply only to the Holder and the other Attribution Parties and not to any other holder of Warrants that is not an Attribution Party of the Holder. For purposes of clarity, the shares of Common Stock issuable pursuant to the terms of this Warrant in excess of the Maximum Percentage shall not be deemed to be beneficially owned by the Holder for any purpose including for purposes of Section 13(d) or Rule 16a-1(a)(1) of the 1934 Act. No prior inability to exercise this Warrant pursuant to this paragraph shall have any effect on the applicability of the provisions of this paragraph with respect to any subsequent determination of exercisability. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 1(f) to the extent necessary to correct this paragraph or any portion of this paragraph which may be defective or inconsistent with the intended beneficial ownership limitation contained in this Section 1(f) or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitation contained in this paragraph may not be waived and shall apply to a successor holder of this Warrant.

(g) Required Reserve Amount. So long as this Warrant remains outstanding, the Company shall at all times keep reserved for issuance under this Warrant a number of shares of Common Stock at least equal to 100% of the maximum number of shares of Common Stock as shall be necessary to satisfy the Company’s obligation to issue shares of Common Stock under the Warrants then outstanding (without regard to any limitations on exercise) (the “**Required Reserve Amount**”); provided that at no time shall the number of shares of Common Stock reserved pursuant to this Section 1(g) be reduced other than in connection with any exercise of Warrants or such other event covered by Section 2(b) below. The Required Reserve Amount (including, without limitation, each increase in the number of shares so reserved) shall be allocated pro rata among the holders of the Warrants

based on the number of shares of Common Stock issuable upon exercise of Warrants held by each holder thereof on the Issuance Date (without regard to any limitations on exercise) (the “**Authorized Share Allocation**”). In the event that a holder shall sell or otherwise transfer any of such holder’s Warrants, each transferee shall be allocated a pro rata portion of such holder’s Authorized Share Allocation. Any shares of Common Stock reserved and allocated to any Person which ceases to hold any Warrants shall be allocated to the remaining holders of Warrants, pro rata based on the number of shares of Common Stock issuable upon exercise of the Warrants then held by such holders thereof (without regard to any limitations on exercise).

(h) Insufficient Authorized Shares. If at any time while this Warrant remains outstanding the Company does not have a sufficient number of authorized and unreserved shares of Common Stock to satisfy its obligation to reserve for issuance the Required Reserve Amount (an “**Authorized Share Failure**”), then the Company shall promptly take all action reasonably necessary to increase the Company’s authorized shares of Common Stock to an amount sufficient to allow the Company to reserve the Required Reserve Amount for this Warrant then outstanding. Without limiting the generality of the foregoing sentence, as soon as practicable after the date of the occurrence of an Authorized Share Failure, but in no event later than ninety (90) days after the occurrence of such Authorized Share Failure, the Company shall hold a meeting of its stockholders for the approval of an increase in the number of authorized shares of Common Stock. In connection with such meeting, the Company shall provide each stockholder with a proxy statement and shall use its reasonable best efforts to solicit its stockholders’ approval of such increase in authorized shares of Common Stock and to cause its board of directors to recommend to the stockholders that they approve such proposal. Notwithstanding the foregoing, if any such time of an Authorized Share Failure, the Company is able to obtain the written consent of a majority of the shares of its issued and outstanding shares of Common Stock to approve the increase in the number of authorized shares of Common Stock, the Company may satisfy this obligation by obtaining such consent and submitting for filing with the SEC an Information Statement on Schedule 14C.

2. ADJUSTMENT OF EXERCISE PRICE AND NUMBER OF WARRANT SHARES. The Exercise Price and the number of Warrant Shares shall be adjusted from time to time as follows:

(a) Voluntary Adjustment By Company. The Company may at any time during the term of this Warrant reduce the then current Exercise Price to any amount and for any period of time deemed appropriate by the Board of Directors of the Company.

(b) Adjustment Upon Subdivision or Combination of Common Stock. If the Company at any time on or after the Subscription Date subdivides (by any stock split, stock dividend, recapitalization or otherwise) one or more classes of its outstanding shares of Common Stock into a greater number of shares, the Exercise Price in effect immediately prior to such subdivision will be proportionately reduced and the number of Warrant Shares will be proportionately increased. If the Company at any time on or after the Subscription Date combines (by combination, reverse stock split or otherwise) one or more classes of its outstanding shares of Common Stock into a smaller number of shares, the Exercise Price in effect immediately prior to such combination will be proportionately increased and the number of Warrant Shares will be proportionately decreased. Any adjustment under this Section 2(b)

shall become effective at the close of business on the date the subdivision or combination becomes effective.

(c) Other Events. If any event occurs of the type contemplated by the provisions of this Section 2 but not expressly provided for by such provisions (including, without limitation, the granting of stock appreciation rights, phantom stock rights or other rights with equity features to the holders of outstanding shares of Common Stock), then the Company's Board of Directors will make an appropriate adjustment in the Exercise Price and the number of Warrant Shares, as mutually determined by the Company's Board of Directors and the Required Holders, so as to protect the rights of the Holder; provided that no such adjustment pursuant to this Section 2(c) will increase the Exercise Price or decrease the number of Warrant Shares as otherwise determined pursuant to this Section 2.

3. RIGHTS UPON DISTRIBUTION OF ASSETS. In addition to any adjustments pursuant to Section 2 above, if, on or after the Subscription Date and on or prior to the Expiration Date, the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property, options, evidence of indebtedness or any other assets by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a "**Distribution**"), at any time after the issuance of this Warrant, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon such exercise of this Warrant (without regard to any limitations or restrictions on exercise of this Warrant that limit the Holder to the Maximum Percentage) immediately before the date on which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, however, that to the extent that the Holder's right to participate in any such Distribution would result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Distribution to such extent (and shall not be entitled to beneficial ownership of such shares of Common Stock as a result of such Distribution (and beneficial ownership) to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time or times as its right thereto would not result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be granted such Distribution (and any Distributions declared or made on such initial Distribution or on any subsequent Distribution held similarly in abeyance) to the same extent as if there had been no such limitation).

4. PURCHASE RIGHTS; FUNDAMENTAL TRANSACTIONS.

(a) Purchase Rights. In addition to any adjustments pursuant to Section 2 above, if at any time on or after the Subscription Date and on or prior to the Expiration Date the Company grants, issues or sells any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of Common Stock (the "**Purchase Rights**"), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could

have acquired if the Holder had held the number of shares of Common Stock acquirable upon such exercise of this Warrant (without regard to any limitations or restrictions on exercise of this Warrant that limit the Holder to the Maximum Percentage) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of Common Stock are to be determined for the grant, issuance or sale of such Purchase Rights (provided, however, that to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Purchase Right to such extent (and shall not be entitled to beneficial ownership of such Common Stock as a result of such Purchase Right (and beneficial ownership) to such extent) and such Purchase Right to such extent shall be held in abeyance for the benefit of the Holder until such time or times as its right thereto would not result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be granted such right (and any Purchase Right granted, issued or sold on such initial Purchase Right or on any subsequent Purchase Right to be held similarly in abeyance) to the same extent as if there had been no such limitation).

(b) Fundamental Transaction. The Company shall not enter into or be party to a Fundamental Transaction unless the Successor Entity assumes in writing all of the obligations of the Company under this Warrant in accordance with the provisions of this Section 4(b), including agreements to deliver to the Holder in exchange for this Warrant a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Warrant, including, without limitation, which is exercisable for a corresponding number of shares of capital stock equivalent to the shares of Common Stock acquirable and receivable upon exercise of this Warrant (without regard to any limitations on the exercise of this Warrant) prior to such Fundamental Transaction, and with an exercise price which applies the exercise price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such adjustments to the number of shares of capital stock and such exercise price being for the purpose of protecting the economic value of this Warrant immediately prior to the consummation of such Fundamental Transaction). Upon the consummation of each Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for the Company (so that from and after the date of the applicable Fundamental Transaction, the provisions of this Warrant and the other Transaction Documents referring to the "Company" shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant with the same effect as if such Successor Entity had been named as the Company herein. Upon consummation of each Fundamental Transaction, the Successor Entity shall deliver to the Holder confirmation that there shall be issued upon exercise of this Warrant at any time after the consummation of the applicable Fundamental Transaction, in lieu of the shares of Common Stock (or other securities, cash, assets or other property (except such items still issuable under Sections 3 and 4(a) above, which shall continue to be receivable thereafter)) issuable upon the exercise of this Warrant prior to the applicable Fundamental Transaction, such shares of common stock (or its equivalent) of the Successor Entity (including its Parent Entity) which the Holder would have been entitled to receive upon the happening of the applicable Fundamental Transaction had this Warrant been exercised immediately prior to the applicable Fundamental Transaction (without regard to any limitations on the exercise of this Warrant), as adjusted in

accordance with the provisions of this Warrant. Notwithstanding the foregoing, and without limiting Section 1(f) hereof, the Holder may elect, at its sole option, by delivery of written notice to the Company to waive this Section 4(b) to permit the Fundamental Transaction without the assumption of this Warrant. In addition to and not in substitution for any other rights hereunder, prior to the consummation of each Fundamental Transaction pursuant to which holders of shares of Common Stock are entitled to receive securities or other assets with respect to or in exchange for shares of Common Stock (a “Corporate Event”), the Company shall make appropriate provision to insure that the Holder will thereafter have the right to receive upon an exercise of this Warrant at any time after the consummation of the applicable Fundamental Transaction but prior to the Expiration Date, in lieu of the shares of the Common Stock (or other securities, cash, assets or other property (except such items still issuable under Sections 3 and 4(a) above, which shall continue to be receivable thereafter)) issuable upon the exercise of the Warrant prior to such Fundamental Transaction, such shares of stock, securities, cash, assets or any other property whatsoever (including warrants or other purchase or subscription rights) (collectively, the “Corporate Event Consideration”) which the Holder would have been entitled to receive upon the happening of the applicable Fundamental Transaction had this Warrant been exercised immediately prior to the applicable Fundamental Transaction (without regard to any limitations on the exercise of this Warrant). The provision made pursuant to the preceding sentence shall be in a form and substance reasonably satisfactory to the Holder. The provisions of this Section 4(b) shall apply similarly and equally to successive Fundamental Transactions and Corporate Events. Notwithstanding anything to the contrary, in the event of a Fundamental Transaction, the Company or any Successor Entity shall, at the Holder’s option, exercisable at any time concurrently with, or within 30 days after, the consummation of the Fundamental Transaction (or, if later, the date of the public announcement of the applicable Fundamental Transaction), purchase this Warrant from the Holder by paying to the Holder an amount of cash equal to the Black Scholes Value of the remaining unexercised portion of this Warrant on the date of the consummation of such Fundamental Transaction; provided, however, if the Fundamental Transaction is not within the Company’s control, including not approved by the Company’s Board of Directors, Holder shall only be entitled to receive from the Company or any Successor Entity, as of the date of consummation of such Fundamental Transaction, the same type or form of consideration (and in the same proportion), at the Black Scholes Value of the unexercised portion of this Warrant, that is being offered and paid to the holders of Common Stock of the Company in connection with the Fundamental Transaction, whether that consideration be in the form of cash, stock or any combination thereof, or whether the holders of Common Stock are given the choice to receive from among alternative forms of consideration in connection with the Fundamental Transaction. The payment of the Black Scholes Value will be made by wire transfer of immediately available funds (or by delivery of such other consideration, as applicable) within five Business Days of the Holder’s election (or, if later, on the effective date of the Fundamental Transaction).

5. NONCIRCUMVENTION. The Company hereby covenants and agrees that the Company will not, by amendment of its Certificate of Incorporation or Bylaws, or through any reorganization, transfer of assets, consolidation, merger, scheme of arrangement, dissolution, issuance or sale of securities, or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, and will at all times in good faith carry out all of the provisions of this Warrant and take all action as may be required to protect the rights of the Holder. Without limiting the generality of the foregoing, the Company

(i) shall not increase the par value of any shares of Common Stock receivable upon the exercise of this Warrant above the Exercise Price then in effect, (ii) shall take all such actions as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable shares of Common Stock upon the exercise of this Warrant, and (iii) shall, so long as any of the Warrants are outstanding, take all action necessary to reserve and keep available out of its authorized and unissued shares of Common Stock, solely for the purpose of effecting the exercise of the Warrants, the number of shares of Common Stock as shall from time to time be necessary to effect the exercise of the Warrants then outstanding (without regard to any limitations on exercise).

6. WARRANT HOLDER NOT DEEMED A STOCKHOLDER. Except as otherwise specifically provided herein, the Holder, solely in such Person's capacity as a holder of this Warrant, shall not be entitled to vote or receive dividends or be deemed the holder of capital stock of the Company for any purpose, nor shall anything contained in this Warrant be construed to confer upon the Holder, solely in such Person's capacity as the Holder of this Warrant, any of the rights of a stockholder of the Company or any right to vote, give or withhold consent to any corporate action (whether any reorganization, issue of stock, reclassification of stock, consolidation, merger, conveyance or otherwise), receive notice of meetings, receive dividends or subscription rights, or otherwise, prior to the issuance to the Holder of the Warrant Shares which such Person is then entitled to receive upon the due exercise of this Warrant. In addition, nothing contained in this Warrant shall be construed as imposing any liabilities on the Holder to purchase any securities (upon exercise of this Warrant or otherwise) or as a stockholder of the Company, whether such liabilities are asserted by the Company or by creditors of the Company.

