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

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**FORM 8-K**

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

**Date of Report: November 4, 2021  
(Date of earliest event reported)**

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**Neoleukin Therapeutics, Inc.**  
(Exact name of registrant as specified in its charter)

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

**001-36327**  
(Commission  
File Number)

**98-0542593**  
(I.R.S. Employer  
Identification No.)

**188 East Blaine Street, Suite 450  
Seattle, Washington 98102**  
(Address of principal executive offices and zip code)

**(866) 245-0312**  
(Registrant's telephone number, including area code)

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Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (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(b) under the Exchange Act (17 CFR 240.14a-12(b))
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

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

<u>Title of each class</u>	<u>Trading Symbol(s)</u>	<u>Name of each exchange on which registered</u>
<b>Common Stock, \$0.000001 par value</b>	<b>NLTX</b>	<b>The Nasdaq Global Market</b>

Emerging growth company

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

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

On November 4, 2021, Neoleukin Therapeutics, Inc. (the “Company”), entered into an ATM Equity Offering Sales Agreement<sup>SM</sup> (the “Sales Agreement”) with BofA Securities, Inc., as agent (“BofA”), pursuant to which the Company may offer and sell, from time to time through BofA, shares of the Company’s common stock, par value \$0.000001 per share (the “Common Stock”), having an aggregate offering price of up to \$40.0 million (the “Shares”).

The offer and sale of the Shares will be made pursuant to a shelf registration statement on Form S-3 and the related prospectus (File No. 333-251294) filed by the Company with the Securities and Exchange Commission (the “SEC”) on December 11, 2020 and declared effective by the SEC on December 21, 2020, as supplemented by a prospectus supplement dated November 4, 2021 and filed with the SEC pursuant to Rule 424(b) under the Securities Act of 1933, as amended (the “Securities Act”).

Pursuant to the Sales Agreement, BofA may sell the Shares by any method permitted by law deemed to be an “at the market offering” as defined in Rule 415 of the Securities Act, including sales made by means of ordinary brokers’ transactions, including on the Nasdaq Global Market, at market prices or as otherwise agreed with BofA. BofA will use commercially reasonable efforts consistent with its normal trading and sales practices to sell the Shares from time to time, based upon instructions from the Company, including any price or size limits or other customary parameters or conditions the Company may impose.

The Company is not obligated to make any sales of the Shares under the Sales Agreement. The offering of Shares pursuant to the Sales Agreement will terminate upon the earliest of (a) the sale of all of the Shares subject to the Sales Agreement or (b) the termination of the Sales Agreement by BofA or the Company, as permitted therein.

The Company will pay BofA a commission rate of up to 3.0% of the aggregate gross proceeds from each sale of Shares and has agreed to provide BofA with customary indemnification and contribution rights. The Company will also reimburse BofA for certain specified expenses in connection with entering into the Sales Agreement. The Sales Agreement contains customary representations and warranties and conditions to the placements of the Shares pursuant thereto.

The foregoing description of the Sales Agreement is not complete and is qualified in its entirety by reference to the full text of such agreement, a copy of which is filed herewith as Exhibit 1.1 to this Current Report on Form 8-K and is incorporated herein by reference. The opinion of the Company’s counsel regarding the validity of the Shares that will be issued pursuant to the Sales Agreement is also filed herewith as Exhibit 5.1.

This Current Report on Form 8-K shall not constitute an offer to sell or the solicitation of an offer to buy the Common Stock discussed herein, nor shall there be any offer, solicitation, or sale of common stock in any state in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state.

**Item 9.01 Financial Statements and Exhibits.**

<b>Exhibit No.</b>	<b>Description</b>
1.1	<a href="#">ATM Equity Offering Sales Agreement, dated November 4, 2021, by and between Neoleukin Therapeutics, Inc. and BofA Securities, Inc.</a>
5.1	<a href="#">Opinion of Fenwick &amp; West LLP.</a>
23.1	<a href="#">Consent of Fenwick &amp; West LLP (contained in Exhibit 5.1).</a>
104	Cover Page Interactive Date File (formatted as InLine XBRL)

**SIGNATURES**

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

Date: November 4, 2021

**Neoleukin Therapeutics, Inc.**

/s/ Robert Ho

Robert Ho

Chief Financial Officer

## Neoleukin Therapeutics, Inc.

Common Stock  
(\$0.000001 par value)

ATM EQUITY OFFERING<sup>SM</sup> SALES AGREEMENT

November 4, 2021

BofA Securities, Inc.  
One Bryant Park  
New York, New York 10036

Ladies and Gentlemen:

Neoleukin Therapeutics, Inc., a Delaware corporation (the "Company"), proposes, subject to the terms and conditions stated herein, to issue and sell from time to time to or through BofA Securities, Inc., as sales agent and/or principal (the "Agent"), shares (the "Shares") of the Company's common stock, \$0.000001 par value (the "Common Stock"), having an aggregate gross sales price not to exceed \$40,000,000, on the terms set forth in this ATM Equity Offering<sup>SM</sup> Sales Agreement. The Company agrees that whenever it determines to sell Shares directly to the Agent as principal it will enter into a separate written Terms Agreement (each, a "Terms Agreement"), in substantially the form of Annex I hereto, relating to such sale in accordance with Section 2(k) hereof. References herein to "this Agreement" or to matters contained "herein" or "hereunder", or words of similar import, mean this ATM Equity Offering<sup>SM</sup> Sales Agreement together with any applicable Terms Agreement.

The Company has prepared and filed with the Securities and Exchange Commission (the "Commission") a shelf registration statement on Form S-3 (File No. 333-251294) covering the public offering and sale of certain securities of the Company, including the Shares, under the Securities Act of 1933, as amended (the "1933 Act") and the rules and regulations promulgated thereunder (the "1933 Act Regulations"), which shelf registration statement was declared effective by the Commission on December 21, 2020. The "Registration Statement", as of any time, means such registration statement in the form then filed with the Commission, as amended by any post-effective amendments thereto at such time, including the exhibits and any schedules thereto at such time, the documents incorporated or deemed to be incorporated by reference therein at such time pursuant to Item 12 of Form S-3 under the 1933 Act and the documents otherwise deemed to be a part thereof as of such time pursuant to Rule 430B of the 1933 Act Regulations ("Rule 430B"); provided, however, that the "Registration Statement" without reference to a time means such registration statement in the form filed with the Commission, as amended by any post-effective amendments thereto as of the time of the first contract of sale for the Shares, which time shall be considered the "new effective date" of the Registration Statement with respect to the Shares within the meaning of paragraph (f)(2) of Rule 430B ("Rule 430B(f)(2)"), including the exhibits and schedules thereto at such time, the documents incorporated or deemed to be incorporated by reference therein at such time pursuant to Item 12 of Form S-3 under the 1933 Act and the documents otherwise deemed to be a part thereof as of such time pursuant to Rule 430B. The base prospectus filed as part of such shelf registration statement, as amended in the form in which it has been filed most recently with the Commission in accordance with Section 3(b) or 3(c) hereof, including the documents incorporated or deemed incorporated by reference therein pursuant to Item 12 of Form S-3 under the 1933 Act, is referred to herein as the "Base Prospectus". Promptly after execution and delivery of this Agreement, the Company will prepare and file a prospectus supplement relating to the Shares in accordance with the provisions of Rule 424(b) of the 1933 Act Regulations ("Rule 424(b)"). Such prospectus supplement, as amended by the prospectus supplement filed most recently with the Commission in accordance with Section 3(b), 3(c) or 3(n) hereof, as the case may be, including the documents incorporated or deemed to be incorporated by reference therein pursuant to Item 12 of Form S-3 under the 1933 Act, is referred to herein as the "Prospectus Supplement". The Base Prospectus, as amended by the Prospectus Supplement and any applicable pricing supplement thereto, in the form the Base Prospectus, the Prospectus Supplement and any such pricing supplement are first furnished to the Agent for use in connection with the offering and sale of Shares, are collectively referred to herein as the "Prospectus." For purposes of this Agreement, all references to the Registration Statement, any preliminary prospectus or the Prospectus or any amendment or supplement thereto shall be deemed to include the copy filed with the Commission pursuant to its Electronic Data Gathering, Analysis and Retrieval system (or any successor system) ("EDGAR").

As used in this Agreement:

“Applicable Time” means, with respect to any offer and sale of Shares, the time immediately prior to the first contract of sale for such Shares, or such other time as agreed by the Company and the Agent.

“Canadian Securities Laws” means the applicable securities laws, regulations, rules, policy statements and prescribed forms, collectively, of British Columbia.

“General Disclosure Package” means each Issuer General Use Free Writing Prospectus, if any, issued prior to the Applicable Time, the most recent Prospectus filed with the Commission in accordance with Section 3(b), 3(c) or 3(n) hereof that is distributed to investors prior to the Applicable Time and the number of Shares and the initial offering price per Share, all considered together.

“Issuer Free Writing Prospectus” means any “issuer free writing prospectus,” as defined in Rule 433 of the 1933 Act Regulations (“Rule 433”), including, without limitation, any “free writing prospectus” (as defined in Rule 405 under the 1933 Act Regulations (“Rule 405”)) relating to the Shares that is (i) required to be filed with the Commission by the Company, (ii) a “road show that is a written communication” within the meaning of Rule 433(d)(8)(i), whether or not required to be filed with the Commission, or (iii) exempt from filing with the Commission pursuant to Rule 433(d)(5)(i) because it contains a description of the Shares or of the offering thereof that does not reflect the final terms, in each case in the form filed or required to be filed with the Commission or, if not required to be filed, in the form retained in the Company’s records pursuant to Rule 433(g).

“Issuer General Use Free Writing Prospectus” means any Issuer Free Writing Prospectus approved by the Agent or, in the case of a specific offer and sale of Shares, the Agent pursuant to Section 3(l) hereof that is furnished to the Agent for general distribution to investors, as evidenced by communications between the Company and the Agent.

“Issuer Limited Use Free Writing Prospectus” means any Issuer Free Writing Prospectus that is not an Issuer General Use Free Writing Prospectus.

“Securities Laws” means, collectively, the Sarbanes-Oxley Act of 2002 (“Sarbanes-Oxley”), the 1933 Act, the 1934 Act (as defined below), the 1933 Act Regulations, the 1934 Act Regulations (as defined below), the Canadian Securities Laws, the auditing principles, rules, standards and practices applicable to auditors of “issuers” (as defined in Sarbanes-Oxley) promulgated or approved by the Public Company Accounting Oversight Board (“PCAOB”) and, as applicable, the rules of The Nasdaq Stock Market LLC.