7. REISSUANCE OF WARRANTS.

(a) Transfer of Warrant. If this Warrant is to be transferred, the Holder shall surrender this Warrant to the Company, whereupon the Company will forthwith issue and deliver upon the order of the Holder a new Warrant (in accordance with Section 7(d)), registered as the Holder may request, representing the right to purchase the number of Warrant Shares being transferred by the Holder and, if less than the total number of Warrant Shares then underlying this Warrant is being transferred, a new Warrant (in accordance with Section 7(d)) to the Holder representing the right to purchase the number of Warrant Shares not being transferred.

(b) Lost, Stolen or Mutilated Warrant. Upon receipt by the Company of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant, and, in the case of loss, theft or destruction, of any indemnification undertaking by the Holder to the Company in customary form (but without the obligation to post a bond) and, in the case of mutilation, upon surrender and cancellation of this Warrant, the Company shall execute and deliver to the Holder a new Warrant (in accordance with Section 7(d)) representing the right to purchase the Warrant Shares then underlying this Warrant.

(c) Exchangeable for Multiple Warrants. This Warrant is exchangeable, upon the surrender hereof by the Holder at the principal office of the Company, for a new Warrant or Warrants (in accordance with Section 7(d)) representing in the aggregate the right to purchase the number of Warrant Shares then underlying this Warrant, and each such new

Warrant will represent the right to purchase such portion of such Warrant Shares as is designated by the Holder at the time of such surrender.

(d) Issuance of New Warrants. Whenever the Company is required to issue a new Warrant pursuant to the terms of this Warrant, such new Warrant (i) shall be of like tenor with this Warrant, (ii) shall represent, as indicated on the face of such new Warrant, the right to purchase the Warrant Shares then underlying this Warrant (or in the case of a new Warrant being issued pursuant to Section 7(a) or Section 7(c), the Warrant Shares designated by the Holder which, when added to the number of shares of Common Stock underlying the other new Warrants issued in connection with such issuance, does not exceed the number of Warrant Shares then underlying this Warrant), (iii) shall have an issuance date, as indicated on the face of such new Warrant which is the same as the Issuance Date, and (iv) shall have the same rights and conditions as this Warrant.

8. NOTICES. Whenever notice is required to be given under this Warrant, including, without limitation, an Exercise Notice, unless otherwise provided herein, such notice shall be given in writing, (i) if delivered (a) from within the domestic United States, by first-class registered or certified airmail, or nationally recognized overnight express courier, postage prepaid, electronic mail or by facsimile or (b) from outside the United States, by International Federal Express, electronic mail or facsimile, and (ii) will be deemed given (A) if delivered by first-class registered or certified mail domestic, three (3) Business Days after so mailed, (B) if delivered by nationally recognized overnight carrier, one (1) Business Day after so mailed, (C) if delivered by International Federal Express, two (2) Business Days after so mailed and (D) at the time of transmission, if delivered by electronic mail to each of the email addresses specified in this Section 8 prior to 5:00 p.m. (New York time) on a Trading Day, (E) the next Trading Day after the date of transmission, if delivered by electronic mail to each of the email addresses specified in this Section 8 on a day that is not a Trading Day or later than 5:00 p.m. (New York time) on any Trading Day and (F) if delivered by facsimile, upon electronic confirmation of receipt of such facsimile, and will be delivered and addressed as follows:

(i) if to the Company, to:
Leap Therapeutics, Inc.
47 Thorndike St., Suite B-1
Cambridge, Massachusetts 02141
Attention: Chief Financial Officer
Facsimile: []
Email: Donsi@leaptx.com

(ii) if to the Holder, at such address or other contact information delivered by the Holder to Company or as is on the books and records of the Company.

The Company shall provide the Holder with prompt written notice of all actions taken pursuant to this Warrant, including in reasonable detail a description of such action and the reason

therefor. Without limiting the generality of the foregoing, the Company will give written notice to the Holder (i) immediately upon any adjustment of the Exercise Price, setting forth in reasonable detail, and certifying, the calculation of such adjustment and (ii) at least fifteen (15) days prior to the date on which the Company closes its books or takes a record (A) with respect to any dividend or distribution upon the shares of Common Stock, (B) with respect to any grants, issuances or sales of any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property to holders of shares of Common Stock or (C) for determining rights to vote with respect to any Fundamental Transaction, dissolution or liquidation; provided in each case that such information shall be made known to the public prior to or in conjunction with such notice being provided to the Holder. It is expressly understood and agreed that the time of exercise specified by the Holder in each Exercise Notice shall be definitive and may not be disputed or challenged by the Company.

9. AMENDMENT AND WAIVER. Except as otherwise provided herein, the provisions of this Warrant may be amended or waived and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company has obtained the written consent of the Holder. Notwithstanding the foregoing, this Warrant may be amended or waived and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, if the Company has obtained the written consent of the Required Holders; provided, however, that the foregoing provisions of this sentence shall only be applicable if any such amendment, waiver, action or omission applies to all outstanding Warrants in the same fashion and does not affect or involve a reduction of the number of Warrant Shares, an increase of the Exercise Price or a reduction or shortening of the term of this Warrant; provided, further, that if such amendment or waiver that complies with the foregoing but that disproportionately and adversely affects the rights or obligations of any Holder relative to the comparable rights and obligations of the other Holders shall require the prior written consent of such adversely affected Holder. No consideration (including any modification of any Warrants) shall be offered or paid to any Person to amend or consent to a waiver or modification of any provision of any Warrants or to exchange any Warrants for any security, asset, cash or other consideration unless the same consideration is also offered to all holders of Warrants. For clarification purposes, this provision constitutes a separate right granted to each Holder by the Company and negotiated separately by each Holder, and is intended for the Company to treat the Holders as a class and shall not in any way be construed as the Holders acting in concert or as a group with respect to the purchase, disposition or voting of securities or otherwise.

10. GOVERNING LAW; JURISDICTION; JURY TRIAL. This Warrant shall be governed by and construed and enforced in accordance with, and all questions concerning the construction, validity, interpretation and performance of this Warrant shall be governed by, the internal laws of the State of New York, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of New York or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of New York. The Company hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in The City of New York, Borough of Manhattan, for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of

any such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. The Company hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof to the Company at the address set forth in Section 8(i) above or such other address as the Company subsequently delivers to the Holder and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law. Nothing contained herein shall be deemed or operate to preclude the Holder from bringing suit or taking other legal action against the Company in any other jurisdiction to collect on the Company's obligations to the Holder, to realize on any collateral or any other security for such obligations, or to enforce a judgment or other court ruling in favor of the Holder. If either party shall commence an action, suit or proceeding to enforce any provisions of this Warrant, the prevailing party in such action, suit or proceeding shall be reimbursed by the other party for their reasonable attorneys' fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding. **THE COMPANY HEREBY IRREVOCABLY WAIVES ANY RIGHT IT MAY HAVE, AND AGREES NOT TO REQUEST, A JURY TRIAL FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION WITH OR ARISING OUT OF THIS WARRANT OR ANY TRANSACTION CONTEMPLATED HEREBY.**

11. **DISPUTE RESOLUTION.** In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Company shall submit the disputed determinations or arithmetic calculations via facsimile or electronic mail within two (2) Business Days of receipt of the Exercise Notice or other event giving rise to such dispute, as the case may be, to the Holder. If the Holder and the Company are unable to agree upon such determination or calculation of the Exercise Price or the Warrant Shares within three (3) Business Days of such disputed determination or arithmetic calculation being submitted to the Holder, then the Company shall, within two (2) Business Days submit via facsimile or electronic mail (a) the disputed determination of the Exercise Price to an independent, reputable investment bank selected by the Company and approved by the Holder or (b) the disputed arithmetic calculation of the Warrant Shares to the Company's independent, outside accountant. The Company shall cause at its expense the investment bank or the accountant, as the case may be, to perform the determinations or calculations and notify the Company and the Holder of the results no later than ten (10) Business Days from the time it receives the disputed determinations or calculations. Such investment bank's or accountant's determination or calculation, as the case may be, shall be binding upon all parties absent demonstrable error.

12. **REMEDIES, OTHER OBLIGATIONS, BREACHES AND INJUNCTIVE RELIEF.** The remedies provided in this Warrant shall be cumulative and in addition to all other remedies available under this Warrant and any other Transaction Documents, at law or in equity (including a decree of specific performance and/or other injunctive relief), and nothing herein shall limit the right of the Holder to pursue actual damages for any failure by the Company to comply with the terms of this Warrant. The Company acknowledges that a breach by it of its obligations hereunder will cause irreparable harm to the Holder and that the remedy at law for any such breach may be inadequate. The Company therefore agrees that, in the event of any such breach or threatened breach, the holder of this Warrant shall be entitled, in addition to all other available remedies, to an injunction restraining

any breach, without the necessity of showing economic loss and without any bond or other security being required.

13. TRANSFER. This Warrant and the Warrant Shares may be offered for sale, sold, transferred, pledged or assigned without the consent of the Company.

14. SEVERABILITY; CONSTRUCTION; HEADINGS. If any provision of this Warrant is prohibited by law or otherwise determined to be invalid or unenforceable by a court of competent jurisdiction, the provision that would otherwise be prohibited, invalid or unenforceable shall be deemed amended to apply to the broadest extent that it would be valid and enforceable, and the invalidity or unenforceability of such provision shall not affect the validity of the remaining provisions of this Warrant so long as this Warrant as so modified continues to express, without material change, the original intentions of the parties as to the subject matter hereof and the prohibited nature, invalidity or unenforceability of the provision(s) in question does not substantially impair the respective expectations or reciprocal obligations of the parties or the practical realization of the benefits that would otherwise be conferred upon the parties. The parties will endeavor in good faith negotiations to replace the prohibited, invalid or unenforceable provision(s) with a valid provision(s), the effect of which comes as close as possible to that of the prohibited, invalid or unenforceable provision(s). This Warrant shall be deemed to be jointly drafted by the Company and the Holder and shall not be construed against any Person as the drafter hereof. The headings of this Warrant are for convenience of reference and shall not form part of, or affect the interpretation of, this Warrant.

15. DISCLOSURE. Upon receipt or delivery by the Company of any notice in accordance with the terms of this Warrant, unless the Company has in good faith determined that the matters relating to such notice do not constitute material, nonpublic information relating to the Company or its subsidiaries, the Company shall contemporaneously with any such receipt or delivery publicly disclose such material, nonpublic information on a Current Report on Form 8-K or otherwise. In the event that the Company believes that a notice contains material, nonpublic information relating to the Company or its subsidiaries, the Company so shall indicate to such Holder contemporaneously with delivery of such notice, and in the absence of any such indication, the Holder shall be allowed to presume that all matters relating to such notice do not constitute material, nonpublic information relating to the Company or its subsidiaries.

16. CERTAIN DEFINITIONS. For purposes of this Warrant, the following terms shall have the following meanings:

(a) “**Affiliate**” means, with respect to any Person, any other Person that directly or indirectly controls, is controlled by, or is under common control with, such Person, it being understood for purposes of this definition that “control” of a Person means the power directly or indirectly either to vote 10% or more of the stock having ordinary voting power for the election of directors of such Person or direct or cause the direction of the management and policies of such Person whether by contract or otherwise.

(b) “**Attribution Parties**” means, collectively, the following Persons and entities: (i) any investment vehicle, including, any funds, feeder funds or managed accounts, currently, or from time to time after the Subscription Date, directly or indirectly managed or

advised by the Holder's investment manager or any of its Affiliates or principals, (ii) any direct or indirect Affiliates of the Holder or any of the foregoing, (iii) any Person acting or who could be deemed to be acting as a Group together with the Holder or any of the foregoing and (iv) any other Persons whose beneficial ownership of the Company's Common Stock would or could be aggregated with the Holder's and the other Attribution Parties for purposes of Section 13(d) of the 1934 Act. For clarity, the purpose of the foregoing is to subject collectively the Holder and all other Attribution Parties to the Maximum Percentage.

(c) "**Bid Price**" means, for any security as of the particular time of determination, the bid price for such security on the Principal Market as reported by Bloomberg as of such time of determination, or, if the Principal Market is not the principal securities exchange or trading market for such security, the bid price of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg as of such time of determination, or if the foregoing does not apply, the bid price of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg as of such time of determination, or, if no bid price is reported for such security by Bloomberg as of such time of determination, the average of the bid prices of any market makers for such security as reported in the "pink sheets" by OTC Markets Group Inc. (formerly Pink Sheets LLC) as of such time of determination. If the Bid Price cannot be calculated for a security as of the particular time of determination on any of the foregoing bases, the Bid Price of such security as of such time of determination shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved in accordance with the procedures in Section 11. All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination or other similar transaction during such period.

(d) "**Black Scholes Value**" means the value of this Warrant based on the Black and Scholes Option Pricing Model obtained from the "OV" function on Bloomberg determined as of the day of consummation of the applicable Fundamental Transaction for pricing purposes and reflecting (A) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the time between the date of the public announcement of the applicable Fundamental Transaction and the Expiration Date, (B) an expected volatility equal to the greater of 100% and the 100 day volatility obtained from the HVT function on Bloomberg as of the Trading Day immediately following the public announcement of the applicable Fundamental Transaction (determined using a 365 day annualization factor), (C) the underlying price per share used in such calculation shall be the greater of (i) the sum of the price per share being offered in cash, if any, plus the value of any non-cash consideration, if any, being offered in such Fundamental Transaction and (ii) the greater of (x) the last Weighted Average Price immediately prior to the public announcement of such Fundamental Transaction and (y) the last Weighted Average Price immediately prior to the consummation of such Fundamental Transaction, (D) a remaining option time equal to the time between the date of the public announcement of the applicable Fundamental Transaction and the Expiration Date and (E) a zero cost of borrow.

(e) "**Bloomberg**" means Bloomberg Financial Markets.

(f) “**Business Day**” means any day other than Saturday, Sunday or other day on which commercial banks in The City of New York are authorized or required by law to remain closed.

(g) “**Closing Bid Price**” and “**Closing Sale Price**” means, for any security as of any date, the last closing bid price and last closing trade price, respectively, for such security on the Principal Market, as reported by Bloomberg, or, if the Principal Market begins to operate on an extended hours basis and does not designate the closing bid price or the closing trade price, as the case may be, then the last bid price or the last trade price, respectively, of such security prior to 4:00:00 p.m., New York time, as reported by Bloomberg, or, if the Principal Market is not the principal securities exchange or trading market for such security, the last closing bid price or last trade price, respectively, of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg, or if the foregoing do not apply, the last closing bid price or last trade price, respectively, of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg, or, if no closing bid price or last trade price, respectively, is reported for such security by Bloomberg, the average of the bid prices, or the ask prices, respectively, of any market makers for such security as reported in the OTC Link or “pink sheets” by OTC Markets Group Inc. (formerly Pink OTC Markets Inc.). If the Closing Bid Price or the Closing Sale Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Closing Bid Price or the Closing Sale Price, as the case may be, of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved pursuant to Section 11. All such determinations to be appropriately adjusted for any stock dividend, stock split, stock combination, reclassification or other similar transaction during the applicable calculation period.

(h) “**Common Stock**” means (i) the Company’s Common Stock, par value \$[] per share, and (ii) any capital stock into which such Common Stock shall have been changed or any capital stock resulting from a reclassification of such Common Stock.

(i) “**Convertible Securities**” means any stock or securities (other than Options) directly or indirectly convertible into or exercisable or exchangeable for shares of Common Stock.

(j) “**Eligible Market**” means The NASDAQ Capital Market, the NYSE American LLC, The NASDAQ Global Select Market, The NASDAQ Global Market or The New York Stock Exchange, Inc.

(k) “**Expiration Date**” means the date eighty-four (84) months after the Initial Exercisability Date or, if such date falls on a day other than a Business Day or on which trading does not take place on the Principal Market (a “**Holiday**”), the next day that is not a Holiday.

(l) “**Fundamental Transaction**” means (A) that the Company shall, directly or indirectly, including through subsidiaries, Affiliates or otherwise, in one or more related transactions, (i) consolidate or merge with or into (whether or not the Company is the

surviving corporation) another Subject Entity, or (ii) sell, assign, transfer, convey or otherwise dispose of all or substantially all of the properties or assets of the Company or any of its “significant subsidiaries” (as defined in Rule 1-02 of Regulation S-X) to one or more Subject Entities, or (iii) make, or allow one or more Subject Entities to make, or allow the Company to be subject to or have its shares of Common Stock be subject to or party to one or more Subject Entities making, a purchase, tender or exchange offer that is accepted by the holders of at least either (x) 50% of the outstanding shares of Common Stock, (y) 50% of the outstanding shares of Common Stock calculated as if any shares of Common Stock held by all Subject Entities making or party to, or Affiliated with any Subject Entities making or party to, such purchase, tender or exchange offer were not outstanding; or (z) such number of shares of Common Stock such that all Subject Entities making or party to, or Affiliated with any Subject Entity making or party to, such purchase, tender or exchange offer, become collectively the beneficial owners (as defined in Rule 13d-3 under the 1934 Act) of at least 50% of the outstanding shares of Common Stock, or (iv) consummate a stock purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with one or more Subject Entities whereby all such Subject Entities, individually or in the aggregate, acquire, either (x) at least 50% of the outstanding shares of Common Stock, (y) at least 50% of the outstanding shares of Common Stock calculated as if any shares of Common Stock held by all the Subject Entities making or party to, or Affiliated with any Subject Entity making or party to, such stock purchase agreement or other business combination were not outstanding; or (z) such number of shares of Common Stock such that the Subject Entities become collectively the beneficial owners (as defined in Rule 13d-3 under the 1934 Act) of at least 50% of the outstanding shares of Common Stock, or (v) reorganize, recapitalize or reclassify its shares of Common Stock, (B) that the Company shall, directly or indirectly, including through subsidiaries, Affiliates or otherwise, in one or more related transactions, allow any Subject Entity individually or the Subject Entities in the aggregate to be or become the “beneficial owner” (as defined in Rule 13d-3 under the 1934 Act), directly or indirectly, whether through acquisition, purchase, assignment, conveyance, tender, tender offer, exchange, reduction in outstanding shares of Common Stock, merger, consolidation, business combination, reorganization, recapitalization, spin-off, scheme of arrangement, reorganization, recapitalization or reclassification or otherwise in any manner whatsoever, of either (x) at least 50% of the aggregate ordinary voting power represented by issued and outstanding shares of Common Stock, (y) at least 50% of the aggregate ordinary voting power represented by issued and outstanding shares of Common Stock not held by all such Subject Entities as of the Subscription Date calculated as if any shares of Common Stock held by all such Subject Entities were not outstanding, or (z) a percentage of the aggregate ordinary voting power represented by issued and outstanding shares of Common Stock or other equity securities of the Company sufficient to allow such Subject Entities to effect a statutory short form merger or other transaction requiring other stockholders of the Company to surrender their Common Stock without approval of the stockholders of the Company or (C) directly or indirectly, including through subsidiaries, Affiliates or otherwise, in one or more related transactions, the issuance of or the entering into any other instrument or transaction structured in a manner to circumvent, or that circumvents, the intent of this definition in which case this definition shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this definition to the extent necessary to correct this definition or any portion of this definition which may be defective or inconsistent with the intended treatment of such instrument or transaction.

(m) “**Group**” means a “group” as that term is used in Section 13(d) of the 1934 Act and as defined in Rule 13d-5 thereunder.

(n) “**Options**” means any rights, warrants or options to subscribe for or purchase shares of Common Stock or Convertible Securities.

(o) “**Parent Entity**” of a Person means an entity that, directly or indirectly, controls the applicable Person, including such entity whose common stock or equivalent equity security is quoted or listed on an Eligible Market (or, if so elected by the Holder, any other market, exchange or quotation system), or, if there is more than one such Person or such entity, the Person or such entity designated by the Holder or in the absence of such designation, such Person or entity with the largest public market capitalization as of the date of consummation of the Fundamental Transaction.

(p) “**Person**” means an individual, a limited liability company, a partnership, a joint venture, a corporation, a trust, an unincorporated organization, any other entity and a government or any department or agency thereof.

(q) “**Principal Market**” means The NASDAQ Global Market.

(r) “**Required Holders**” means the holders of the Warrants representing at least a majority of the Warrant Shares underlying the Warrants then outstanding.

(s) “**Standard Settlement Period**” means the standard settlement period, expressed in a number of Trading Days, for the Company’s primary trading market or quotation system with respect to the Common Stock that is in effect on the date of receipt of an applicable Exercise Notice.

(t) “**Subject Entity**” means any Person, Persons or Group or any Affiliate or associate of any such Person, Persons or Group.

(u) “**Successor Entity**” means one or more Person or Persons (or, if so elected by the Holder, the Company or Parent Entity) formed by, resulting from or surviving any Fundamental Transaction or one or more Person or Persons (or, if so elected by the Holder, the Company or the Parent Entity) with which such Fundamental Transaction shall have been entered into.

(v) “**Trading Day**” means any day on which the Common Stock is traded on the Principal Market, or, if the Principal Market is not the principal trading market for the Common Stock, then on the principal securities exchange or securities market on which the Common Stock is then traded.

(w) “**Transaction Documents**” means any agreement entered into by and between the Company and the Holder, as applicable.

(x) “**Weighted Average Price**” means, for any security as of any date, the dollar volume-weighted average price for such security on the Principal Market during the period beginning at 9:30:01 a.m., New York time (or such other time as the Principal Market publicly

announces is the official open of trading), and ending at 4:00:00 p.m., New York time (or such other time as the Principal Market publicly announces is the official close of trading), as reported by Bloomberg through its "Volume at Price" function or, if the foregoing does not apply, the dollar volume-weighted average price of such security in the over-the-counter market on the electronic bulletin board for such security during the period beginning at 9:30:01 a.m., New York time (or such other time as such market publicly announces is the official open of trading), and ending at 4:00:00 p.m., New York time (or such other time as such market publicly announces is the official close of trading), as reported by Bloomberg, or, if no dollar volume-weighted average price is reported for such security by Bloomberg for such hours, the average of the highest Closing Bid Price and the lowest closing ask price of any of the market makers for such security as reported in the OTC Link or "pink sheets" by OTC Markets Group Inc. (formerly Pink OTC Markets Inc.). If the Weighted Average Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Weighted Average Price of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved pursuant to Section 11 with the term "Weighted Average Price" being substituted for the term "Exercise Price." All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination, reclassification or other similar transaction during the applicable calculation period.

[Signature Page Follows]

IN WITNESS WHEREOF, the Company has caused this Warrant to Purchase Common Stock to be duly executed as of the Issuance Date set out above.

LEAP THERAPEUTICS, INC.

By: _____
Name: _____
Title: _____

EXERCISE NOTICE

TO BE EXECUTED BY THE REGISTERED HOLDER TO EXERCISE THIS
WARRANT TO PURCHASE COMMON STOCK

LEAP THERAPEUTICS, INC.

The undersigned holder hereby exercises the right to purchase _____ shares of Common Stock (“**Warrant Shares**”) of Leap Therapeutics, Inc., a company organized under the laws of Delaware (the “**Company**”), evidenced by the attached Warrant to Purchase Common Stock (the “**Warrant**”). Capitalized terms used herein and not otherwise defined shall have the respective meanings set forth in the Warrant.

1. Form of Exercise Price. The Holder intends that payment of the Exercise Price shall be made as:

a “Cash Exercise” with respect to _____ Warrant Shares; and/or

a “Cashless Exercise” with respect to _____ Warrant Shares.

2. Payment of Exercise Price. In the event that the holder has elected a Cash Exercise with respect to some or all of the Warrant Shares to be issued pursuant hereto, the holder shall pay the Aggregate Exercise Price in the sum of \$ _____ to the Company in accordance with the terms of the Warrant.

3. Delivery of Warrant Shares. The Company shall deliver to the holder _____ Warrant Shares in accordance with the terms of the Warrant.

Date: _____,

Name of Registered Holder

By: _____
Name:
Title:

ACKNOWLEDGMENT

The Company hereby acknowledges this Exercise Notice and hereby directs Continental Stock Transfer & Trust Company to issue the above indicated number of shares of Common Stock on or prior to the applicable Share Delivery Date.

LEAP THERAPEUTICS, INC.

By: _____
Name:
Title:

EXHIBIT B

Form of Lock-up Agreement

January [-], 2019

LEAP THERAPEUTICS, INC.
47 Thorndike Street, Suite B1-1
Cambridge, MA 02141

RAYMOND JAMES & ASSOCIATES, INC.
LADENBURG THALMANN & CO. INC.
As Representatives of the Several Underwriters

c/o Raymond James & Associates, Inc.
880 Carillon Parkway
St. Petersburg, FL 33716

c/o Ladenburg Thalmann & Co. Inc.
277 Park Avenue
26th Floor
New York, New York 10172

Re: Leap Therapeutics, Inc. (the “Company”) - Restriction on Stock Sales

Dear Sirs:

This letter is delivered to you pursuant to the Underwriting Agreement (the “Underwriting Agreement”) to be entered into by the Company, as issuer, and Raymond James & Associates, Inc. and Ladenburg Thalmann & Co. Inc., as the representatives (the “Representatives”) of certain underwriters (the “Underwriters”) to be named therein. Upon the terms and subject to the conditions of the Underwriting Agreement, the Underwriters intend to effect a public offering of Common Stock, par value \$0.001 per share, of the Company and warrants to purchase Common Stock of the Company (the “Securities”), as described in and contemplated by the Underwriting Agreement and the registration statement of the Company on Form S-3, File No. 333-223419 (the “Registration Statement”), as filed with the Securities and Exchange Commission on March 2, 2018 (the “Offering”).

The undersigned recognizes that it is in the best financial interests of the undersigned, as an officer or director, or an owner of stock, options, warrants or other securities of the Company (the “Company Securities”), that the Company complete the proposed Offering.

The undersigned further recognizes that the Company Securities held by the undersigned are, or may be, subject to certain restrictions on transferability, including those imposed by United States federal securities laws. Notwithstanding these restrictions, the undersigned has

agreed to enter into this letter agreement to further assure the Underwriters that the Company Securities of the undersigned, now held or hereafter acquired, will not enter the public market at a time that might impair the underwriting effort.