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

Section 1. Representations and Warranties. The Company represents and warrants to the Agent at the date of this Agreement, each Registration Statement Amendment Date (as defined in Section 3(o) hereof), each Company Periodic Report Date (as defined in Section 3(n) hereof), each Company Earnings Report Date (as defined in Section 3(o) hereof), each Request Date (as defined in Section 3(o) hereof), each Applicable Time and each Settlement Date (as defined in Section 2(h) hereof) (collectively, a “Representation Date”), and agrees with the Agent, as follows:

(i) Compliance of the Registration Statement, the Prospectus and Incorporated Documents. The Company meets the requirements for use of Form S-3 under the 1933 Act. The Registration Statement is a shelf registration statement and the Shares have been and remain eligible for registration by the Company on such shelf registration statement. Each of the Registration Statement and any post-effective amendment thereto has become effective under the 1933 Act. No stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto has been issued under the 1933 Act, no notice of objection of the Commission to the use of the Registration Statement or any post-effective amendment thereto pursuant to Rule 401(g)(1) of the 1933 Act Regulations (“Rule 401(g)(1)”) has been received by the Company, no order preventing or suspending the use of any preliminary prospectus or the Prospectus or any amendment or supplement thereto has been issued and no proceedings for any of those purposes have been instituted or are pending or, to the Company’s knowledge, contemplated. The Company has complied with each request (if any) from the Commission for additional information.

Each of the Registration Statement and any post-effective amendment thereto, at the time of its effectiveness and as of each deemed effective date with respect to the Agent pursuant to Rule 430B(f)(2), complied in all material respects with the requirements of the 1933 Act and the 1933 Act Regulations. Each of any preliminary prospectus and the Prospectus and any amendment or supplement thereto, at the time it was filed with the Commission, complied in all material respects with the requirements of the 1933 Act and the 1933 Act Regulations and is identical to the electronically transmitted copy thereof filed with the Commission pursuant to EDGAR, except to the extent permitted by Regulation S-T.

The documents incorporated or deemed to be incorporated by reference in the Registration Statement, any preliminary prospectus and the Prospectus, when they became effective or at the time they were or hereafter are filed with the Commission, complied and will comply in all material respects with the requirements of the 1934 Act and the 1934 Act Regulations.

(ii) Accurate Disclosure. Neither the Registration Statement nor any amendment thereto, at its effective time or at any Settlement Date, contained, contains or will contain an untrue statement of a material fact or omitted, omits or will omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading. At each Applicable Time, neither (A) the General Disclosure Package nor (B) any individual Issuer Limited Use Free Writing Prospectus, when considered together with the General Disclosure Package, included, includes or will include an untrue statement of a material fact or omitted, omits or will omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. Neither the Prospectus nor any amendment or supplement thereto (including any prospectus wrapper), as of its issue date, at the time of any filing with the Commission pursuant to Rule 424(b) or at any Settlement Date, included, includes or will include an untrue statement of a material fact or omitted, omits or will omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The documents incorporated or deemed to be incorporated by reference in the Registration Statement, the General Disclosure Package and the Prospectus, at the time the Registration Statement became effective or when such documents incorporated by reference were or hereafter are filed with the Commission, as the case may be, when read together with the other information in the Registration Statement, the General Disclosure Package or the Prospectus, as the case may be, did not, do not and will not include an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading. The preceding sentences of this Section 1(i) do not apply to statements in or omissions from any such document based upon written information furnished to the Company by the Agent in writing expressly for use therein.

(iii) Issuer Free Writing Prospectuses. No Issuer Free Writing Prospectus conflicts or will conflict with the information contained in the Registration Statement, any preliminary prospectus or the Prospectus or any amendment or supplement thereto, including any document incorporated by reference therein, that has not been superseded or modified.

(iv) Ineligible Issuer Status. (A) At the earliest time after the filing of the Registration Statement that the Company or another offering participant made a bona fide offer (within the meaning of Rule 164(h)(2) of the 1933 Act Regulations) of the Shares, (B) at the date of this Agreement and any Terms

Agreement and (C) at each Applicable Time, the Company was not and is not an “ineligible issuer,” as defined in Rule 405, including (i) the Company or any subsidiary of the Company in the preceding three years not having been convicted of a felony or misdemeanor or having been made the subject of a judicial or administrative decree or order as described in Rule 405 and (ii) the Company in the preceding three years not having been the subject of a bankruptcy petition or insolvency or similar proceeding, not having had a registration statement be the subject of a proceeding under Section 8 of the 1933 Act and not being the subject of a proceeding under Section 8A of the 1933 Act in connection with the offering of the Shares, all as described in Rule 405.

(v) Good Standing of the Company. The Company has been duly incorporated and is existing and in good standing under the laws of the State of Delaware, with power and authority (corporate and other) to own, lease and operate its properties and conduct its business as described in the General Disclosure Package and the Prospectus and to enter into and perform its obligations under this Agreement; and the Company is duly qualified to do business as a foreign corporation and is in good standing in all other jurisdictions in which its ownership or lease of property or the conduct of its business requires such qualification, except where the failure to be so qualified or in good standing would not, individually or in the aggregate, reasonably be expected to result in a material adverse effect on the condition (financial or otherwise), earnings, results of operations, business, properties, assets, liabilities or prospects of the Company and its subsidiaries taken as a whole (“Material Adverse Effect”).

(vi) Subsidiaries. Each subsidiary of the Company has been duly incorporated or organized, as the case may be, and is validly existing as a corporation, partnership or limited liability company, as applicable, in good standing under the laws of the jurisdiction of its incorporation or organization, with power and authority (corporate and other) to own, lease and operate its properties and conduct its business as described in the General Disclosure Package and the Prospectus; and each subsidiary of the Company is duly qualified to do business as a foreign corporation, partnership or limited liability company, as applicable, to transact business and is in good standing in all other jurisdictions in which its ownership or lease of property or the conduct of its business requires such qualification; all of the issued and outstanding capital stock or other equity or ownership interests of each subsidiary of the Company has been duly authorized and validly issued and is fully paid and nonassessable; and the capital stock of each subsidiary is wholly-owned by the Company, directly or through subsidiaries, free and clear of any security interest, mortgage, pledge, lien, encumbrance, defects or adverse claim. The Company does not own or control, directly or indirectly, any corporation, association or other entity other than the subsidiaries listed in the General Disclosure Package.

(vii) Shares and Capitalization. The Shares and all other outstanding shares of capital stock of the Company have been duly authorized; the authorized equity capitalization of the Company is as set forth in the General Disclosure Package; all outstanding shares of capital stock of the Company are, and, when the Shares have been delivered and paid for in accordance with this Agreement, such Shares will have been, validly issued, fully paid and nonassessable and issued in compliance with all Securities Laws. The Shares are consistent with the information in the General Disclosure Package and conform in all material respects to the description of such Shares contained in the Prospectus. The stockholders of the Company have no preemptive rights with respect to the Shares, rights of first refusal or other similar rights to subscribe or purchase the Shares that have not been duly waived or satisfied; and none of the outstanding shares of capital stock of the Company have been issued in violation of any preemptive or similar rights of any security holder. None of the outstanding shares of capital stock of the Company were issued in violation of any preemptive rights, rights of first refusal or other similar rights to subscribe for or purchase securities of the Company. There are no authorized or outstanding options, warrants, preemptive rights, rights of first refusal or other rights to purchase, or equity or debt securities convertible into or exchangeable or exercisable for, any capital stock of the Company or any of its subsidiaries other than those described in the General Disclosure Package and the Prospectus. The descriptions of the Company’s stock option, stock bonus and other stock plans or arrangements, and the options or other rights granted thereunder, set forth in the General Disclosure Package and the Prospectus accurately and fairly presents the information required to be shown with respect to such plans, arrangements, options and rights.

(viii) No Finder's Fee. Except pursuant to this Agreement, there are no contracts, agreements or understandings between the Company and any person that would give rise to a valid claim against the Company or the Agent for a brokerage commission, finder's fee or other like payment in connection with this offering.

(ix) Registration Rights. Except as disclosed in the General Disclosure Package, there are no contracts, agreements or understandings between the Company and any person granting such person the right to require the Company to file a registration statement under the 1933 Act with respect to any securities of the Company owned or to be owned by such person or to require the Company to include such securities in the securities registered pursuant to the Registration Statement or in any securities being registered pursuant to any other registration statement filed by the Company under the 1933 Act.

(x) Listing. The Shares have been approved for listing on the Nasdaq Global Market ("Nasdaq"), subject to notice of issuance, 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 1934 Act or the listing of the Common Stock (including the Shares) on Nasdaq, nor has the Company received any notification that the Commission or Nasdaq is contemplating terminating such registration or listing.

(xi) Absence of Further Requirements. No consent, approval, authorization, or order of, or filing or registration with, any person (including any governmental agency or body or any court) is required to be obtained or made by or on behalf of the Company for the consummation of the transactions contemplated by this Agreement in connection with the offering, issuance and sale of the Shares by the Company, except such as have been obtained, or made and such as may be required under the Securities Laws.

(xii) Title to Property. The Company and its subsidiaries have good and marketable title to all real and personal properties and all other assets reflected as being owned by the Company and its subsidiaries in the financial statements referred to in Section 1(xxvii) (or described elsewhere in the General Disclosure Package and the Prospectus), in each case, free and clear of any security interests, mortgages, liens, charges, encumbrances, equities, adverse claims and other defects. The Company and its subsidiaries hold any leased real property, improvements, equipment and personal property under valid and enforceable leases, with such exceptions as are not material and do not materially interfere with the use made or to be made thereof by them.