Therefore, as an inducement to the Underwriters to execute the Underwriting Agreement, the undersigned hereby acknowledges and agrees that the undersigned will not (i) offer, sell, contract to sell, pledge, grant any option to purchase or otherwise dispose of (collectively, a "Disposition") any Company Securities, or any securities convertible into or exercisable or exchangeable for, or any rights to purchase or otherwise acquire, any Company Securities held by the undersigned or acquired by the undersigned after the date hereof, or that may be deemed to be beneficially owned by the undersigned (collectively, the "Lock-Up Shares"), pursuant to the Rules and Regulations promulgated under the Securities Act of 1933, as amended (the "Act"), and the Securities Exchange Act of 1934, as amended (the "Exchange Act"), for a period commencing on the date hereof and ending 60 days after the date of the Company's Prospectus first filed in connection with the Offering pursuant to Rule 424(b) under the Act, inclusive (the "Lock-Up Period"), without the prior written consent of the Representatives or (ii) exercise or seek to exercise or effectuate in any manner at any time during the Lock-Up Period any rights of any nature that the undersigned has or may have hereafter to require the Company to register under the Act the undersigned's sale, transfer or other disposition of any of the Lock-Up Shares or other securities of the Company held by the undersigned, or to otherwise participate as a selling securityholder in any manner in any registration effected by the Company under the Act, including under the Registration Statement, during the Lock-Up Period. The foregoing restrictions are expressly agreed to preclude the undersigned from engaging in any hedging, collar (whether or not for any consideration) or other transaction that is designed to or reasonably expected to lead or result in a Disposition of Lock-Up Shares during the Lock-Up Period, even if such Lock-Up Shares would be disposed of by someone other than such holder. Such prohibited hedging or other transactions would include any short sale or any purchase, sale or grant of any right (including any put or call option or reversal or cancellation thereof) with respect to any Lock-Up Shares or with respect to any security (other than a broad-based market basket or index) that includes, relates to or derives any significant part of its value from Lock-Up Shares.

Notwithstanding the agreement not to make any Disposition during the Lock-Up Period, you have agreed that the foregoing restrictions shall not apply to:

- (1) the Company Securities being offered in the prospectus included in the Registration Statement;
- (2) any grant or exercise of options pursuant to the Company's equity incentive plans;
- (3) any exercise, exchange or conversion of any warrant to acquire shares of capital stock of the Company or any other security convertible into or exchangeable for shares of capital stock of the Company;
- (4) shares of the Company's Common Stock sold by the undersigned pursuant to a

trading plan under Rule 10b5-1 of the Securities Exchange Act of 1934, as amended, in existence on the date hereof;

- (5) transfers of shares of capital stock of the Company as a bona fide gift or gifts;
- (6) transfers or dispositions of shares of capital stock of the Company or any securities convertible into, or exercisable or exchangeable for such capital stock to any trust for the direct or indirect benefit of the undersigned or the immediate family of the undersigned in transactions not involving a disposition for value;
- (7) transfers or dispositions of shares of capital stock of the Company or any securities convertible into, or exercisable or exchangeable for such capital stock to any corporation, partnership, limited liability company or other entity all of the beneficial ownership interests of which are held by the undersigned or the immediate family of the undersigned in a transaction not involving a disposition for value;
- (8) transfers or dispositions of shares of capital stock of the Company or any securities convertible into, or exercisable or exchangeable for such capital stock by will, other testamentary document or intestate succession to the legal representative, heir, beneficiary or a member of the immediate family of the undersigned; or
- (9) distributions of shares of capital stock of the Company or any securities convertible into, or exercisable or exchangeable for such capital stock to partners, members, stockholders or other equityholders of the undersigned;

provided, that (i) in the case of any transfer or distribution pursuant to any of the foregoing clauses (5)-(9) above, prior to any such transfer or distribution, each donee, heir, trustee, transferee, distributee or recipient shall execute and deliver to the Representatives a letter agreement in substantially the form of this letter agreement for the balance of the Lock-Up Period, and (ii) to the extent a public announcement or filing under the Exchange Act, if any, is required or voluntarily made by or on behalf of the undersigned or the Company regarding the establishment of a plan pursuant to the foregoing clause (4), such announcement or filing shall include a statement to the effect that no transfer of common stock may be made under such plan during the Lock-Up Period.

It is understood that, if the Underwriting Agreement (other than the provisions thereof that survive termination) shall terminate or be terminated prior to payment for and delivery of the Securities or if the Offering is not consummated on or prior to February 28, 2019, this letter agreement shall automatically terminate and the undersigned shall have no obligations under this letter agreement.

[Remainder of Page Intentionally Left Blank]

In furtherance of the foregoing, the Company and its transfer agent and registrar are hereby authorized to decline to make any transfer of Lock-Up Shares if such transfer would constitute a violation or breach of this letter. This letter shall be binding on the undersigned and the respective successors, heirs, personal representatives and assigns of the undersigned. Capitalized terms used but not defined herein have the respective meanings assigned to such terms in the Underwriting Agreement.

Very truly yours,

Entity Name (if applicable) _____

By: (Signature) _____

Print Name: _____

Title: _____

[FORM OF WARRANT]

LEAP THERAPEUTICS, INC.

WARRANT TO PURCHASE COMMON STOCK

Warrant No.:

Number of Shares of Common Stock:

Date of Issuance: [], 2019 (“**Issuance Date**”)

Leap Therapeutics, a company organized under the laws of Delaware (the “**Company**”), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, [HOLDER], the registered holder hereof or its permitted assigns (the “**Holder**”), is entitled, subject to the terms set forth below, to purchase from the Company, at the Exercise Price (as defined in Section 1(b) below) then in effect, at any time or times on or after the Issuance Date (the “**Exercisability Date**”), but not after 11:59 p.m., New York time, on the Expiration Date, (as defined in Section 16 below), () (1) fully paid non-assessable shares of Common Stock (as defined in Section 16 below), subject to adjustment as provided herein (the “**Warrant Shares**”). Except as otherwise defined herein, capitalized terms in this Warrant to Purchase Common Stock (including any Warrants to Purchase Common Stock issued in exchange, transfer or replacement hereof, this “**Warrant**”), shall have the meanings set forth in Section 16. This Warrant is one of the Warrants to Purchase Common Stock (the “**Warrants**”) issued pursuant to (i) that certain Underwriting Agreement, dated as of [], 2019 (the “**Subscription Date**”) by and among the Company and Raymond James & Associates, Inc. and Ladenburg Thalmann & Co. Inc., (ii) the Company’s Registration Statement on Form S-3 (File number 333-223419) (the “**Registration Statement**”), and (iii) the Company’s prospectus supplement dated as of [], 2019.

1. EXERCISE OF WARRANT.

(a) Mechanics of Exercise. Subject to the terms and conditions hereof (including, without limitation, the limitations set forth in Section 1(f)), this Warrant may be exercised by the Holder at any time or times on or after the Issuance Date, in whole or in part, by delivery (whether via facsimile, electronic mail or otherwise) of a written notice, in the form attached hereto as Exhibit A (the “**Exercise Notice**”), of the Holder’s election to exercise this Warrant. Within one (1) Trading Day following the delivery of the Exercise Notice, the Holder shall make payment to the Company of an amount equal to the Exercise Price in effect on the date of such exercise multiplied by the number of Warrant Shares as to which this Warrant is being exercised (the “**Aggregate Exercise Price**”) in cash by wire transfer of immediately available funds or, if the provisions of Section 1(d) are applicable, by notifying the Company that this Warrant is being exercised pursuant to a Cashless Exercise (as defined in Section 1(d)). The Holder shall not be required to deliver the original Warrant in order to effect an exercise hereunder, nor shall any ink-original signature or medallion guarantee (or other type of guarantee or notarization) with respect to any Exercise Notice be required. Execution and delivery of the

(1) Insert []% of the number of shares of Common Stock purchased pursuant to the Underwriting Agreement.

Exercise Notice with respect to less than all of the Warrant Shares shall have the same effect as cancellation of the original Warrant and issuance of a new Warrant evidencing the right to purchase the remaining number of Warrant Shares not exercised pursuant to the Exercise Notice and the Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in full, in which case, the Holder shall surrender this Warrant to the Company for cancellation within three (3) Trading Days following the date on which the final Notice of Exercise is delivered to the Company. On or before the first (1st) Trading Day following the date on which the Holder has delivered the applicable Exercise Notice, the Company shall transmit by facsimile or electronic mail an acknowledgment of confirmation of receipt of the Exercise Notice, in the form attached to the Exercise Notice, to the Holder and the Company's transfer agent (the "**Transfer Agent**"). So long as the Holder delivers the Aggregate Exercise Price (or notice of a Cashless Exercise) on or prior to the first (1st) Trading Day following the date on which the Exercise Notice has been delivered to the Company, then on or prior to the earlier of (i) the second (2nd) Trading Day and (ii) the number of Trading Days comprising the Standard Settlement Period, in each case following the date on which the Exercise Notice has been delivered to the Company, or, if the Holder does not deliver the Aggregate Exercise Price (or notice of a Cashless Exercise) on or prior to the first (1st) Trading Day following the date on which the Exercise Notice has been delivered to the Company, then on or prior to the first (1st) Trading Day following the date on which the Aggregate Exercise Price (or notice of a Cashless Exercise) is delivered (such earlier date, the "**Share Delivery Date**"), the Company shall (A) if the Transfer Agent is participating in The Depository Trust Company ("**DTC**") Fast Automated Securities Transfer Program, direct the Transfer Agent to credit such aggregate number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the Holder's or its designee's balance account with DTC through its Deposit / Withdrawal At Custodian system, or (B) if the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program, issue and dispatch by overnight courier to the address as specified in the Exercise Notice, a certificate, registered in the name of the Holder or its designee, for the number of Warrant Shares to which the Holder is entitled pursuant to such exercise. Notwithstanding the foregoing, so long as the Transfer Agent is participating in the DTC Fast Automated Securities Transfer Program with respect to any Exercise Notice(s) delivered by 12:00 p.m. (New York City time) on the applicable Exercisability Date (along with the respective Aggregate Exercise Price or notice of Cashless Exercise, as appropriate), the Company agrees to deliver the Warrant Shares subject to the applicable exercise notice(s) by 4:00 p.m. (New York City time) on the applicable Exercisability Date. The Company shall be responsible for all fees and expenses of the Transfer Agent and all fees and expenses with respect to the issuance of Warrant Shares via DTC, if any, including without limitation for same day processing. Upon the Share Delivery Date, the Holder shall be deemed for all corporate purposes to have become the holder of record and beneficial owner of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date such Warrant Shares are credited to the Holder's DTC account or the date of delivery of the certificates evidencing such Warrant Shares, as the case may be. If this Warrant is physically delivered to the Company in connection with any exercise pursuant to this Section 1(a) and the number of Warrant Shares represented by this Warrant submitted for exercise is greater than the number of Warrant Shares being acquired upon an exercise, then the Company shall as soon as practicable and in no event later than three (3) Trading Days after any exercise and at its own expense, issue and deliver to the Holder (or its designee) a new Warrant

(in accordance with Section 7(d)) representing the right to purchase the number of Warrant Shares issuable immediately prior to such exercise under this Warrant, less the number of Warrant Shares with respect to which this Warrant is exercised. No fractional Warrant Shares are to be issued upon the exercise of this Warrant, but rather the number of Warrant Shares to be issued shall be rounded down to the nearest whole number. The Company shall pay any and all transfer, stamp, issuance and similar taxes, costs and expenses (including, without limitation, fees and expenses of the Transfer Agent) which may be payable with respect to the issuance and delivery of Warrant Shares upon exercise of this Warrant. The Company's obligations to issue and deliver Warrant Shares in accordance with the terms and subject to the conditions hereof are absolute and unconditional, irrespective of any action or inaction by the Holder to enforce the same, any waiver or consent with respect to any provision hereof, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination; provided, however, that the Company shall not be required to deliver Warrant Shares with respect to an exercise prior to the Holder's delivery of the Aggregate Exercise Price (or notice of a Cashless Exercise) with respect to such exercise.

(b) Exercise Price. For purposes of this Warrant, "**Exercise Price**" means \$[] per Warrant Share, subject to adjustment as provided herein.

(c) Company's Failure to Timely Deliver Securities. If either (i) the Company shall fail for any reason or for no reason on or prior to the applicable Share Delivery Date, (A) if the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program, to issue to the Holder a certificate for the number of shares of Common Stock to which the Holder is entitled and register such Common Stock on the Company's share register or (B) if the Transfer Agent is participating in the DTC Fast Automated Securities Transfer Program, to credit the Holder's balance account with DTC, for such number of shares of Common Stock to which the Holder is entitled upon the Holder's exercise of this Warrant or (ii) a registration statement (which may be the Registration Statement) covering the issuance or resale of the Warrant Shares that are the subject of the Exercise Notice (the "**Exercise Notice Warrant Shares**") is not available for the issuance or resale, as applicable, of such Exercise Notice Warrant Shares and (A) the Company fails to promptly, but in no event later than one (1) Business Day after such registration statement becomes unavailable, to so notify the Holder and (B) the Company is unable to deliver the Exercise Notice Warrant Shares electronically without any restrictive legend by crediting such aggregate number of Exercise Notice Warrant Shares to the Holder's or its designee's balance account with DTC through its Deposit / Withdrawal At Custodian system (the event described in the immediately foregoing clause (ii) is hereinafter referred to as a "**Notice Failure**" and, together with the event described in clause (i) above, an "**Exercise Failure**"), then, in addition to all other remedies available to the Holder, if on or prior to the applicable Share Delivery Date either (X) if the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program, the Company shall fail to issue and deliver a certificate to the Holder and register such shares of Common Stock on the Company's share register or, if the Transfer Agent is participating in the DTC Fast Automated Securities Transfer Program, credit the Holder's balance account with DTC for the number of shares of Common Stock to which the Holder is entitled upon the Holder's exercise hereunder or pursuant to the Company's obligation pursuant to clause (2) below or (Y) a Notice Failure occurs, and if on or after such Share Delivery Date the Holder purchases (in an open market transaction or otherwise) Common Stock to deliver in satisfaction of a sale by the Holder of shares of Common Stock

issuable upon such exercise that the Holder anticipated receiving from the Company (a “**Buy-In**”), then the Company shall, within five (5) Trading Days after the Holder’s request and in the Holder’s discretion, either (1) pay cash to the Holder in an amount equal to the Holder’s total purchase price (including brokerage commissions and other out-of-pocket expenses, if any) for the shares of Common Stock so purchased (the “**Buy-In Price**”), at which point the Company’s obligation to deliver such certificate (and to issue such shares of Common Stock) or credit such Holder’s balance account with DTC for such shares of Common Stock shall terminate, or (2) promptly honor its obligation to deliver to the Holder a certificate or certificates representing such shares of Common Stock or credit such Holder’s balance account with DTC, as applicable, and pay cash to the Holder in an amount equal to the excess (if any) of the Buy-In Price over the product of (I) such number of shares of Common Stock, times (II) any trading price of the Common Stock selected by the Holder in writing as in effect at any time during the period beginning on the applicable Exercise Date and ending on the applicable Share Delivery Date. Nothing shall limit the Holder’s right to pursue any other remedies available to it hereunder, at law or in equity, including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company’s failure to timely deliver certificates representing Warrant Shares (or to electronically deliver such Warrant Shares) upon the exercise of this Warrant as required pursuant to the terms hereof. While this Warrant is outstanding, the Company shall cause its transfer agent to participate in the DTC Fast Automated Securities Transfer Program. In addition to the foregoing rights, (a) if the Company fails to deliver the applicable number of Warrant Shares upon an exercise pursuant to Section 1 by the applicable Share Delivery Date, then the Holder shall have the right to rescind such exercise in whole or in part and retain and/or have the Company return, as the case may be, any portion of this Warrant that has not been exercised pursuant to such Exercise Notice; provided that the rescission of an exercise shall not affect the Company’s obligation to make any payments that have accrued prior to the date of such notice pursuant to this Section 1(c) or otherwise, and (b) if a registration statement (which may be the Registration Statement) covering the issuance or resale of the Warrant Shares that are subject to an Exercise Notice is not available for the issuance or resale, as applicable, of such Exercise Notice Warrant Shares and the Holder has submitted an Exercise Notice prior to receiving notice of the non-availability of such registration statement and the Company has not already delivered the Warrant Shares underlying such Exercise Notice electronically without any restrictive legend by crediting such aggregate number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the Holder’s or its designee’s balance account with DTC through its Deposit / Withdrawal At Custodian system, the Holder shall have the option, by delivery of notice to the Company, to (x) rescind such Exercise Notice in whole or in part and retain or have returned, as the case may be, any portion of this Warrant that has not been exercised pursuant to such Exercise Notice; provided that the rescission of an Exercise Notice shall not affect the Company’s obligation to make any payments that have accrued prior to the date of such notice pursuant to this Section 1(c) or otherwise, and/or (y) switch some or all of such Exercise Notice from a cash exercise to a Cashless Exercise. In addition to the foregoing, if the Company fails for any reason to deliver to the Holder the Warrant Shares subject to an Exercise Notice by the Share Delivery Date, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each \$1,000 of Warrant Shares subject to such exercise (based on the Weighted Average Price of the Common Stock on the date of the applicable Exercise Notice), \$10 per Trading Day (increasing to \$20 per Trading Day on the fifth

Trading Day after such liquidated damages begin to accrue) for each Trading Day after such Share Delivery Date until such Warrant Shares are delivered or Holder rescinds such exercise.

(d) **Cashless Exercise.** Notwithstanding anything contained herein to the contrary, if a registration statement (which may be the Registration Statement) covering the issuance or resale of the Exercise Notice Warrant Shares is not available for the issuance or resale, as applicable, of such Exercise Notice Warrant Shares, the Holder may, in its sole discretion, exercise this Warrant in whole or in part and, in lieu of making the cash payment otherwise contemplated to be made to the Company upon such exercise in payment of the Aggregate Exercise Price, elect instead to receive upon such exercise the “Net Number” of shares of Common Stock determined according to the following formula (a “**Cashless Exercise**”):

$$\text{Net Number} = \frac{(A \times B) - (A \times C)}{B}$$

For purposes of the foregoing formula:

A= the total number of shares with respect to which this Warrant is then being exercised.

B= as applicable: (i) the Closing Sale Price of the Common Stock on the Trading Day immediately preceding the date of the applicable Exercise Notice if such Exercise Notice is (1) both executed and delivered pursuant to Section 1(a) hereof on a day that is not a Trading Day or (2) both executed and delivered pursuant to Section 1(a) hereof on a Trading Day prior to the opening of “regular trading hours” (as defined in Rule 600(b)(64) of Regulation NMS promulgated under the federal securities laws) on such Trading Day, (ii) at the option of the Holder, either (y) the Weighted Average Price on the Trading Day immediately preceding the date of the applicable Notice of Exercise or (z) the Bid Price of the Common Stock as of the time of the Holder’s execution of the applicable Exercise Notice if such Exercise Notice is executed during “regular trading hours” on a Trading Day and is delivered within two (2) hours thereafter (including until two (2) hours after the close of “regular trading hours” on a Trading Day) pursuant to Section 1(a) hereof or (iii) the Closing Sale Price of the Common Stock on the date of the applicable Exercise Notice if the date of such Exercise Notice is a Trading Day and such Exercise Notice is both executed and delivered pursuant to Section 1(a) hereof after the close of “regular trading hours” on such Trading Day.

C= the Exercise Price then in effect for the applicable Warrant Shares at the time of such exercise.

If Warrant Shares are issued in such a cashless exercise, the Company acknowledges and agrees that in accordance with Section 3(a)(9) of the Securities Act of 1933, as amended, the Warrant Shares shall take on the registered characteristics of the Warrants being exercised, and the holding period of the Warrants being exercised may be tacked on to the

holding period of the Warrant Shares. The Company agrees not to take any position contrary to this Section 1(d).

(e) Disputes. In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Company shall promptly issue to the Holder the number of Warrant Shares that are not disputed and resolve such dispute in accordance with Section 11.

(f) Beneficial Ownership. Notwithstanding anything to the contrary contained herein, the Company shall not effect the exercise of any portion of this Warrant, and the Holder shall not have the right to exercise any portion of this Warrant, pursuant to the terms and conditions of this Warrant and any such exercise shall be null and void and treated as if never made, to the extent that after giving effect to such exercise, the Holder together with the other Attribution Parties collectively would beneficially own in excess of [4.99][9.99]% (the “**Maximum Percentage**”)(2) of the number of shares of Common Stock outstanding immediately after giving effect to such exercise. For purposes of the foregoing sentence, the aggregate number of shares of Common Stock beneficially owned by the Holder and the other Attribution Parties shall include the number of shares of Common Stock held by the Holder and all other Attribution Parties plus the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which the determination of such sentence is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (i) exercise of the remaining, unexercised portion of this Warrant beneficially owned by the Holder or any of the other Attribution Parties and (ii) exercise or conversion of the unexercised or unconverted portion of any other securities of the Company (including, without limitation, any convertible notes or convertible preferred stock or warrants, including the other Warrants) beneficially owned by the Holder or any other Attribution Party subject to a limitation on conversion or exercise analogous to the limitation contained in this Section 1(f). For purposes of this Section 1(f), beneficial ownership shall be calculated in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended (the “**1934 Act**”). For purposes of this Warrant, in determining the number of outstanding shares of Common Stock the Holder may acquire upon the exercise of this Warrant without exceeding the Maximum Percentage, the Holder may rely on the number of outstanding shares of Common Stock as reflected in (A) the Company’s most recent Annual Report on Form 10-K, Quarterly Report on Form 10-Q and Current Reports on Form 8-K or other public filing with the Securities and Exchange Commission (the “**SEC**”), as the case may be, (B) a more recent public announcement by the Company or (C) any other written notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding (the “**Reported Outstanding Share Number**”). If the Company receives an Exercise Notice from the Holder at a time when the actual number of outstanding shares of Common Stock is less than the Reported Outstanding Share Number, the Company shall (X) notify the Holder in writing of the number of shares of Common Stock then outstanding and, to the extent that such Exercise Notice would otherwise cause the Holder’s beneficial ownership, as determined pursuant to this Section 1(f), to exceed the Maximum Percentage, the Holder must notify the Company of a reduced number of Warrant Shares to be purchased

(2) NTD: Please advise of percentage.

pursuant to such Exercise Notice (the number of shares by which such purchase is reduced, the “**Reduction Shares**”) and (Y) as soon as reasonably practicable, the Company shall return to the Holder any exercise price paid by the Holder for the Reduction Shares. For any reason at any time, upon the written or oral request of the Holder, the Company shall within one (1) Business Day confirm orally and in writing or by electronic mail to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder and any other Attribution Party since the date as of which the Reported Outstanding Share Number was reported. In the event that the issuance of Common Stock to the Holder upon exercise of this Warrant results in the Holder and the other Attribution Parties being deemed to beneficially own, in the aggregate, more than the Maximum Percentage of the number of outstanding shares of Common Stock (as determined under Section 13(d) of the 1934 Act), the number of shares so issued by which the Holder’s and the other Attribution Parties’ aggregate beneficial ownership exceeds the Maximum Percentage (the “**Excess Shares**”) shall be deemed null and void and shall be cancelled ab initio, and the Holder shall not have the power to vote or to transfer the Excess Shares. As soon as reasonably practicable after the issuance of the Excess Shares has been deemed null and void, the Company shall return to the Holder the exercise price paid by the Holder for the Excess Shares. Upon delivery of a written notice to the Company, the Holder may from time to time increase or decrease the Maximum Percentage to any other percentage [not in excess of 9.99%] as specified in such notice; provided that (i) any such increase in the Maximum Percentage will not be effective until the sixty-first (61st) day after such notice is delivered to the Company and (ii) any such increase or decrease will apply only to the Holder and the other Attribution Parties and not to any other holder of Warrants that is not an Attribution Party of the Holder. For purposes of clarity, the shares of Common Stock issuable pursuant to the terms of this Warrant in excess of the Maximum Percentage shall not be deemed to be beneficially owned by the Holder for any purpose including for purposes of Section 13(d) or Rule 16a-1(a)(1) of the 1934 Act. No prior inability to exercise this Warrant pursuant to this paragraph shall have any effect on the applicability of the provisions of this paragraph with respect to any subsequent determination of exercisability. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 1(f) to the extent necessary to correct this paragraph or any portion of this paragraph which may be defective or inconsistent with the intended beneficial ownership limitation contained in this Section 1(f) or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitation contained in this paragraph may not be waived and shall apply to a successor holder of this Warrant.

(g) Required Reserve Amount. So long as this Warrant remains outstanding, the Company shall at all times keep reserved for issuance under this Warrant a number of shares of Common Stock at least equal to 100% of the maximum number of shares of Common Stock as shall be necessary to satisfy the Company’s obligation to issue shares of Common Stock under the Warrants then outstanding (without regard to any limitations on exercise) (the “**Required Reserve Amount**”); provided that at no time shall the number of shares of Common Stock reserved pursuant to this Section 1(g) be reduced other than in connection with any exercise of Warrants or such other event covered by Section 2(b) below. The Required Reserve Amount (including, without limitation, each increase in the number of shares so reserved) shall be allocated pro rata among the holders of the Warrants

based on the number of shares of Common Stock issuable upon exercise of Warrants held by each holder thereof on the Issuance Date (without regard to any limitations on exercise) (the “**Authorized Share Allocation**”). In the event that a holder shall sell or otherwise transfer any of such holder’s Warrants, each transferee shall be allocated a pro rata portion of such holder’s Authorized Share Allocation. Any shares of Common Stock reserved and allocated to any Person which ceases to hold any Warrants shall be allocated to the remaining holders of Warrants, pro rata based on the number of shares of Common Stock issuable upon exercise of the Warrants then held by such holders thereof (without regard to any limitations on exercise).

(h) Insufficient Authorized Shares. If at any time while this Warrant remains outstanding the Company does not have a sufficient number of authorized and unreserved shares of Common Stock to satisfy its obligation to reserve for issuance the Required Reserve Amount (an “**Authorized Share Failure**”), then the Company shall promptly take all action reasonably necessary to increase the Company’s authorized shares of Common Stock to an amount sufficient to allow the Company to reserve the Required Reserve Amount for this Warrant then outstanding. Without limiting the generality of the foregoing sentence, as soon as practicable after the date of the occurrence of an Authorized Share Failure, but in no event later than ninety (90) days after the occurrence of such Authorized Share Failure, the Company shall hold a meeting of its stockholders for the approval of an increase in the number of authorized shares of Common Stock. In connection with such meeting, the Company shall provide each stockholder with a proxy statement and shall use its reasonable best efforts to solicit its stockholders’ approval of such increase in authorized shares of Common Stock and to cause its board of directors to recommend to the stockholders that they approve such proposal. Notwithstanding the foregoing, if any such time of an Authorized Share Failure, the Company is able to obtain the written consent of a majority of the shares of its issued and outstanding shares of Common Stock to approve the increase in the number of authorized shares of Common Stock, the Company may satisfy this obligation by obtaining such consent and submitting for filing with the SEC an Information Statement on Schedule 14C.