(xiii) Absence of Defaults and Conflicts Resulting from Transaction. The execution, delivery and performance of this Agreement and the issuance and sale of the Shares have been duly authorized by all necessary corporate action and will not result in a breach or violation of any of the terms and provisions of, or constitute a default or a Debt Repayment Triggering Event (as defined below) under, or result in the creation or imposition of any lien, charge or encumbrance upon any property or assets of the Company or any of its subsidiaries pursuant to, (A) the charter, by-laws, partnership agreements or operating agreements or similar organization agreements, as applicable, of the Company or any of its subsidiaries, (B) any statute, rule, regulation or order of any governmental agency or body or any court, domestic or foreign, having jurisdiction over the Company or any of its subsidiaries or any of their properties, or (C) any agreement or instrument to which the Company or any of its subsidiaries is a party or by which the Company or any of its subsidiaries is bound or to which any of the properties of the Company or any of its subsidiaries is subject, except, in the case of each of clauses (A) and (B), where such breach, violation or default would not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Effect; no consent, approval, authorization or other order of, or registration or filing with, any court or other governmental or regulatory authority or agency having jurisdiction over the Company or any of its subsidiaries, is required for the Company's execution, delivery and performance of this Agreement and consummation of the transactions contemplated hereby and by the General Disclosure Package and the Prospectus, except such as have been obtained or made by the Company and are in full force and effect under the 1933 Act, Canadian Securities Laws and such as may be required under applicable state securities or blue sky laws or by the Financial Industry Regulatory Authority, Inc. ("FINRA"); no consent of any other party to any of the agreements or instruments described in clause (C) is required for the Company's execution, delivery and performance of this Agreement and consummation of the transactions contemplated



hereby and by the General Disclosure Package and the Prospectus, except as would not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Effect; 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.

(xiv) Compliance with Laws. The Company and its subsidiaries have been and are in compliance with all applicable laws, rules and regulations, except where failure to be so in compliance would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect.

(xv) Absence of Existing Defaults and Conflicts. Neither the Company nor any of its subsidiaries is in violation of its charter, by-laws, partnership agreement or operating agreement or similar organization documents, as applicable, or is in default (or, with the giving of notice or lapse of time, would be in default) under any indenture, loan agreement, credit agreement, note, lease, license agreement, contract, franchise or other agreement (including, without limitation, any pledge agreement, security agreement, mortgage or other instrument or other agreement evidencing, guaranteeing, securing or relating to indebtedness) to which any of them is a party or by which any of them is bound or to which any of the properties of any of them is subject, except such defaults that would not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Effect.

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

(xvii) Possession of Licenses and Permits. The Company and its subsidiaries (A) possess, and are in compliance with the terms of, all certificates, authorizations, franchises, licenses and permits (“Licenses”), including, without limitation, from the U.S. Food and Drug Administration (“FDA”) and equivalent foreign regulatory authorities, in each case that are necessary or material to the conduct of the business now conducted or proposed in the General Disclosure Package and the Prospectus to be conducted by them, except where failure to so possess or be in compliance with such would not be reasonably expected to have a Material Adverse Effect, and (B) have not received any notice of proceedings relating to the revocation or modification of any Licenses, in each case such that, if determined adversely to the Company or any of its subsidiaries, would individually or in the aggregate have a Material Adverse Effect.

(xviii) Absence of Labor Dispute. No labor dispute with the employees of the Company or any of its subsidiaries or with the employees of any principal supplier, manufacturer, customer or contractor of the Company, exists or, to the knowledge of the Company, is threatened or imminent.

(xix) Intellectual Property. The Company and its subsidiaries own, or have obtained valid and enforceable licenses for, or other rights to use on reasonable terms, the inventions, patent applications, patents, trademarks (both registered and unregistered), trade names, service names, copyrights, know-how (including trade secrets) and other intellectual property described in the General Disclosure Package and the Prospectus as being owned or licensed by them or which are necessary for the conduct of their respective businesses as currently conducted or as proposed to be conducted in the General Disclosure Package or the Prospectus (collectively, “Intellectual Property”). To the Company’s knowledge: (A) there are no third parties who have rights to any Intellectual Property, except for customary reversionary rights or non-commercial rights of third-party licensors with respect to Intellectual Property that is disclosed in the General Disclosure Package or the Prospectus as licensed to the Company or one or more of its subsidiaries; and (B) there is no infringement by third parties of any Intellectual Property. There is no pending or, to the Company’s knowledge, threatened action, suit, proceeding or claim by others: (1) challenging the Company’s or its subsidiaries’ ownership or rights in or to any Intellectual Property, and the Company is unaware of any facts which would form a reasonable basis for any such action, suit, proceeding or claim; (2) challenging the validity, enforceability or scope of any patent owned or licensed by the Company, and the Company is unaware of any facts which would form a reasonable basis for any such action, suit, proceeding or claim, and none of the patents owned or licensed by the Company has been adjudged invalid or unenforceable in whole or in part; or (3) asserting that the Company or any of its

subsidiaries infringes, misappropriates or otherwise violates, or would, upon the commercialization of any product or service described in the Registration Statement, the General Disclosure Package or the Prospectus as under development, infringe, misappropriate, or violate, any patent, trademark, trade name, service name, copyright, trade secret or other proprietary rights of others, and the Company is unaware of any facts which would form a reasonable basis for any such action, suit, proceeding or claim. To the Company's knowledge, there are no material defects in any of the patent applications included in the Intellectual Property. The Company and its subsidiaries have taken all reasonable steps to protect, maintain and safeguard their Intellectual Property, including the execution of appropriate nondisclosure, confidentiality agreements and invention assignment agreements and invention assignments with their employees. None of the Intellectual Property used by the Company or its subsidiaries has been obtained or is being used by the Company or its subsidiaries in violation of any contractual obligation binding on the Company or its subsidiaries or, to the Company's knowledge, upon any of its officers, directors or employees, and the Company is not aware of any facts that it believes would form a reasonable basis for a successful challenge that any of its employees are in or have ever been in violation of any term of any employment contract, patent disclosure agreement, invention assignment agreement, nondisclosure agreement, non-competition agreement, non-solicitation agreement, or any restrictive covenant to or with a former employer where such violation relates to such employee's breach of a confidentiality obligation, obligation to assign to the Intellectual Property, or obligation not to use third party intellectual property or other proprietary rights on behalf of the Company. To the Company's knowledge, there is no prior art material to any patent or patent application of the Intellectual Property that may render any U.S. patent held by the Company invalid or any U.S. patent application held by the Company unpatentable that has not been disclosed to the U.S. Patent and Trademark Office. The Company and its subsidiaries have complied in all material respects with the terms of each agreement pursuant to which Intellectual Property has been licensed and/or assigned to the Company or any subsidiary, and all such agreements are in full force and effect. The product candidates described in the Registration Statement, the General Disclosure Package and the Prospectus as under development by the Company or any subsidiary fall within the scope of the claims of one or more patents or patent applications owned by, or exclusively licensed to, the Company or any subsidiary.

(xx) Environmental Laws. Except as would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect: (A) neither the Company nor any of its subsidiaries is in violation of any federal, state, local or foreign statute, law, rule, regulation, ordinance, code, policy, decision or order of any governmental agency or body or any court relating to the pollution or protection of human health, the environment (including, without limitation, ambient air, surface water, groundwater, land surface or subsurface strata) or wildlife, including, without limitation, laws and regulations relating to the release or threatened release of chemicals, pollutants, contaminants, wastes, toxic substances, hazardous substances, petroleum or petroleum products (collectively, "Hazardous Materials") or to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of Hazardous Materials (collectively, "Environmental Laws"); (B) the Company and its subsidiaries have all permits, authorizations and approvals required under any applicable Environmental Laws and are each in compliance with their requirements; (C) neither the Company nor any of its subsidiaries owns or operates any real property contaminated with any substance that is subject to any environmental laws, is liable for any off-site disposal or contamination pursuant to any environmental laws, or is subject to any claim relating to any environmental laws; and (D) to the Company's knowledge, there are no events or circumstances that might reasonably be expected to form the basis of an order for clean-up or remediation, or an action, suit or proceeding by any private party or governmental body or agency, against or affecting the Company or any of its subsidiaries relating to Hazardous Materials or any Environmental Laws.

(xxi) ERISA Compliance. The Company and its subsidiaries and any "employee benefit plan" (as defined under the Employee Retirement Income Security Act of 1974, as amended, and the regulations and published interpretations thereunder (collectively, "ERISA")) established or maintained by the Company, its subsidiaries or their "ERISA Affiliates" (as defined below) are in compliance, to the extent applicable, in all material respects with ERISA. "ERISA Affiliate" means, with respect to the Company or any of its subsidiaries, any member of any group of organizations described in Sections 414(b), (c), (m) or (o) of the Internal Revenue Code of 1986, as amended, and the regulations and published interpretations thereunder (the "Code") of which the Company or such subsidiary is a member. No "reportable event" (as

defined under 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 under ERISA). Neither the Company, its subsidiaries nor any of their ERISA Affiliates has incurred or reasonably expects to incur any liability under (A) Title IV of ERISA with respect to termination of, or withdrawal from, any “employee benefit plan” or (B) 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, which would cause the loss of such qualification.

(xxii) Absence of Manipulation. The Company has not taken, directly or indirectly, any action that is designed to or that has constituted or that would reasonably be expected to cause or result in the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Shares.

(xxiii) Related-Party Transactions. There are no business relationships or related-party transactions involving the Company or any of its subsidiaries or any other person required to be described in the General Disclosure Package and the Prospectus that have not been described as required.

(xxiv) Statistical and Market-Related Data. Any third-party statistical and market-related data included in the Registration Statement, General Disclosure Package or the Prospectus is based on or derived from sources that the Company believes, after reasonable inquiry, to be reliable and accurate in all material respects. To the extent required, the Company has obtained the written consent to the use of such data from such sources.

(xxv) Internal Controls and Compliance with the Sarbanes-Oxley Act. Except as set forth in the General Disclosure Package and the Prospectus, the Company, its subsidiaries and the Company’s Board of Directors (the “Board”) are in compliance with applicable provisions of Sarbanes-Oxley and all applicable 1934 Act Regulations. The Company maintains a system of internal controls, including, but not limited to, disclosure controls and procedures, internal controls over accounting matters and financial reporting, an internal audit function and legal and regulatory compliance controls (collectively, “Internal Controls”) that comply with the Securities Laws and are sufficient to provide reasonable assurances that (A) transactions are executed in accordance with management’s general or specific authorizations, (B) transactions are recorded as necessary to permit preparation of financial statements in conformity with U.S. General Accepted Accounting Principles (“GAAP”) and to maintain accountability for assets, (C) access to assets is permitted only in accordance with management’s general or specific authorization, (D) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences and (E) the interactive data in eXtensible Business Reporting Language incorporated by reference in the Registration Statement, the General Disclosure Package and the Prospectus fairly presents the information called for in all material respects and is prepared in accordance with the Commission’s rules and guidelines applicable thereto. The Internal Controls are, or upon consummation of the offering of the Shares will be, overseen by the Audit Committee (the “Audit Committee”) of the Board in accordance with 1934 Act Regulations. The Company has not publicly disclosed or reported to the Audit Committee or the Board, and within the next 135 days the Company does not reasonably expect to publicly disclose or report to the Audit Committee or the Board, a significant deficiency, material weakness, change in Internal Controls or fraud involving management or other employees who have a significant role in Internal Controls (each, an “Internal Control Event”), any violation of, or failure to comply with, the Securities Laws, or any matter which, if determined adversely, would have a Material Adverse Effect.