2. ADJUSTMENT OF EXERCISE PRICE AND NUMBER OF WARRANT SHARES. The Exercise Price and the number of Warrant Shares shall be adjusted from time to time as follows:

(a) Voluntary Adjustment By Company. The Company may at any time during the term of this Warrant reduce the then current Exercise Price to any amount and for any period of time deemed appropriate by the Board of Directors of the Company.

(b) Adjustment Upon Subdivision or Combination of Common Stock. If the Company at any time on or after the Subscription Date subdivides (by any stock split, stock dividend, recapitalization or otherwise) one or more classes of its outstanding shares of Common Stock into a greater number of shares, the Exercise Price in effect immediately prior to such subdivision will be proportionately reduced and the number of Warrant Shares will be proportionately increased. If the Company at any time on or after the Subscription Date combines (by combination, reverse stock split or otherwise) one or more classes of its outstanding shares of Common Stock into a smaller number of shares, the Exercise Price in effect immediately prior to such combination will be proportionately increased and the number of Warrant Shares will be proportionately decreased. Any adjustment under this Section 2(b)

shall become effective at the close of business on the date the subdivision or combination becomes effective.

(c) Other Events. If any event occurs of the type contemplated by the provisions of this Section 2 but not expressly provided for by such provisions (including, without limitation, the granting of stock appreciation rights, phantom stock rights or other rights with equity features to the holders of outstanding shares of Common Stock), then the Company's Board of Directors will make an appropriate adjustment in the Exercise Price and the number of Warrant Shares, as mutually determined by the Company's Board of Directors and the Required Holders, so as to protect the rights of the Holder; provided that no such adjustment pursuant to this Section 2(c) will increase the Exercise Price or decrease the number of Warrant Shares as otherwise determined pursuant to this Section 2.

3. RIGHTS UPON DISTRIBUTION OF ASSETS. In addition to any adjustments pursuant to Section 2 above, if, on or after the Subscription Date and on or prior to the Expiration Date, the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property, options, evidence of indebtedness or any other assets by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a "**Distribution**"), at any time after the issuance of this Warrant, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon such exercise of this Warrant (without regard to any limitations or restrictions on exercise of this Warrant that limit the Holder to the Maximum Percentage) immediately before the date on which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, however, that to the extent that the Holder's right to participate in any such Distribution would result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Distribution to such extent (and shall not be entitled to beneficial ownership of such shares of Common Stock as a result of such Distribution (and beneficial ownership) to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time or times as its right thereto would not result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be granted such Distribution (and any Distributions declared or made on such initial Distribution or on any subsequent Distribution held similarly in abeyance) to the same extent as if there had been no such limitation).

4. PURCHASE RIGHTS; FUNDAMENTAL TRANSACTIONS.

(a) Purchase Rights. In addition to any adjustments pursuant to Section 2 above, if at any time on or after the Subscription Date and on or prior to the Expiration Date the Company grants, issues or sells any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of Common Stock (the "**Purchase Rights**"), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could

have acquired if the Holder had held the number of shares of Common Stock acquirable upon such exercise of this Warrant (without regard to any limitations or restrictions on exercise of this Warrant that limit the Holder to the Maximum Percentage) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of Common Stock are to be determined for the grant, issuance or sale of such Purchase Rights (provided, however, that to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Purchase Right to such extent (and shall not be entitled to beneficial ownership of such Common Stock as a result of such Purchase Right (and beneficial ownership) to such extent) and such Purchase Right to such extent shall be held in abeyance for the benefit of the Holder until such time or times as its right thereto would not result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be granted such right (and any Purchase Right granted, issued or sold on such initial Purchase Right or on any subsequent Purchase Right to be held similarly in abeyance) to the same extent as if there had been no such limitation).

(b) Fundamental Transaction. The Company shall not enter into or be party to a Fundamental Transaction unless the Successor Entity assumes in writing all of the obligations of the Company under this Warrant in accordance with the provisions of this Section 4(b), including agreements to deliver to the Holder in exchange for this Warrant a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Warrant, including, without limitation, which is exercisable for a corresponding number of shares of capital stock equivalent to the shares of Common Stock acquirable and receivable upon exercise of this Warrant (without regard to any limitations on the exercise of this Warrant) prior to such Fundamental Transaction, and with an exercise price which applies the exercise price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such adjustments to the number of shares of capital stock and such exercise price being for the purpose of protecting the economic value of this Warrant immediately prior to the consummation of such Fundamental Transaction). Upon the consummation of each Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for the Company (so that from and after the date of the applicable Fundamental Transaction, the provisions of this Warrant and the other Transaction Documents referring to the "Company" shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant with the same effect as if such Successor Entity had been named as the Company herein. Upon consummation of each Fundamental Transaction, the Successor Entity shall deliver to the Holder confirmation that there shall be issued upon exercise of this Warrant at any time after the consummation of the applicable Fundamental Transaction, in lieu of the shares of Common Stock (or other securities, cash, assets or other property (except such items still issuable under Sections 3 and 4(a) above, which shall continue to be receivable thereafter)) issuable upon the exercise of this Warrant prior to the applicable Fundamental Transaction, such shares of common stock (or its equivalent) of the Successor Entity (including its Parent Entity) which the Holder would have been entitled to receive upon the happening of the applicable Fundamental Transaction had this Warrant been exercised immediately prior to the applicable Fundamental Transaction (without regard to any limitations on the exercise of this Warrant), as adjusted in

accordance with the provisions of this Warrant. Notwithstanding the foregoing, and without limiting Section 1(f) hereof, the Holder may elect, at its sole option, by delivery of written notice to the Company to waive this Section 4(b) to permit the Fundamental Transaction without the assumption of this Warrant. In addition to and not in substitution for any other rights hereunder, prior to the consummation of each Fundamental Transaction pursuant to which holders of shares of Common Stock are entitled to receive securities or other assets with respect to or in exchange for shares of Common Stock (a “Corporate Event”), the Company shall make appropriate provision to insure that the Holder will thereafter have the right to receive upon an exercise of this Warrant at any time after the consummation of the applicable Fundamental Transaction but prior to the Expiration Date, in lieu of the shares of the Common Stock (or other securities, cash, assets or other property (except such items still issuable under Sections 3 and 4(a) above, which shall continue to be receivable thereafter)) issuable upon the exercise of the Warrant prior to such Fundamental Transaction, such shares of stock, securities, cash, assets or any other property whatsoever (including warrants or other purchase or subscription rights) (collectively, the “Corporate Event Consideration”) which the Holder would have been entitled to receive upon the happening of the applicable Fundamental Transaction had this Warrant been exercised immediately prior to the applicable Fundamental Transaction (without regard to any limitations on the exercise of this Warrant). The provision made pursuant to the preceding sentence shall be in a form and substance reasonably satisfactory to the Holder. The provisions of this Section 4(b) shall apply similarly and equally to successive Fundamental Transactions and Corporate Events. Notwithstanding anything to the contrary, in the event of a Fundamental Transaction, the Company or any Successor Entity shall, at the Holder’s option, exercisable at any time concurrently with, or within 30 days after, the consummation of the Fundamental Transaction (or, if later, the date of the public announcement of the applicable Fundamental Transaction), purchase this Warrant from the Holder by paying to the Holder an amount of cash equal to the Black Scholes Value of the remaining unexercised portion of this Warrant on the date of the consummation of such Fundamental Transaction; provided, however, if the Fundamental Transaction is not within the Company’s control, including not approved by the Company’s Board of Directors, Holder shall only be entitled to receive from the Company or any Successor Entity, as of the date of consummation of such Fundamental Transaction, the same type or form of consideration (and in the same proportion), at the Black Scholes Value of the unexercised portion of this Warrant, that is being offered and paid to the holders of Common Stock of the Company in connection with the Fundamental Transaction, whether that consideration be in the form of cash, stock or any combination thereof, or whether the holders of Common Stock are given the choice to receive from among alternative forms of consideration in connection with the Fundamental Transaction. The payment of the Black Scholes Value will be made by wire transfer of immediately available funds (or by delivery of such other consideration, as applicable) within five Business Days of the Holder’s election (or, if later, on the effective date of the Fundamental Transaction).

5. NONCIRCUMVENTION. The Company hereby covenants and agrees that the Company will not, by amendment of its Certificate of Incorporation or Bylaws, or through any reorganization, transfer of assets, consolidation, merger, scheme of arrangement, dissolution, issuance or sale of securities, or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, and will at all times in good faith carry out all of the provisions of this Warrant and take all action as may be required to protect the rights of the Holder. Without limiting the generality of the foregoing, the Company

(i) shall not increase the par value of any shares of Common Stock receivable upon the exercise of this Warrant above the Exercise Price then in effect, (ii) shall take all such actions as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable shares of Common Stock upon the exercise of this Warrant, and (iii) shall, so long as any of the Warrants are outstanding, take all action necessary to reserve and keep available out of its authorized and unissued shares of Common Stock, solely for the purpose of effecting the exercise of the Warrants, the number of shares of Common Stock as shall from time to time be necessary to effect the exercise of the Warrants then outstanding (without regard to any limitations on exercise).

6. WARRANT HOLDER NOT DEEMED A STOCKHOLDER. Except as otherwise specifically provided herein, the Holder, solely in such Person's capacity as a holder of this Warrant, shall not be entitled to vote or receive dividends or be deemed the holder of capital stock of the Company for any purpose, nor shall anything contained in this Warrant be construed to confer upon the Holder, solely in such Person's capacity as the Holder of this Warrant, any of the rights of a stockholder of the Company or any right to vote, give or withhold consent to any corporate action (whether any reorganization, issue of stock, reclassification of stock, consolidation, merger, conveyance or otherwise), receive notice of meetings, receive dividends or subscription rights, or otherwise, prior to the issuance to the Holder of the Warrant Shares which such Person is then entitled to receive upon the due exercise of this Warrant. In addition, nothing contained in this Warrant shall be construed as imposing any liabilities on the Holder to purchase any securities (upon exercise of this Warrant or otherwise) or as a stockholder of the Company, whether such liabilities are asserted by the Company or by creditors of the Company.

7. REISSUANCE OF WARRANTS.

(a) Transfer of Warrant. If this Warrant is to be transferred, the Holder shall surrender this Warrant to the Company, whereupon the Company will forthwith issue and deliver upon the order of the Holder a new Warrant (in accordance with Section 7(d)), registered as the Holder may request, representing the right to purchase the number of Warrant Shares being transferred by the Holder and, if less than the total number of Warrant Shares then underlying this Warrant is being transferred, a new Warrant (in accordance with Section 7(d)) to the Holder representing the right to purchase the number of Warrant Shares not being transferred.

(b) Lost, Stolen or Mutilated Warrant. Upon receipt by the Company of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant, and, in the case of loss, theft or destruction, of any indemnification undertaking by the Holder to the Company in customary form (but without the obligation to post a bond) and, in the case of mutilation, upon surrender and cancellation of this Warrant, the Company shall execute and deliver to the Holder a new Warrant (in accordance with Section 7(d)) representing the right to purchase the Warrant Shares then underlying this Warrant.

(c) Exchangeable for Multiple Warrants. This Warrant is exchangeable, upon the surrender hereof by the Holder at the principal office of the Company, for a new Warrant or Warrants (in accordance with Section 7(d)) representing in the aggregate the right to purchase the number of Warrant Shares then underlying this Warrant, and each such new

Warrant will represent the right to purchase such portion of such Warrant Shares as is designated by the Holder at the time of such surrender.

(d) Issuance of New Warrants. Whenever the Company is required to issue a new Warrant pursuant to the terms of this Warrant, such new Warrant (i) shall be of like tenor with this Warrant, (ii) shall represent, as indicated on the face of such new Warrant, the right to purchase the Warrant Shares then underlying this Warrant (or in the case of a new Warrant being issued pursuant to Section 7(a) or Section 7(c), the Warrant Shares designated by the Holder which, when added to the number of shares of Common Stock underlying the other new Warrants issued in connection with such issuance, does not exceed the number of Warrant Shares then underlying this Warrant), (iii) shall have an issuance date, as indicated on the face of such new Warrant which is the same as the Issuance Date, and (iv) shall have the same rights and conditions as this Warrant.

8. NOTICES. Whenever notice is required to be given under this Warrant, including, without limitation, an Exercise Notice, unless otherwise provided herein, such notice shall be given in writing, (i) if delivered (a) from within the domestic United States, by first-class registered or certified airmail, or nationally recognized overnight express courier, postage prepaid, electronic mail or by facsimile or (b) from outside the United States, by International Federal Express, electronic mail or facsimile, and (ii) will be deemed given (A) if delivered by first-class registered or certified mail domestic, three (3) Business Days after so mailed, (B) if delivered by nationally recognized overnight carrier, one (1) Business Day after so mailed, (C) if delivered by International Federal Express, two (2) Business Days after so mailed and (D) at the time of transmission, if delivered by electronic mail to each of the email addresses specified in this Section 8 prior to 5:00 p.m. (New York time) on a Trading Day, (E) the next Trading Day after the date of transmission, if delivered by electronic mail to each of the email addresses specified in this Section 8 on a day that is not a Trading Day or later than 5:00 p.m. (New York time) on any Trading Day and (F) if delivered by facsimile, upon electronic confirmation of receipt of such facsimile, and will be delivered and addressed as follows:

(i) if to the Company, to:
Leap Therapeutics, Inc.
47 Thorndike St., Suite B-1
Cambridge, Massachusetts 02141
Attention: Chief Financial Officer
Facsimile: []
Email: Donsi@leaptx.com

(ii) if to the Holder, at such address or other contact information delivered by the Holder to Company or as is on the books and records of the Company.

The Company shall provide the Holder with prompt written notice of all actions taken pursuant to this Warrant, including in reasonable detail a description of such action and the reason

therefor. Without limiting the generality of the foregoing, the Company will give written notice to the Holder (i) immediately upon any adjustment of the Exercise Price, setting forth in reasonable detail, and certifying, the calculation of such adjustment and (ii) at least fifteen (15) days prior to the date on which the Company closes its books or takes a record (A) with respect to any dividend or distribution upon the shares of Common Stock, (B) with respect to any grants, issuances or sales of any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property to holders of shares of Common Stock or (C) for determining rights to vote with respect to any Fundamental Transaction, dissolution or liquidation; provided in each case that such information shall be made known to the public prior to or in conjunction with such notice being provided to the Holder. It is expressly understood and agreed that the time of exercise specified by the Holder in each Exercise Notice shall be definitive and may not be disputed or challenged by the Company.

9. AMENDMENT AND WAIVER. Except as otherwise provided herein, the provisions of this Warrant may be amended or waived and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company has obtained the written consent of the Holder. Notwithstanding the foregoing, this Warrant may be amended or waived and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, if the Company has obtained the written consent of the Required Holders; provided, however, that the foregoing provisions of this sentence shall only be applicable if any such amendment, waiver, action or omission applies to all outstanding Warrants in the same fashion and does not affect or involve a reduction of the number of Warrant Shares, an increase of the Exercise Price or a reduction or shortening of the term of this Warrant; provided, further, that if such amendment or waiver that complies with the foregoing but that disproportionately and adversely affects the rights or obligations of any Holder relative to the comparable rights and obligations of the other Holders shall require the prior written consent of such adversely affected Holder. No consideration (including any modification of any Warrants) shall be offered or paid to any Person to amend or consent to a waiver or modification of any provision of any Warrants or to exchange any Warrants for any security, asset, cash or other consideration unless the same consideration is also offered to all holders of Warrants. For clarification purposes, this provision constitutes a separate right granted to each Holder by the Company and negotiated separately by each Holder, and is intended for the Company to treat the Holders as a class and shall not in any way be construed as the Holders acting in concert or as a group with respect to the purchase, disposition or voting of securities or otherwise.

10. GOVERNING LAW; JURISDICTION; JURY TRIAL. This Warrant shall be governed by and construed and enforced in accordance with, and all questions concerning the construction, validity, interpretation and performance of this Warrant shall be governed by, the internal laws of the State of New York, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of New York or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of New York. The Company hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in The City of New York, Borough of Manhattan, for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of

any such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. The Company hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof to the Company at the address set forth in Section 8(i) above or such other address as the Company subsequently delivers to the Holder and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law. Nothing contained herein shall be deemed or operate to preclude the Holder from bringing suit or taking other legal action against the Company in any other jurisdiction to collect on the Company's obligations to the Holder, to realize on any collateral or any other security for such obligations, or to enforce a judgment or other court ruling in favor of the Holder. If either party shall commence an action, suit or proceeding to enforce any provisions of this Warrant, the prevailing party in such action, suit or proceeding shall be reimbursed by the other party for their reasonable attorneys' fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding. **THE COMPANY HEREBY IRREVOCABLY WAIVES ANY RIGHT IT MAY HAVE, AND AGREES NOT TO REQUEST, A JURY TRIAL FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION WITH OR ARISING OUT OF THIS WARRANT OR ANY TRANSACTION CONTEMPLATED HEREBY.**

11. **DISPUTE RESOLUTION.** In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Company shall submit the disputed determinations or arithmetic calculations via facsimile or electronic mail within two (2) Business Days of receipt of the Exercise Notice or other event giving rise to such dispute, as the case may be, to the Holder. If the Holder and the Company are unable to agree upon such determination or calculation of the Exercise Price or the Warrant Shares within three (3) Business Days of such disputed determination or arithmetic calculation being submitted to the Holder, then the Company shall, within two (2) Business Days submit via facsimile or electronic mail (a) the disputed determination of the Exercise Price to an independent, reputable investment bank selected by the Company and approved by the Holder or (b) the disputed arithmetic calculation of the Warrant Shares to the Company's independent, outside accountant. The Company shall cause at its expense the investment bank or the accountant, as the case may be, to perform the determinations or calculations and notify the Company and the Holder of the results no later than ten (10) Business Days from the time it receives the disputed determinations or calculations. Such investment bank's or accountant's determination or calculation, as the case may be, shall be binding upon all parties absent demonstrable error.

12. **REMEDIES, OTHER OBLIGATIONS, BREACHES AND INJUNCTIVE RELIEF.** The remedies provided in this Warrant shall be cumulative and in addition to all other remedies available under this Warrant and any other Transaction Documents, at law or in equity (including a decree of specific performance and/or other injunctive relief), and nothing herein shall limit the right of the Holder to pursue actual damages for any failure by the Company to comply with the terms of this Warrant. The Company acknowledges that a breach by it of its obligations hereunder will cause irreparable harm to the Holder and that the remedy at law for any such breach may be inadequate. The Company therefore agrees that, in the event of any such breach or threatened breach, the holder of this Warrant shall be entitled, in addition to all other available remedies, to an injunction restraining

any breach, without the necessity of showing economic loss and without any bond or other security being required.

13. TRANSFER. This Warrant and the Warrant Shares may be offered for sale, sold, transferred, pledged or assigned without the consent of the Company.

14. SEVERABILITY; CONSTRUCTION; HEADINGS. If any provision of this Warrant is prohibited by law or otherwise determined to be invalid or unenforceable by a court of competent jurisdiction, the provision that would otherwise be prohibited, invalid or unenforceable shall be deemed amended to apply to the broadest extent that it would be valid and enforceable, and the invalidity or unenforceability of such provision shall not affect the validity of the remaining provisions of this Warrant so long as this Warrant as so modified continues to express, without material change, the original intentions of the parties as to the subject matter hereof and the prohibited nature, invalidity or unenforceability of the provision(s) in question does not substantially impair the respective expectations or reciprocal obligations of the parties or the practical realization of the benefits that would otherwise be conferred upon the parties. The parties will endeavor in good faith negotiations to replace the prohibited, invalid or unenforceable provision(s) with a valid provision(s), the effect of which comes as close as possible to that of the prohibited, invalid or unenforceable provision(s). This Warrant shall be deemed to be jointly drafted by the Company and the Holder and shall not be construed against any Person as the drafter hereof. The headings of this Warrant are for convenience of reference and shall not form part of, or affect the interpretation of, this Warrant.

15. DISCLOSURE. Upon receipt or delivery by the Company of any notice in accordance with the terms of this Warrant, unless the Company has in good faith determined that the matters relating to such notice do not constitute material, nonpublic information relating to the Company or its subsidiaries, the Company shall contemporaneously with any such receipt or delivery publicly disclose such material, nonpublic information on a Current Report on Form 8-K or otherwise. In the event that the Company believes that a notice contains material, nonpublic information relating to the Company or its subsidiaries, the Company so shall indicate to such Holder contemporaneously with delivery of such notice, and in the absence of any such indication, the Holder shall be allowed to presume that all matters relating to such notice do not constitute material, nonpublic information relating to the Company or its subsidiaries.

16. CERTAIN DEFINITIONS. For purposes of this Warrant, the following terms shall have the following meanings:

(a) “**Affiliate**” means, with respect to any Person, any other Person that directly or indirectly controls, is controlled by, or is under common control with, such Person, it being understood for purposes of this definition that “control” of a Person means the power directly or indirectly either to vote 10% or more of the stock having ordinary voting power for the election of directors of such Person or direct or cause the direction of the management and policies of such Person whether by contract or otherwise.

(b) “**Attribution Parties**” means, collectively, the following Persons and entities: (i) any investment vehicle, including, any funds, feeder funds or managed accounts, currently, or from time to time after the Subscription Date, directly or indirectly managed or

advised by the Holder's investment manager or any of its Affiliates or principals, (ii) any direct or indirect Affiliates of the Holder or any of the foregoing, (iii) any Person acting or who could be deemed to be acting as a Group together with the Holder or any of the foregoing and (iv) any other Persons whose beneficial ownership of the Company's Common Stock would or could be aggregated with the Holder's and the other Attribution Parties for purposes of Section 13(d) of the 1934 Act. For clarity, the purpose of the foregoing is to subject collectively the Holder and all other Attribution Parties to the Maximum Percentage.

(c) "**Bid Price**" means, for any security as of the particular time of determination, the bid price for such security on the Principal Market as reported by Bloomberg as of such time of determination, or, if the Principal Market is not the principal securities exchange or trading market for such security, the bid price of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg as of such time of determination, or if the foregoing does not apply, the bid price of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg as of such time of determination, or, if no bid price is reported for such security by Bloomberg as of such time of determination, the average of the bid prices of any market makers for such security as reported in the "pink sheets" by OTC Markets Group Inc. (formerly Pink Sheets LLC) as of such time of determination. If the Bid Price cannot be calculated for a security as of the particular time of determination on any of the foregoing bases, the Bid Price of such security as of such time of determination shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved in accordance with the procedures in Section 11. All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination or other similar transaction during such period.

(d) "**Black Scholes Value**" means the value of this Warrant based on the Black and Scholes Option Pricing Model obtained from the "OV" function on Bloomberg determined as of the day of consummation of the applicable Fundamental Transaction for pricing purposes and reflecting (A) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the time between the date of the public announcement of the applicable Fundamental Transaction and the Expiration Date, (B) an expected volatility equal to the greater of 100% and the 100 day volatility obtained from the HVT function on Bloomberg as of the Trading Day immediately following the public announcement of the applicable Fundamental Transaction (determined using a 365 day annualization factor), (C) the underlying price per share used in such calculation shall be the greater of (i) the sum of the price per share being offered in cash, if any, plus the value of any non-cash consideration, if any, being offered in such Fundamental Transaction and (ii) the greater of (x) the last Weighted Average Price immediately prior to the public announcement of such Fundamental Transaction and (y) the last Weighted Average Price immediately prior to the consummation of such Fundamental Transaction, (D) a remaining option time equal to the time between the date of the public announcement of the applicable Fundamental Transaction and the Expiration Date and (E) a zero cost of borrow.

(e) "**Bloomberg**" means Bloomberg Financial Markets.

(f) “**Business Day**” means any day other than Saturday, Sunday or other day on which commercial banks in The City of New York are authorized or required by law to remain closed.

(g) “**Closing Bid Price**” and “**Closing Sale Price**” means, for any security as of any date, the last closing bid price and last closing trade price, respectively, for such security on the Principal Market, as reported by Bloomberg, or, if the Principal Market begins to operate on an extended hours basis and does not designate the closing bid price or the closing trade price, as the case may be, then the last bid price or the last trade price, respectively, of such security prior to 4:00:00 p.m., New York time, as reported by Bloomberg, or, if the Principal Market is not the principal securities exchange or trading market for such security, the last closing bid price or last trade price, respectively, of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg, or if the foregoing do not apply, the last closing bid price or last trade price, respectively, of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg, or, if no closing bid price or last trade price, respectively, is reported for such security by Bloomberg, the average of the bid prices, or the ask prices, respectively, of any market makers for such security as reported in the OTC Link or “pink sheets” by OTC Markets Group Inc. (formerly Pink OTC Markets Inc.). If the Closing Bid Price or the Closing Sale Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Closing Bid Price or the Closing Sale Price, as the case may be, of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved pursuant to Section 11. All such determinations to be appropriately adjusted for any stock dividend, stock split, stock combination, reclassification or other similar transaction during the applicable calculation period.

(h) “**Common Stock**” means (i) the Company’s Common Stock, par value \$[] per share, and (ii) any capital stock into which such Common Stock shall have been changed or any capital stock resulting from a reclassification of such Common Stock.

(i) “**Convertible Securities**” means any stock or securities (other than Options) directly or indirectly convertible into or exercisable or exchangeable for shares of Common Stock.

(j) “**Eligible Market**” means The NASDAQ Capital Market, the NYSE American LLC, The NASDAQ Global Select Market, The NASDAQ Global Market or The New York Stock Exchange, Inc.

(k) “**Expiration Date**” means the date eighty-four (84) months after the Initial Exercisability Date or, if such date falls on a day other than a Business Day or on which trading does not take place on the Principal Market (a “**Holiday**”), the next day that is not a Holiday.