(xxvi) Litigation. There are no pending actions, suits or proceedings (including any inquiries or investigations by any court or governmental agency or body, domestic or foreign) against or affecting the Company, any of its subsidiaries or any of their respective properties that, if determined adversely to the Company or any of its subsidiaries, would individually or in the aggregate have a Material Adverse Effect,

or would materially and adversely affect the ability of the Company to perform its obligations under this Agreement, or which are otherwise material in the context of the sale of the Shares; and no such actions, suits or proceedings (including any inquiries or investigations by any court or governmental agency or body, domestic or foreign) are to the Company's knowledge, threatened or contemplated.

(xxvii) Financial Statements. The financial statements included in the Registration Statement, the General Disclosure Package and the Prospectus present fairly, in all material respects, the financial position of the Company and its consolidated subsidiaries as of the dates shown and their results of operations, changes in stockholders' equity and cash flows for the periods shown, and such financial statements have been prepared in conformity with GAAP applied on a consistent basis throughout the periods involved, except as may be expressly stated in the related notes thereto. No other financial statements or supporting schedules are required to be included in the General Disclosure Package or the Prospectus. To the Company's knowledge, no person who has been suspended or barred from being associated with a registered public accounting firm, or who has failed to comply with any sanction pursuant to Rule 5300 promulgated by the PCAOB, has participated in or otherwise aided the preparation of, or audited, the financial statements, supporting schedules or other financial data filed with the Commission as a part of the General Disclosure Package or the Prospectus. Any pro forma financial statements included in the Registration Statement, the General Disclosure Package and the Prospectus present fairly the information shown therein, have been prepared in accordance with the Commission's rules and guidelines with respect to pro forma financial statements and have been properly compiled on the bases described therein, and the assumptions used in the preparation thereof are reasonable and the adjustments used therein are appropriate to give effect to the transactions and circumstances referred to therein. Except as included therein, no historical or pro forma financial statements or supporting schedules are required to be included or incorporated by reference in the Registration Statement, the General Disclosure Package or the Prospectus under the 1933 Act or the 1933 Act Regulations. The interactive data in eXtensible Business Reporting Language incorporated by reference in the Registration Statement, the General Disclosure Package and the Prospectus fairly presents the information called for in all material respects and has been prepared in accordance with the Commission's rules and guidelines applicable thereto.

(xxviii) No Material Adverse Change in Business. Except as disclosed in the Registration Statement, General Disclosure Package and the Prospectus, since the end of the period covered by the latest audited financial statements included in the Registration Statement, General Disclosure Package and the Prospectus (A) there has been no change, nor any development or event involving a prospective change, in the condition (financial or otherwise), earnings, results of operations, business, properties, operations, assets, liabilities or prospects, whether or not arising from transactions in the ordinary course of business of the Company and its subsidiaries, taken as a whole that constitutes a Material Adverse Effect, (B) the Company and its subsidiaries, considered as one entity, have not incurred any material liability or obligation, indirect, direct or contingent, including without limitation any losses or interference with its business from fire, explosion, flood, earthquakes, accident or other calamity, whether or not covered by insurance, or from any strike, labor dispute or court or governmental action, order or decree, that are material, individually or in the aggregate, to the Company and its subsidiaries, considered as one entity, or has entered into any transactions not in the ordinary course of business; and (C) there has been no material adverse change in the capital stock, short-term indebtedness, long-term indebtedness, net current assets or net assets of the Company and its subsidiaries and there has been no dividend or distribution of any kind declared, paid or made by the Company, except for dividends paid to the Company or other subsidiaries, by any of the Company's subsidiaries on any class of capital stock, or any repurchase or redemption by the Company or any of its subsidiaries of any class of capital stock.

(xxix) Independent Accountants. Deloitte LLP, which has expressed its opinion with respect to certain financial statements (which term as used in this Agreement includes the related notes thereto) filed with the Commission as a part of the Registration Statement, the General Disclosure Package and the Prospectus, is (A) an independent registered public accounting firm as required by the 1933 Act, and the applicable rules and regulations thereunder adopted by the Commission and of the PCAOB and is also independent within the meaning of the Rules of Professional Conduct of the Institute of Chartered Accountants of British Columbia, (B) in compliance with the applicable requirements relating to the qualification of accountants under Rule 2-01 of Regulation S-X under the 1933 Act and (C) a registered

public accounting firm as defined by the PCAOB whose registration has not been suspended or revoked and who has not requested such registration to be withdrawn. Deloitte & Touche LLP, which has expressed its opinion with respect to certain financial statements (which term as used in this Agreement includes the related notes thereto) filed with the Commission as a part of the Registration Statement, the General Disclosure Package and the Prospectus, is (1) an independent registered public accounting firm as required by the 1933 Act, and the applicable rules and regulations thereunder adopted by the Commission and of the PCAOB, (2) in compliance with the applicable requirements relating to the qualification of accountants under Rule 2-01 of Regulation S-X under the 1933 Act and (3) a registered public accounting firm as defined by the PCAOB whose registration has not been suspended or revoked and who has not requested such registration to be withdrawn.

(xxx) Investment Company Act. The Company is not and, after giving effect to the offering and sale of the Shares and the application of the proceeds thereof as described in the General Disclosure Package and the Prospectus, will not be an “investment company” as defined in the Investment Company Act of 1940, as amended.

(xxxii) Ratings. No “nationally recognized statistical rating organization” as such term is defined in Rule 3(a)(62) under the 1934 Act has imposed (or has informed the Company that it is considering imposing) any condition (financial or otherwise) on the Company’s retaining any rating assigned to the Company or any securities of the Company.

(xxxiii) Taxes. The Company and each of its subsidiaries have filed all federal, state, local and foreign income and franchise tax returns required to be filed through the date of this Agreement or have properly requested extensions thereof and have paid all taxes required to be paid thereon (except as currently being contested in good faith and by appropriate proceedings and for which reserves have been created, in conformity with GAAP, in the financial statements of the Company referred to in Section 1(xxvii)).

(xxxiiii) Insurance. The Company and its subsidiaries are insured by insurers of recognized financial responsibility in such amounts as are reasonably prudent and customary for the businesses in which they are engaged; all material policies of insurance and material fidelity or surety bonds insuring the Company or any of its subsidiaries or their respective businesses, assets, employees, officers and directors are in full force and effect; the Company and its subsidiaries are in compliance with the terms of such policies and instruments in all material respects; and there are no material claims by the Company or any of its subsidiaries under any of the Company’s insurance policies or instruments as to which any insurance company is denying liability or defending under a reservation of rights clause; neither the Company nor any such subsidiary has been refused any material insurance coverage sought or applied for; neither the Company nor any such subsidiary has any reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage from similar insurers as may be necessary to continue its business at a cost that would not reasonably be expected to result in a Material Adverse Effect, except as set forth in or contemplated in the General Disclosure Package and the Prospectus.

(xxxv) No Unlawful Contributions or Other Payments. Neither the Company nor any of its subsidiaries nor, to the best of the Company’s knowledge, any employee or agent of the Company or any subsidiary, has made any contribution or other payment to any official of, or candidate for, any federal, state or foreign office in violation of any law or of the character required to be disclosed in the Registration Statement, the General Disclosure Package and the Prospectus.

(xxxvi) Anti-Corruption. Neither the Company nor any of its subsidiaries nor, to the knowledge of the Company, any director, officer, agent, employee, affiliate or other person acting on behalf of the Company or any of its subsidiaries has, in the course of its actions for, or on behalf of, the Company or any of its subsidiaries (A) used any corporate funds for any unlawful contribution, gift, entertainment or other unlawful expenses relating to political activity; (B) made any direct or indirect unlawful payment to any domestic government official, “foreign official” (as defined in the U.S. Foreign Corrupt Practices Act of 1977, as amended, and the rules and regulations thereunder (collectively, the “FCPA”)) or employee from

corporate funds; (C) violated or is in violation of any provision of the FCPA or any other applicable non-U.S. anti-bribery statute or regulation; or (D) made any unlawful bribe, rebate, payoff, influence payment, kickback or other unlawful payment to any domestic government official, such foreign official, foreign public official or employee; and the Company and its subsidiaries and, to the knowledge of the Company, the Company's affiliates have conducted their respective businesses in compliance with the FCPA and have instituted and maintain policies and procedures designed to ensure, and which are reasonably expected to continue to ensure, continued compliance therewith.

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

(xxxvii) Regulatory Matters: Products and Product Candidates. The Company and its subsidiaries (A) have operated and currently operate their respective businesses in compliance in all material respects with all statutes, rules and regulations applicable to the ownership, testing, development, manufacture, packaging, processing, use, distribution, marketing, labeling, promotion, sale, offer for sale, storage, import, export or disposal of any of the Company's product candidates or any product manufactured or distributed by the Company, including, without limitation, the federal Food, Drug and Cosmetic Act (21 U.S.C. §§ 301 et. seq.), the federal Anti-Kickback Statute (42 U.S.C. § 1320a-7b(b)), the Anti-Inducement Law (42 U.S.C. § 1320a-7a(a)(5)), the civil False Claims Act (31 U.S.C. §§ 3729 et seq.), the administrative False Claims Law (42 U.S.C. § 1320a-7b(a)), the exclusion laws (42 U.S.C. § 1320a-7), the Medicare statute (Title XVIII of the Social Security Act), the Medicaid statute (Title XIX of the Social Security Act), the regulations promulgated pursuant to such laws, and any other similar federal, state or local laws (collectively, "Applicable Laws") and have not engaged in activities which are, as applicable, prohibited, cause for civil penalties, or mandatory or permissive exclusion from Medicare, Medicaid, or any other state health care program or federal health care program, (B) have not received any FDA Form 483, written notice of adverse finding, warning letter, untitled letter or other correspondence or notice from any court or arbitrator or governmental or regulatory authority or third party alleging or asserting non-compliance with any Applicable Laws or any licenses, exemptions, certificates, approvals, clearances, authorizations, permits and supplements or amendments thereto required by any such Applicable Laws ("Authorizations"), (C) possess all material Authorizations and such Authorizations are valid and in full force and effect and are not in violation of any term of any such Authorizations, (D) have not received notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from any court or arbitrator or governmental or regulatory authority or third party alleging that any product operation or activity is in violation of any Applicable Laws or Authorizations and have no knowledge that any such court or arbitrator or governmental or regulatory authority or third party is considering any such claim, litigation, arbitration, action, suit, investigation or proceeding, (E) have not received notice that any court or arbitrator or governmental or regulatory authority has taken, is taking or intends to take action to materially limit, suspend, materially modify or revoke any Authorizations and have no knowledge that any such court or arbitrator or governmental or regulatory authority is considering such action, (F) have filed, obtained, maintained or submitted all material reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Applicable Laws or Authorizations and that all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were complete and correct on the date filed in all material respects (or were corrected or supplemented by a subsequent submission), and (G) is not a party to and does not have any ongoing reporting obligations pursuant to any corporate integrity agreement, deferred prosecution agreement, monitoring agreement, consent decree, settlement order, plan of correction or similar agreement imposed by any governmental authority.

(xxxviii) Economic Sanctions. Neither the Company nor any of its subsidiaries nor, to the knowledge of the Company, after due inquiry, any director, officer, agent, employee, affiliate or person acting on behalf 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. Treasury Department (“OFAC”); and the Company will not directly or indirectly use the proceeds of this offering, or lend, contribute or otherwise make available such proceeds to any subsidiary, or any joint venture partner or other person or entity, for the purpose of financing the activities of or business with any person, or in any country or territory, that currently is the subject to any U.S. sanctions administered by OFAC or in any other manner that will result in a violation by any person (including any person participating in the transaction whether as underwriter, advisor, investor or otherwise) of U.S. sanctions administered by OFAC or sanctions imposed.

(xxxix) Forward-Looking Statements. Each financial or operational projection or other “forward-looking statement” (as defined by Section 27A of the 1933 Act or Section 21E of the 1934 Act) contained in the General Disclosure Package (as defined below) and the Prospectus (A) was so included by the Company in good faith and with reasonable basis after due consideration by the Company of the underlying assumptions, estimates and other applicable facts and circumstances and (B) is accompanied by meaningful cautionary statements identifying those factors that could cause actual results to differ materially from those in such forward-looking statement. No such statement was made with the knowledge of an executive officer or director of the Company that it was false or misleading.

(xl) Regulatory Matters: Manufacturing. To the Company’s knowledge, the manufacturing facilities and operations of its suppliers are operated in compliance in all material respects with all applicable statutes, rules, regulations and policies of the FDA or from any other federal, state, local or foreign health-care related regulatory agency or drug regulatory agency, or Institutional Review Board (collectively, the “Regulatory Authorities”).

(xli) Regulatory Matters: Clinical Trials. None of the Company’s product candidates have received marketing approval from any Regulatory Authority. All clinical and preclinical studies and trials conducted by or on behalf of or sponsored by the Company or its subsidiaries, or in which the Company or its subsidiaries participated, with respect to the Company’s product candidates, including any such studies and trials that are described in the Registration Statement, the General Disclosure Package and the Prospectus, or the results of which are referred to in the Registration Statement, the General Disclosure Package and the Prospectus, as applicable (collectively, “Company Trials”), were, and if still pending are, being conducted in all material respects in accordance with the protocols, procedures and controls designed and approved for such studies and with all applicable statutes, rules, regulations and policies of the Regulatory Authorities and current good clinical practices and good laboratory practices, standard medical and scientific research procedures and any applicable rules, regulations and policies of the jurisdiction in which such trials and studies are being conducted; the descriptions in the Registration Statement, the General Disclosure Package and the Prospectus of the results of any Company Trials are accurate and complete descriptions in all material respects and fairly present the data derived therefrom; the Company and its subsidiaries have no knowledge of any other studies or trials not described in the Registration Statement, the General Disclosure Package and the Prospectus, the results of which are inconsistent with or call into question the results described or referred to in the Registration Statement, the General Disclosure Package and the Prospectus; the Company and its subsidiaries have operated at all times and are currently in compliance in all material respects with all applicable statutes, rules, regulations and policies of the Regulatory Authorities; neither the Company nor its subsidiaries have received, nor does the Company or its subsidiaries have knowledge after due inquiry that any of its collaboration partners has received, any written notices, correspondence or other communications from the Regulatory Authorities or any other governmental agency requiring or threatening the termination, material modification or suspension of Company Trials, and, to the Company’s and its subsidiaries’ knowledge, there are no reasonable grounds for the same. The Company and its subsidiaries have obtained (or caused to be obtained) informed consent by or on behalf of each human subject who participated in a Company Trial. In using or disclosing patient information received by the Company or its subsidiaries in connection with a Company Trial, the Company and its subsidiaries have complied in all material respects with all applicable laws and regulatory rules or requirements, including, without limitation, the Health Insurance Portability and Accountability Act of 1996 and the rules and regulations thereunder. To the Company’s knowledge, none of the Company Trials involved any investigator who has been disqualified as a clinical investigator or has been found by the FDA to have engaged in scientific misconduct.

(xlii) No Contract Terminations. Neither the Company nor any of its subsidiaries has sent or received any communication regarding termination of, or intent not to renew, any of the contracts or agreements referred to or described in any preliminary prospectus, the Prospectus or any free writing prospectus, or referred to or described in, or filed as an exhibit to, the Registration Statement, and no such termination or non-renewal has been threatened by the Company or any of its subsidiaries or, to the Company's knowledge, any other party to any such contract or agreement, which threat of termination or non-renewal has not been rescinded as of the date hereof.

(xliii) Dividend Restrictions. No subsidiary of the Company is prohibited or restricted, directly or indirectly, from paying dividends to the Company, or from making any other distribution with respect to such subsidiary's equity securities or from repaying to the Company or any other subsidiary of the Company any amounts that may from time to time become due under any loans or advances to such subsidiary from the Company or from transferring any property or assets to the Company or to any other subsidiary.

Any certificate signed by any officer or other authorized signatory of the Company and delivered to the Agent or to counsel for the Agent shall be deemed a representation and warranty by the Company to the Agent as to the matters covered thereby.

## Section 2. Sale and Delivery of Shares.

(a) Subject to the terms and conditions set forth herein, the Company agrees to issue and sell Shares through the Agent acting as sales agent or directly to the Agent acting as principal from time to time. Sales of the Shares, if any, through the Agent acting as sales agent will be made by means of transactions that are deemed to be "at-the-market" offerings as defined in Rule 415 of the 1933 Act Regulations, including ordinary brokers' transactions on Nasdaq or otherwise at market prices prevailing at the time of sale, at prices related to prevailing market prices or at negotiated prices. Sales of the Shares, if any, directly to the Agent acting as principal will be made in accordance with Section 2(k) hereof.

(b) The Shares are to be sold to the Agent on an agented basis on any day (other than a day on which Nasdaq is scheduled to close prior to its regular weekday closing time) (each, a "Trading Day") on which (i) the Company has instructed the Agent to make such sales and (ii) the Company has satisfied its covenants and conditions specified in Sections 4 and 5 hereof. On any Trading Day, the Company may sell Shares through the Agent and, if it determines to do so, shall instruct the Agent by telephone (confirmed promptly by telecopy or email, which confirmation will be promptly acknowledged by the Agent) as to the maximum number of Shares to be sold on such Trading Day and the minimum price per Share at which such Shares may be sold. Subject to the terms and conditions specified herein (including, without limitation, the accuracy of the representations and warranties of the Company and the performance by the Company of its covenants and other obligations, contained herein and the satisfaction of the additional conditions specified in Section 5 hereof), the Agent shall use its commercially reasonable efforts, consistent with its normal trading and sales practices and applicable law and regulations, to sell all of the Shares so designated by the Company as sales agent in accordance with such instruction. The Company and the Agent each acknowledge and agree that (A) there can be no assurance that the Agent will be successful in selling any Shares and (B) the Agent will not incur any liability or obligation to the Company if it fails to sell Shares for any reason other than a failure to use its commercially reasonable efforts, consistent with its normal trading and sales practices and applicable law and regulations, to sell such Shares as required by this Agreement.

(c) The Company or the Agent may, upon notice to the other party hereto by telephone (confirmed promptly by telecopy or email, which confirmation will be promptly acknowledged by the receiving party), suspend the offering of Shares for any reason and at any time; provided, however, that such suspension shall not affect or impair the parties' respective obligations with respect to the Shares sold, or with respect to Shares that the Company has agreed to sell, hereunder prior to the giving of such notice.



(d) The gross sales price of any Shares sold pursuant to this Agreement by the Agent acting as sales agent of the Company shall be equal to, in the discretion of the Agent but subject to the specific instructions of the Company, the market price prevailing at the time of sale for the Shares sold by the Agent on Nasdaq or otherwise, at prices related to prevailing market prices or at negotiated prices. The compensation payable to the Agent for sales of Shares shall be up to 3.00% of the gross sales price for such Shares. The remaining proceeds, after further deduction for any transaction fees, transfer taxes or similar taxes or fees imposed by any Governmental Entity or self-regulatory organization in respect of such sales, shall constitute the net proceeds to the Company for such sales (the “Net Proceeds”). The Agent shall notify the Company as promptly as practicable if any deduction referenced in the preceding sentence will be made. Notwithstanding the foregoing, in the event the Company engages the Agent as sales agent for the sale of Shares that would constitute a “distribution” within the meaning of Rule 100 of Regulation M under the 1934 Act, the Company and the Agent will agree to compensation for the Agent that is customary for such sales.

(e) The Agent shall provide written confirmation to the Company following the close of trading on Nasdaq on each Trading Day on which Shares are sold under this Agreement setting forth (i) the number of Shares sold on such day, (ii) the aggregate gross sales proceeds of the Shares, (iii) the aggregate Net Proceeds to the Company and (iv) the aggregate compensation payable by the Company to the Agent with respect to such sales.