(l) “**Fundamental Transaction**” means (A) that the Company shall, directly or indirectly, including through subsidiaries, Affiliates or otherwise, in one or more related transactions, (i) consolidate or merge with or into (whether or not the Company is the

surviving corporation) another Subject Entity, or (ii) sell, assign, transfer, convey or otherwise dispose of all or substantially all of the properties or assets of the Company or any of its “significant subsidiaries” (as defined in Rule 1-02 of Regulation S-X) to one or more Subject Entities, or (iii) make, or allow one or more Subject Entities to make, or allow the Company to be subject to or have its shares of Common Stock be subject to or party to one or more Subject Entities making, a purchase, tender or exchange offer that is accepted by the holders of at least either (x) 50% of the outstanding shares of Common Stock, (y) 50% of the outstanding shares of Common Stock calculated as if any shares of Common Stock held by all Subject Entities making or party to, or Affiliated with any Subject Entities making or party to, such purchase, tender or exchange offer were not outstanding; or (z) such number of shares of Common Stock such that all Subject Entities making or party to, or Affiliated with any Subject Entity making or party to, such purchase, tender or exchange offer, become collectively the beneficial owners (as defined in Rule 13d-3 under the 1934 Act) of at least 50% of the outstanding shares of Common Stock, or (iv) consummate a stock purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with one or more Subject Entities whereby all such Subject Entities, individually or in the aggregate, acquire, either (x) at least 50% of the outstanding shares of Common Stock, (y) at least 50% of the outstanding shares of Common Stock calculated as if any shares of Common Stock held by all the Subject Entities making or party to, or Affiliated with any Subject Entity making or party to, such stock purchase agreement or other business combination were not outstanding; or (z) such number of shares of Common Stock such that the Subject Entities become collectively the beneficial owners (as defined in Rule 13d-3 under the 1934 Act) of at least 50% of the outstanding shares of Common Stock, or (v) reorganize, recapitalize or reclassify its shares of Common Stock, (B) that the Company shall, directly or indirectly, including through subsidiaries, Affiliates or otherwise, in one or more related transactions, allow any Subject Entity individually or the Subject Entities in the aggregate to be or become the “beneficial owner” (as defined in Rule 13d-3 under the 1934 Act), directly or indirectly, whether through acquisition, purchase, assignment, conveyance, tender, tender offer, exchange, reduction in outstanding shares of Common Stock, merger, consolidation, business combination, reorganization, recapitalization, spin-off, scheme of arrangement, reorganization, recapitalization or reclassification or otherwise in any manner whatsoever, of either (x) at least 50% of the aggregate ordinary voting power represented by issued and outstanding shares of Common Stock, (y) at least 50% of the aggregate ordinary voting power represented by issued and outstanding shares of Common Stock not held by all such Subject Entities as of the Subscription Date calculated as if any shares of Common Stock held by all such Subject Entities were not outstanding, or (z) a percentage of the aggregate ordinary voting power represented by issued and outstanding shares of Common Stock or other equity securities of the Company sufficient to allow such Subject Entities to effect a statutory short form merger or other transaction requiring other stockholders of the Company to surrender their Common Stock without approval of the stockholders of the Company or (C) directly or indirectly, including through subsidiaries, Affiliates or otherwise, in one or more related transactions, the issuance of or the entering into any other instrument or transaction structured in a manner to circumvent, or that circumvents, the intent of this definition in which case this definition shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this definition to the extent necessary to correct this definition or any portion of this definition which may be defective or inconsistent with the intended treatment of such instrument or transaction.

(m) “**Group**” means a “group” as that term is used in Section 13(d) of the 1934 Act and as defined in Rule 13d-5 thereunder.

(n) “**Options**” means any rights, warrants or options to subscribe for or purchase shares of Common Stock or Convertible Securities.

(o) “**Parent Entity**” of a Person means an entity that, directly or indirectly, controls the applicable Person, including such entity whose common stock or equivalent equity security is quoted or listed on an Eligible Market (or, if so elected by the Holder, any other market, exchange or quotation system), or, if there is more than one such Person or such entity, the Person or such entity designated by the Holder or in the absence of such designation, such Person or entity with the largest public market capitalization as of the date of consummation of the Fundamental Transaction.

(p) “**Person**” means an individual, a limited liability company, a partnership, a joint venture, a corporation, a trust, an unincorporated organization, any other entity and a government or any department or agency thereof.

(q) “**Principal Market**” means The NASDAQ Global Market.

(r) “**Required Holders**” means the holders of the Warrants representing at least a majority of the Warrant Shares underlying the Warrants then outstanding.

(s) “**Standard Settlement Period**” means the standard settlement period, expressed in a number of Trading Days, for the Company’s primary trading market or quotation system with respect to the Common Stock that is in effect on the date of receipt of an applicable Exercise Notice.

(t) “**Subject Entity**” means any Person, Persons or Group or any Affiliate or associate of any such Person, Persons or Group.

(u) “**Successor Entity**” means one or more Person or Persons (or, if so elected by the Holder, the Company or Parent Entity) formed by, resulting from or surviving any Fundamental Transaction or one or more Person or Persons (or, if so elected by the Holder, the Company or the Parent Entity) with which such Fundamental Transaction shall have been entered into.

(v) “**Trading Day**” means any day on which the Common Stock is traded on the Principal Market, or, if the Principal Market is not the principal trading market for the Common Stock, then on the principal securities exchange or securities market on which the Common Stock is then traded.

(w) “**Transaction Documents**” means any agreement entered into by and between the Company and the Holder, as applicable.

(x) “**Weighted Average Price**” means, for any security as of any date, the dollar volume-weighted average price for such security on the Principal Market during the period beginning at 9:30:01 a.m., New York time (or such other time as the Principal Market publicly

announces is the official open of trading), and ending at 4:00:00 p.m., New York time (or such other time as the Principal Market publicly announces is the official close of trading), as reported by Bloomberg through its "Volume at Price" function or, if the foregoing does not apply, the dollar volume-weighted average price of such security in the over-the-counter market on the electronic bulletin board for such security during the period beginning at 9:30:01 a.m., New York time (or such other time as such market publicly announces is the official open of trading), and ending at 4:00:00 p.m., New York time (or such other time as such market publicly announces is the official close of trading), as reported by Bloomberg, or, if no dollar volume-weighted average price is reported for such security by Bloomberg for such hours, the average of the highest Closing Bid Price and the lowest closing ask price of any of the market makers for such security as reported in the OTC Link or "pink sheets" by OTC Markets Group Inc. (formerly Pink OTC Markets Inc.). If the Weighted Average Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Weighted Average Price of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved pursuant to Section 11 with the term "Weighted Average Price" being substituted for the term "Exercise Price." All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination, reclassification or other similar transaction during the applicable calculation period.

[Signature Page Follows]

IN WITNESS WHEREOF, the Company has caused this Warrant to Purchase Common Stock to be duly executed as of the Issuance Date set out above.

LEAP THERAPEUTICS, INC.

By: _____
Name:
Title:

EXERCISE NOTICE

TO BE EXECUTED BY THE REGISTERED HOLDER TO EXERCISE THIS
WARRANT TO PURCHASE COMMON STOCK

LEAP THERAPEUTICS, INC.

The undersigned holder hereby exercises the right to purchase _____ shares of Common Stock (“**Warrant Shares**”) of Leap Therapeutics, Inc., a company organized under the laws of Delaware (the “**Company**”), evidenced by the attached Warrant to Purchase Common Stock (the “**Warrant**”). Capitalized terms used herein and not otherwise defined shall have the respective meanings set forth in the Warrant.

1. Form of Exercise Price. The Holder intends that payment of the Exercise Price shall be made as:

a “Cash Exercise” with respect to _____ Warrant Shares; and/or

a “Cashless Exercise” with respect to _____ Warrant Shares.

2. Payment of Exercise Price. In the event that the holder has elected a Cash Exercise with respect to some or all of the Warrant Shares to be issued pursuant hereto, the holder shall pay the Aggregate Exercise Price in the sum of \$ _____ to the Company in accordance with the terms of the Warrant.

3. Delivery of Warrant Shares. The Company shall deliver to the holder _____ Warrant Shares in accordance with the terms of the Warrant.

Date: _____ ,

Name of Registered Holder

By: _____

Name:

Title:



ACKNOWLEDGMENT

The Company hereby acknowledges this Exercise Notice and hereby directs Continental Stock Transfer & Trust Company to issue the above indicated number of shares of Common Stock on or prior to the applicable Share Delivery Date.

LEAP THERAPEUTICS, INC.

By: _____
Name:
Title:

Morgan, Lewis & Bockius LLP
One Federal Street
Boston, Massachusetts 02110-1726
Tel. +1.617.341.7700
Fax: +1.617.341.7701
www.morganlewis.com

February 1, 2019

Leap Therapeutics, Inc.
47 Thorndike Street, Suite B1-1
Cambridge, MA

Ladies and Gentlemen:

This opinion is furnished to you in connection with the filing of a prospectus supplement, dated January 31, 2019 (the "Prospectus Supplement"), to a Registration Statement on Form S-3, Registration No. 333-223419 (the "Registration Statement") filed by Leap Therapeutics, Inc., a Delaware corporation (the "Company"), with the Securities and Exchange Commission (the "Commission") under the Securities Act of 1933, as amended (the "Securities Act"), with respect to the public sale of (a) 6,571,428 shares of the Company's common stock (the "Firm Shares"), (b) warrants to purchase up to an aggregate of 6,571,428 shares of common stock (the "Firm Warrants"), (c) an option to purchase up to 985,714 shares of the Company's common stock (the "Option Shares"), and, together with the Firm Shares, the "Shares") and/or (d) an option to purchase warrants to purchase up to 985,714 shares of common stock (the "Option Warrants"), pursuant to the Underwriting Agreement (the "Underwriting Agreement"), dated February 1, 2019 by and among the Company and Raymond James & Associates, Inc. and Ladenburg Thalmann & Co. Inc., as representatives of the several Underwriters named therein. The Shares, the Firm Warrants and the Option Warrants are to be sold pursuant to the Prospectus Supplement and the base prospectus included in the Registration Statement, dated March 16, 2018 (together with the Prospectus Supplement, the "Prospectus"). The Underwriting Agreement is being filed as an exhibit to a Current Report on Form 8-K and will be incorporated by reference into the Registration Statement.

As to all matters of fact (including factual conclusions and characterizations and descriptions of purpose, intention or other state of mind), we have relied, with your permission, entirely upon written actions by the board of directors of the Company and certificates of certain officers of the Company and have assumed, without independent inquiry, the accuracy of those certificates and written actions by the board of directors of the Company.

As counsel to the Company, in rendering the opinions hereinafter expressed, we have examined and relied upon originals or copies of such corporate records, agreements, documents and instruments as we have deemed necessary or advisable for purposes of this opinion, including (i) the certificate of incorporation and bylaws of the Company, (ii) the Registration Statement and the exhibits thereto filed with the Commission, (iii) the Prospectus, (iv) the Underwriting Agreement, and (v) the written actions of the board of directors referenced above.

We have assumed that any Warrants issued by the Company pursuant to the Registration Statement, the Prospectus Supplement and the Underwriting Agreement will be issued under one or more valid, binding, and enforceable warrant or similar agreement and the certificates for the Warrants will be duly executed and delivered by the Company. We have further assumed that any shares of common stock issued pursuant to

The Firm Warrants or the Option Warrants from time to time will not exceed the maximum number of authorized and unissued shares of common stock then available.

The enforcement of any obligations of the Company may be limited by bankruptcy, insolvency, reorganization, moratorium, marshaling or other laws and rules of law affecting the enforcement generally of creditors' rights and remedies, including, without limitation, fraudulent conveyance and fraudulent transfer laws.

Our opinions are subject to the effects of general principles of equity (whether considered in a proceeding at law or in equity), including but not limited to principles limiting the availability of specific performance or injunctive relief, and concepts of materiality and reasonableness, and the implied duty of good faith and fair dealing.

This opinion is limited solely to the Delaware General Corporation Law without regard to choice of law, to the extent that the same may apply to or govern the transactions contemplated by the Registration Statement. We express no opinion as to the effect of events occurring, circumstances arising, or changes of law becoming effective or occurring, after the date hereof on the matters addressed in this opinion.

Based on such examination and subject to the foregoing, we are of the opinion that:

(a) the Shares, when issued by the Company and delivered by the Company against payment therefor as contemplated by the Underwriting Agreement, will be duly and validly issued, fully paid and non-assessable;

(b) following (i) execution and delivery by the Company of the Firm Warrants and Option Warrants pursuant to the terms of the Underwriting Agreement, (ii) receipt by the Company of the consideration for the Firm Warrants and Option Warrants specified in the resolutions of the Pricing Committee of the Board of Directors, and (iii) exercise of the Firm Warrants and Option Warrants pursuant to their terms, receipt by the Company of the exercise price for the shares of common stock as specified in the Firm Warrants and Option Warrants and issuance for the shares of common stock thereunder, such shares of common stock will be validly issued, fully paid and non-assessable; and

(c) the Firm Warrants and Option Warrants, when the certificates for the applicable Firm Warrants and/or Option Warrants have been duly authorized, executed and delivered by the Company against the payment specified therefor, will be valid and binding obligations of the Company.

We hereby consent to the filing of this opinion with the Commission as an exhibit to the Company's Current Report on Form 8-K filed with the Commission on February 1, 2019 (and its incorporation by reference into the Registration Statement) in accordance with the requirements of Item 601(b)(5) of Regulation S-K promulgated under the Securities Act and to the reference to this firm therein and under the heading "Legal Matters" in the Prospectus Supplement included in the Registration Statement. In giving this consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Act, or the rules and regulations of the Commission thereunder. In rendering this opinion, we are opining only as to the specific legal issues expressly set forth herein, and no opinion shall be inferred as to any other matter or matters. This opinion is intended solely for use in connection with the issuance and sale of the Securities subject to the Registration Statement and is not to be relied upon for any other purpose.

Very truly yours,

/s/ MORGAN, LEWIS & BOCKIUS LLP

MORGAN, LEWIS & BOCKIUS LLP