(f) Under no circumstances shall the aggregate gross sales price or number, as the case may be, of Shares offered or sold pursuant to this Agreement, or which are the subject of instructions to the Agent as sales agent pursuant to Section 2(b) hereof, exceed the aggregate gross sales price or number, as the case may be, of Shares (i) referred to in the preamble paragraph of this Agreement, as reduced by prior sales of Shares under this Agreement, (ii) available for sale under the Registration Statement or (iii) duly authorized from time to time to be issued and sold under this Agreement by the Company or approved for listing on Nasdaq, and, in each case referred to in clause (ii) and (iii), notified to the Agent in writing. In addition, under no circumstances shall any Shares be offered or sold, or be the subject of instructions to the Agent as sales agent pursuant to Section 2(b) hereof, at a price lower than the minimum price therefor duly authorized from time to time by the Company and notified to the Agent in writing. The Agent shall have no responsibility for maintaining records with respect to Shares available for sale under the Registration Statement or for determining the aggregate gross sales price, number or minimum price of Shares duly authorized by the Company.

(g) If the exemptive provisions set forth in Rule 101(c)(1) of Regulation M under the 1934 Act are not satisfied with respect to the Company or the Shares, the Company shall promptly notify the Agent and future offers and sales of Shares through the Agent on an agent basis under Agreement shall be suspended until that or other exemptive provisions have been satisfied in the judgment of each party. If the exemptive provisions set forth in Rule 101(c)(1) of Regulation M under the 1934 Act become satisfied with respect to the Company or the Shares, the Company shall promptly notify the Agent.

(h) Settlement for sales of Shares will occur on the second business day that is also a Trading Day following the trade date on which such sales are made, unless another date shall be agreed to in writing by the Company and the Agent (each such day, a “Settlement Date”). On each Settlement Date for the sale of Shares through the Agent as sales agent, such Shares shall be delivered by the Company to the Agent in book-entry form to the Agent’s account at The Depository Trust Company against payment by the Agent of the Net Proceeds from the sale of such Shares in same day funds delivered to an account designated by the Company. If the Company shall default on its obligation to deliver Shares through the Agent as sales agent on any Settlement Date, the Company shall (i) indemnify and hold the Agent harmless against any loss, claim or damage arising from or as a result of such default by the Company and (ii) pay the Agent any commission to which it would otherwise be entitled absent such default.

(i) Notwithstanding any other provision of this Agreement, the Company shall not offer or sell, or instruct the Agent to offer or sell, any Shares through the Agent as sales agent (and, by notice to the Agent given by telephone (confirmed promptly by telecopy or email), shall cancel any instructions for any such offer or sale of any Shares prior to the commencement of the periods referenced below), and the Agent shall not be obligated to make any such offer or sale of Shares, (i) during any period in which the Company is, or could be deemed to be, in possession of material non-public information or (ii) except as provided in Section 2(j) hereof, at any time during the period commencing on the 10<sup>th</sup> business day prior to the time the Company issues a press release containing, or shall

otherwise publicly announce, its earnings, revenues or other operating results for a fiscal period or periods (each, an “Earnings Announcement”) through and including the time that is 24 hours after the time that the Company files a Quarterly Report on Form 10-Q or an Annual Report on Form 10-K (a “Filing Time”) that includes consolidated financial statements as of and for the same fiscal period or periods, as the case may be, covered by such Earnings Announcement.

(j) Notwithstanding clause (ii) of Section 2(i) hereof, if the Company wishes to offer or sell Shares to the Agent as sales agent at any time during the period from and including an Earnings Announcement through and including the corresponding Filing Time, the Company shall first (i) prepare and deliver to the Agent (with a copy to counsel for the Agent) a Current Report on Form 8-K that includes substantially the same financial and related information (together with management’s discussion and analysis thereof) that was included in such Earnings Announcement (other than any earnings projections and similar forward-looking data and officers’ quotations) (each, an “Earnings 8-K”), in form and substance reasonably satisfactory to the Agent, and, prior to its filing, obtain the written consent of the Agent to such filing (which consent shall not be unreasonably withheld), (ii) provide the Agent with the officers’ certificate, opinions and letters of counsel and accountants’ letter specified in Section 3(o), (p) and (q), respectively, hereof, (iii) afford the Agent the opportunity to conduct a due diligence review in accordance with Section 3(u) hereof prior to filing such Earnings 8-K and (iv) file such Earnings 8-K with the Commission. For purposes of clarity, the parties hereto agree that (A) the delivery of any officers’ certificate, opinion or letter of counsel or accountants’ letter pursuant to this Section 2(j) shall not relieve the Company from any of its obligations under this Agreement with respect to any Quarterly Report on Form 10-Q or Annual Report on Form 10-K, as the case may be, including, without limitation, the obligation to deliver officers’ certificates, opinions and letters of counsel and accountants’ letters as provided in Section 3(o), (p) and (q), respectively, hereof, and (B) this Section 2(j) shall in no way affect or limit the operation of clause (i) of Section 2(i) hereof, which shall have independent application.

(k) The Agent shall not have any obligation to purchase Shares as principal, whether from the Company or otherwise, unless the Company and the Agent agree as set forth below. Shares purchased from the Company by the Agent as principal shall be made in accordance with terms agreed upon between the Agent and the Company as evidenced by a Terms Agreement. The Agent’s commitment to purchase Shares from the Company as principal shall be deemed to have been made on the basis of the accuracy of the representations and warranties of the Company, and performance by the Company of its covenants and other obligations, herein contained and shall be subject to the terms and conditions herein set forth. At the time of each Terms Agreement, the Agent shall specify the requirements, if any, for the officers’ certificate, opinions and letters of counsel and accountants’ letter pursuant to Section 3(o), (p) and (q), respectively, hereof. In the event of a conflict between the terms of this Agreement and a Terms Agreement, the terms of such Terms Agreement shall control.

Section 3. Covenants. The Company agrees with the Agent:

(a) *Compliance with Securities Regulations and Commission Requests*. The Company, subject to Sections 3(b) and 3(c) hereof, will use its commercially reasonable efforts to comply with the requirements of Rule 430B, and will promptly notify the Agent, and confirm the notice in writing, (i) when any post-effective amendment to the Registration Statement or any new registration statement relating to the Shares shall become effective or any amendment or supplement to the Prospectus shall have been filed (other than an amendment or supplement providing solely for the determination of the terms of an offering of securities unless related to an offering of Shares), (ii) of the receipt of any comments from the Commission, (iii) of any request by the Commission for any amendment to the Registration Statement or any amendment or supplement to the Prospectus, including any document incorporated by reference therein, or for additional information, (iv) of the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto or any notice of objection to the use of the Registration Statement or any post-effective amendment thereto pursuant to Rule 401(g)(1) or of the issuance of any order preventing or suspending the use of any preliminary prospectus or the Prospectus or any amendment or supplement thereto, or of the suspension of the qualification of any Shares for offering or sale in any jurisdiction, or of the initiation or threatening of any proceedings for any of such purposes or of any examination pursuant to Section 8(d) or 8(e) of the 1933 Act concerning the Registration Statement and (v) if the Company becomes the subject of a proceeding under Section 8A of the 1933 Act in connection with any offering of Shares. In connection with a Terms Agreement, the Company will prepare and file with the Commission, subject to Section 3(c) hereof, a pricing supplement with respect to the offer and sale of Shares covered by such Terms

Agreement. The Company will effect all filings required under Rule 424(b), in the manner and within the time period required by Rule 424(b) (without reliance on Rule 424(b)(8)), and will take such steps as it deems necessary to ascertain promptly whether the form of prospectus transmitted for filing under Rule 424(b) was received for filing by the Commission and, in the event that it was not, it will promptly file such prospectus. The Company will make every reasonable effort to prevent the issuance of any stop, prevention or suspension order and, if any such order is issued, to obtain the lifting thereof at the earliest possible moment. In the event of any issuance of a notice of objection, by the Commission, the Company shall take all necessary action to permit offers and sales of Shares by or through the Agent, including, without limitation, amending the Registration Statement or filing a new shelf registration statement relating thereto. The Company shall pay the required Commission filing fees relating to the Shares prior to the time the initial Prospectus Supplement is filed with the Commission or the time any subsequent Prospectus Supplement that increases the gross offering price or number of Shares that may offered and sold under this Agreement from that referenced in the immediately preceding Prospectus Supplement filed with the Commission.

(b) *Continued Compliance with Securities Laws.* The Company will use its commercially reasonable efforts to comply with the 1933 Act, the 1933 Act Regulations, the 1934 Act and the 1934 Act Regulations so as to permit the completion of sales of Shares as contemplated in this Agreement and in the Registration Statement, the General Disclosure Package and the Prospectus. If any event shall occur or condition shall exist as a result of which it is necessary, in the opinion of counsel for the Agent or counsel to the Company, to (i) amend the Registration Statement in order that the Registration Statement will not include an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading, (ii) amend or supplement the General Disclosure Package or the Prospectus in order that the General Disclosure Package or the Prospectus, as the case may be, will not include any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein not misleading in the light of the circumstances existing at the time it is delivered to a purchaser or (iii) amend the Registration Statement or amend or supplement the General Disclosure Package or the Prospectus, as the case may be, including, without limitation, the filing of any document incorporated by reference therein, in order to comply with the requirements of the 1933 Act, the 1933 Act Regulations, the 1934 Act or the 1934 Act Regulations, the Company will promptly (A) give the Agent written notice of such event or condition, (B) prepare any amendment or supplement as may be necessary to correct such statement or omission or to comply with such requirements and, a reasonable amount of time prior to any proposed filing or use, furnish the Agent with copies of any such amendment or supplement and (C) file with the Commission any such amendment or supplement and use its commercially reasonable efforts to have any amendment to the Registration Statement declared effective by the Commission; provided, however, that, during the period in which there is any sales instruction pending under this Agreement, the Company shall not file or use any such amendment or supplement to which the Agent or counsel for the Agent shall reasonably object.

(c) *Filing or Use of Amendments and Supplements.* The Company will give the Agent written notice of its intention to file or use (i) any amendment to the Registration Statement or any amendment or supplement to the General Disclosure Package or the Prospectus (other than an amendment or supplement thereto relating solely to the offering of securities unless related to an offering of Shares), whether pursuant to the 1933 Act, the 1934 Act or otherwise, (ii) any new Prospectus Supplement that includes information in addition to the information referred to in Section 3(n) hereof or (iii) a pricing supplement disclosing the offer and sale of Shares covered by a Terms Agreement, will furnish the Agent with copies of any such document a reasonable amount of time prior to such proposed filing or use, as the case may be, and will not file or use any such document to which the Agent or counsel for the Agent shall reasonably object.

(d) *Delivery of Registration Statements.* The Company has furnished or will deliver to the Agent and counsel for the Agent, without charge, signed copies of the Registration Statement as originally filed and each amendment thereto (including exhibits filed therewith or incorporated by reference therein and documents incorporated or deemed to be incorporated by reference therein) and signed copies of all consents and certificates of experts; provided, however that the Company shall not be required to furnish any document to the Agent or its counsel to the extent such document is available on EDGAR.

(e) *Delivery of Prospectuses.* The Company will furnish to the Agent or, in the case of an offer and sale of Shares to the Agent as principal, without charge, upon execution of this Agreement and thereafter during the period in which a prospectus is (or, but for the exception afforded by Rule 172 of the 1933 Act Regulations (“Rule”

172”) would be) required by the 1933 Act to be delivered in connection with any offer or sale of Shares, such number of copies of the Prospectus (as amended or supplemented) as the Agent may reasonably request. The Company will also furnish, upon request of the Agent, copies of the Prospectus (as amended or supplemented) to each exchange or market on which sales of Shares were made as may be required by the rules and regulations of such exchange or market. The Prospectus and any amendments or supplements thereto furnished in accordance with this Section 3(e) will be identical to the electronically transmitted copies thereof filed with the Commission pursuant to EDGAR, except to the extent permitted by Regulation S-T.

(f) *Reporting Requirements.* The Company, during the period in which a prospectus is (or, but for the exception afforded by Rule 172, would be) required by the 1933 Act to be delivered in connection with any offer or sale of Shares, will file all documents required to be filed with the Commission pursuant to the 1934 Act within the time periods prescribed by, and meeting the requirements of, the 1934 Act and the 1934 Act Regulations. Additionally, the Company shall report the use of the net proceeds from the sale of any Shares as may be required under the 1933 Act and the 1933 Act Regulations, including, if applicable, Rule 463 of the 1933 Act Regulations.

(g) *Blue Sky Qualifications.* The Company will use its reasonable best efforts, in cooperation with the Agent or, in the case of an offer and sale of Shares to the Agent as principal, to qualify the Shares for offering and sale under the applicable securities laws of such states and non-U.S. jurisdictions as the Agent may, from time to time, designate and to maintain such qualifications in effect so long as required to complete the sale of the Shares contemplated by this Agreement; provided, however, that the Company shall not be obligated to file any general consent to service of process or to qualify as a foreign corporation or as a dealer in securities in any jurisdiction in which it is not so qualified or to subject itself to taxation in respect of doing business in any jurisdiction in which it is not otherwise so subject.

(h) *Earnings Statement.* The Company will timely file such reports pursuant to the 1934 Act as are necessary in order to make generally available to its securityholders as soon as practicable an earnings statement for the purposes of, and to provide to the Agent the benefits contemplated by, the last paragraph of Section 11(a) of the 1933 Act.

(i) *Use of Proceeds.* The Company will use the net proceeds received by it from the sale of the Shares pursuant to this Agreement in the manner specified in the Registration Statement, the General Disclosure Package and the Prospectus under “Use of Proceeds.”

(j) *Listing.* The Company will use its reasonable best efforts to effect and maintain the listing of the Shares on, and satisfy the requirements of, Nasdaq.

(k) *Notice of Certain Actions.* During the period beginning on the commencement of an offering of Shares under this Agreement and ending on the applicable Settlement Date, the Company will not, without the prior written consent of the Agent, unless it gives the Agent at least three business days’ prior written notice, (i) directly or indirectly offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase or otherwise transfer or dispose of any shares of Common Stock or any securities convertible into or exercisable or exchangeable for shares of Common Stock or file any registration statement under the 1933 Act with respect to any of the foregoing or (ii) enter into any swap or any other agreement or transaction that transfers, in whole or in part, directly or indirectly, the economic consequence of ownership of the Common Stock, whether any such swap, agreement or transaction described in clause (i) or (ii) above is to be settled by delivery of Common Stock or such other securities, in cash or otherwise. The foregoing sentence shall not apply to (A) the Shares to be sold hereunder, (B) any shares of Common Stock issued by the Company upon the exercise of an option or warrant or the conversion of a security outstanding on the date hereof and referred to in the Registration Statement, the General Disclosure Package and the Prospectus, (C) any shares of Common Stock issued or options to purchase Common Stock or restricted stock units granted pursuant to existing employee benefit plans of the Company referred to in the Registration Statement, the General Disclosure Package and the Prospectus, (D) any shares of Common Stock issued or options to purchase shares of Common Stock or restricted stock units granted pursuant to any non-employee director stock plan or dividend reinvestment plan referred to in the Registration Statement, the General Disclosure Package and the Prospectus or (E) any shares of Common Stock, or securities convertible into or exercisable for Common Stock, offered and sold in privately negotiated transactions to vendors, customers, strategic partners or potential strategic partners or other investors

conducted in a manner so as not to be integrated with the offering of Shares hereby; provided, that the aggregate number of shares of Common Stock issued under this clause (E) shall not exceed five percent (5%) of the number of shares of Common Stock outstanding immediately prior to giving effect to such issuance. Upon receipt of any written notice contemplated above, the Agent may suspend its activity under this Agreement for such period of time as deemed reasonably appropriate by the Agent.

(l) *Issuer Free Writing Prospectuses.* The Company agrees that, unless it obtains the prior written consent of the Agent, it will not make any offer relating to the Shares that would constitute an Issuer Free Writing Prospectus or that would otherwise constitute a “free writing prospectus,” or a portion thereof, required to be filed by the Company with the Commission or retained by the Company under Rule 433. The Company represents that it has treated or agrees that it will treat each such free writing prospectus consented to by the Agent as an “issuer free writing prospectus,” as defined in Rule 433, and that it will comply with the applicable requirements of Rule 433 with respect thereto, including timely filing with the Commission where required, legending and record keeping. If at any time following issuance of an Issuer Free Writing Prospectus any event shall occur or condition shall exist as a result of which such Issuer Free Writing Prospectus conflicted or would conflict with the information contained in the Registration Statement, any preliminary prospectus or the Prospectus or included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances existing at that subsequent time, not misleading, the Company will promptly notify the Agent and will promptly amend or supplement, at its own expense, such Issuer Free Writing Prospectus to eliminate or correct such conflict, untrue statement or omission.

(m) *No Stabilization or Manipulation.* The Company agrees that neither it nor any affiliate of the Company will take, directly or indirectly, any action which is designed, or would be expected, to cause or result in, or which constitutes, the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of any Shares or to result in a violation of Regulation M under the 1934 Act.

(n) *Update of Activity under this Agreement.* The Company shall disclose (i) in each Annual Report on Form 10-K or Quarterly Report on Form 10-Q filed by the Company in respect of any fiscal quarterly period (which, in the case of an Annual Report on Form 10-K, would mean the last quarterly period of the fiscal year) in which sales of Shares were made by or through the Agent under this Agreement (each date on which any such document or amendment thereto is filed, a “Company Periodic Report Date”), or (ii) to the extent required by applicable law and/or interpretations of the Commission, in Prospectus Supplements for each such fiscal quarterly period, the number of Shares sold by or through the Agent under this Agreement during such fiscal quarterly period, the net proceeds received by the Company and the aggregate compensation paid by the Company to the Agent with respect to such sales.

(o) *Delivery of Future Officers’ Certificates.* Upon commencement of the offering of Shares under this Agreement, (A) each time Shares are delivered to the Agent as principal on a Settlement Date, (B) promptly after each (i) date on which the Registration Statement shall be amended or a new registration statement relating to the Shares shall become effective or the Prospectus shall be amended or supplemented (other than (1) by an amendment or supplement providing solely for the determination of the terms of securities, including the Shares, (2) in connection with the filing of a Prospectus Supplement that contains solely the information referred to in Section 3(n) hereof, or (3) in connection with the filing of any Current Report on Form 8-K (other than an Earnings 8-K and any other Current Report on Form 8-K which contains financial statements, supporting schedules or other financial data, including any Current Report on Form 8-K under Item 2.02 of such form that is considered “filed” under the 1934 Act) (each such date, a “Registration Statement Amendment Date”), (ii) date on which an Earnings 8-K shall be filed with the Commission as contemplated by Section 2(j) hereof (a “Company Earnings Report Date”) and (iii) Company Periodic Report Date, and (C) promptly after each reasonable request by the Agent (each date of any such request by the Agent, a “Request Date”), the Company will furnish or cause to be furnished to the Agent an officers’ certificate, dated such Settlement Date, such Registration Statement Amendment Date, such Company Earnings Report Date, such Company Periodic Report Date or such Request Date, as the case may be, in form and substance reasonably satisfactory to the Agent, to the effect that the statements contained in the officers’ certificate referred to in Section 5(e) hereof that was last furnished to the Agent are true and correct as of the date of such certificate as though made at and as of the date of such certificate (except that such statements shall be deemed to relate to the Registration Statement, the General Disclosure Package and the Prospectus as amended and supplemented at the date of such certificate) or, in lieu of such certificate, a certificate of the same tenor as the certificate referred to in

Section 5(e) hereof that, but modified as necessary to relate to the Registration Statement, the General Disclosure Package and the Prospectus as amended and supplemented at the date of such certificate. As used in this Section 3(o), to the extent there shall be a sale of Shares on or following any Registration Statement Amendment Date, Company Earnings Report Date, Company Periodic Report Date or Request Date, “promptly” shall be deemed to be at or prior to the Applicable Time for such sale.

(p) *Delivery of Future Opinions and Letters of Counsel.* Upon commencement of the offering of Shares under this Agreement, (A) each time Shares are delivered to the Agent as principal on a Settlement Date and (B) promptly after each Registration Statement Amendment Date, Company Earnings Report Date, Company Periodic Report Date or Request Date, the Company will furnish or cause to be furnished to the Agent the written opinions and letters of counsel to the Company (who shall be reasonably acceptable to the Agent) and counsel to the Agent, dated such Settlement Date, such Registration Statement Amendment Date, such Company Earnings Report Date, such Company Periodic Report Date or such Request Date, as the case may be, in form and substance reasonably satisfactory to the Agent, of the same tenor as the respective opinions and letters referred to in Section 5(b) and 5(c), as applicable, hereof but modified as necessary to relate to the Registration Statement, the General Disclosure Package and the Prospectus as amended and supplemented to the date of such opinion and letter or, in lieu of any such opinion and letter, counsel last furnishing such opinion and letter to the Agent shall furnish the Agent with a letter substantially to the effect that the Agent may rely on such counsel’s last opinion and letter to the same extent as though each were dated the date of such letter authorizing reliance (except that statements in such last opinion and letter shall be deemed to relate to the Registration Statement, the General Disclosure Package and the Prospectus as amended and supplemented to the date of such letter authorizing reliance). Notwithstanding anything to the contrary contained herein, the Company will only be required to deliver the written legal opinion of its intellectual property counsel referred to in Section 5(c)(ii) upon commencement of the offering of Shares under this Agreement and thereafter annually at the time of the filing of the Company’s Annual Report on Form 10-K. As used in this Section 3(p), to the extent there shall be a sale of Shares on or following any Registration Statement Amendment Date, Company Earnings Report Date, Company Periodic Report Date or Request Date, “promptly” shall be deemed to be at or prior to the Applicable Time for such sale.

(q) *Delivery of Future Accountants’ Letters.* Upon commencement of the offering of Shares under this Agreement, (A) each time Shares are delivered to the Agent as principal on a Settlement Date and (B) promptly after each Registration Statement Amendment Date, Company Earnings Report Date, Company Periodic Report Date or Request Date, the Company will cause its independent accountants to furnish to the Agent a letter, dated such Settlement Date, such Registration Statement Amendment Date, such Company Earnings Report Date, such Company Periodic Report Date or such Request Date, as the case may be, in form and substance reasonably satisfactory to the Agent of the same tenor as the letter referred to in Section 5(d) hereof but modified as necessary to relate to the Registration Statement, the General Disclosure Package and the Prospectus as amended and supplemented to the date of such letter. As used in this paragraph, to the extent there shall be a sale of Shares on or following any Registration Statement Amendment Date, Company Earnings Report Date, Company Periodic Report Date or Request Date, “promptly” shall be deemed to be at or prior to the Applicable Time for such sale.

(r) *Waiver of Future Delivery Obligations.* The Company may notify the Agent by telephone (confirmed promptly by telecopy or email), or by such other method as the Company and the Agent shall mutually agree in writing, at any time until 5:00 p.m., New York City time, on the second business day preceding any Registration Statement Amendment Date, Company Earnings Report Date, Company Periodic Report Date (other than the Company Periodic Report Date relating to the date of filing of the Company’s Annual Report on Form 10-K) or Request Date that it does not intend to sell Shares under this Agreement for the period commencing on such Registration Statement Amendment Date, Company Earnings Report Date, Company Periodic Report Date or Request Date and continuing until the next succeeding Registration Statement Amendment Date, Company Earnings Report Date, Company Periodic Report Date or Request Date. If the Company shall have provided such notice, the requirements to provide the certificate pursuant to Section 3(o) hereof, legal opinions and negative assurance letters, as the case may be, pursuant to Section 3(p) hereof, and a letter or letters from accountants pursuant to Section 3(q) hereof shall be waived in respect of such Registration Statement Amendment Date, Company Earnings Report Date, Company Periodic Report Date or Request Date; provided, however, that the Company may subsequently notify the Agent that it does intend to sell Shares under this Agreement during the period between such Registration Statement Amendment Date, Company Earnings Date, Company Periodic Report Date or Request Date and the next succeeding Registration Statement Amendment Date, Company Earnings Report Date, Company Periodic Report

Date or Request Date, in which case the Company shall be required to provide the certificate pursuant to Section 3(o) hereof, legal opinions and negative assurance letters, as the case may be, pursuant to Section 3(p) hereof, and a letter or letters from accountants pursuant to Section 3(q) hereof promptly following such notification and in any event prior to the commencement or re-commencement, as the case may be, of the selling of Shares under this Agreement.

(s) *Trading in the Common Stock.* The Company consents to the Agent trading in the Company's Common Stock for its own account and for the account of its clients at the same time as sales of Shares occur pursuant to this Agreement.

(t) *Non-Consummation Offer.* If, to the knowledge of the Company, any filing required by Rule 424 in connection with an offering of Shares shall not have been made or the representations and warranties of the Company contained in this Agreement shall not be true and correct on the applicable Settlement Date, the Company will offer to any person who has agreed to purchase Shares from or through the Agent the right to refuse to purchase and pay for such Shares.

(u) *Due Diligence Review.* The Company will cooperate with any due diligence review reasonably requested by the Agent or counsel for the Agent, fully and in a timely manner, in connection with offers and sales of Shares from time to time, including, without limitation, and upon reasonable notice, providing information and making available documents and appropriate corporate officers, during regular business hours and at the Company's principal offices.

(v) *Renewal Deadline.* If, immediately prior to the third anniversary of the initial effective date of the Registration Statement (the "Renewal Deadline"), this Agreement is still in effect or any Shares purchased by the Agent as principal remain unsold, the Company will, prior to the Renewal Deadline, (i) promptly notify the Agent and (ii) promptly file, if it is eligible to do so, a new shelf registration statement relating to the Shares, in a form and substance satisfactory to the Agent. If, at the time the Company intends to file such a new shelf registration statement, it is not eligible to do so, the Company will, prior to the Renewal Deadline, (i) promptly notify the Agent, (ii) promptly file a new registration statement on the proper form relating to the Shares, in a form and substance satisfactory to the Agent, (iii) use its commercially reasonable efforts to cause such new registration statement to be declared effective within 90 days after the Renewal Deadline and (iv) promptly notify the Agent of such effectiveness. The Company will take all other action necessary or appropriate to permit the offering and sale of the Shares to continue as contemplated in the expired Registration Statement. References herein to the "Registration Statement" shall include such new shelf registration statement or such new registration statement, as the case may be.

#### Section 4. Payment of Expenses.

(a) *Expenses.* The Company will pay or cause to be paid all expenses incident to the performance of their obligations under this Agreement, including (i) the preparation, printing and filing of the Registration Statement (including financial statements and exhibits) as originally filed and each amendment thereto, (ii) the preparation, printing and delivery to the Agent of copies of any preliminary prospectus, any Issuer Free Writing Prospectus and the Prospectus and any amendments or supplements thereto and any costs associated with electronic delivery of any of the foregoing by the Agent to investors, (iii) the preparation, issuance and delivery of the certificates for the Shares, including any stock or other transfer taxes and any stamp or other duties payable upon the sale, issuance or delivery of the Shares to the Agent, (iv) the fees and disbursements of the Company's counsel, accountants and other advisors, (v) the qualification of the Shares under securities laws in accordance with the provisions of Section 3(g) hereof, including filing fees and the reasonable fees and disbursements of counsel for the Agent in connection therewith and in connection with the preparation of the Blue Sky Survey and any supplement thereto (such fees and disbursements of counsel for the Agents not to exceed \$10,000 in the aggregate), (vi) the fees and expenses of any transfer agent or registrar for the Shares, (vii) the costs and expenses of the Company relating to investor presentations on any "road show" undertaken in connection with the marketing of the Shares, (viii) the filing fees incident to, and the reasonable fees and disbursements of counsel for the Agent in connection with, the review by FINRA of the terms of sales of Shares (such fees and disbursements of counsel for the Agents not to exceed \$10,000 in the aggregate), (ix) the fees and expenses incurred in connection with the listing of the Shares on Nasdaq, and (x) the reasonable documented out-of-pocket expenses of the Agent, including the reasonable fees, disbursements and expenses of counsel for the Agent in an amount not to exceed (A) \$50,000 in connection with the entry into this Agreement and the Registration Statement and (B) \$15,000 in connection with each date on which the Company is required to provide the certificate pursuant to Section 3(o) hereof.

Section 5. Conditions of Agent's Obligations. The obligations of the Agent hereunder are subject to the accuracy of the representations and warranties of the Company contained herein or in certificates of any officer of the Company or any of its subsidiaries delivered pursuant to the provisions hereof at each Representation Date, to the performance by the Company of its covenants and other obligations hereunder, and to the following further conditions:

(a) *Effectiveness of Registration Statement and Filing of Prospectus*. The Company shall have filed the Registration Statement with the Commission not earlier than three years prior to the date hereof and the Registration Statement was declared effective by the Commission on December 21, 2020. The Company shall have filed with the Commission the Prospectus on or prior to the date of this Agreement and any subsequent Base Prospectus or Prospectus Supplement prior to any Applicable Time and related Settlement Date, as applicable, in each case in the manner and within the time period required by Rule 424(b), and each Issuer Free Writing Prospectus, if any, in the manner and within the time period required by Rule 433. No stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto has been issued under the 1933 Act, no notice of objection of the Commission to the use of the Registration Statement or any post-effective amendment thereto pursuant to Rule 401(g)(1) has been received by the Company, no order preventing or suspending the use of any preliminary prospectus or the Prospectus or any amendment or supplement thereto has been issued and no proceedings for any of those purposes have been instituted or are pending or, to the Company's knowledge, contemplated. The Company shall have complied with any and all requests for additional information on the part of the Commission to the reasonable satisfaction of the Agent. The Company shall have paid the required Commission filing fees relating to the Shares as specified in Section 3(a) hereof.

(b) *Opinion of Counsel for the Agent*. Prior to the initial offering of any Shares hereunder, the Agent shall have received the favorable written opinion or opinions of Cooley LLP, counsel for the Agent, dated such date, with respect to such matters as the Agent may reasonably request. In giving such opinion or opinions, such counsel may rely, as to all matters governed by the laws of jurisdictions other than the laws of the State of New York, the General Corporation Law of the State of Delaware and the federal securities laws of the United States, upon the opinions of counsel satisfactory to the Agent. Such counsel may also state that, insofar as such opinion involves factual matters, they have relied, to the extent they deem proper, upon certificates of officers and other representatives of the Company and its subsidiaries and certificates of public officials.

(c) *Opinion of Counsel to the Company*. Prior to the initial offering of any Shares hereunder, the Agent shall have received the favorable written opinion or opinions of (i) Fenwick & West LLP, counsel to the Company, and (ii) Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., intellectual property counsel for the Company, each dated such date, in form and substance previously agreed to among the parties hereto.

(d) *Accountants' Letter*. Prior to the initial offering of any Shares hereunder, the Agent shall have received a letter from (A) Deloitte LLP and (B) Deloitte & Touche LLP, each dated such date, in form and substance satisfactory to the Agent, containing statements and information of the type ordinarily included in accountants' "comfort letters" to underwriters with respect to the financial statements and other financial information included in the Registration Statement, the General Disclosure Package and the Prospectus or any amendment or supplement thereto.

(e) *Officers' Certificate for the Company*. Prior to the initial offering of any Shares hereunder, there shall not have been, since the date of the latest audited financial statements included in the Registration Statement, the General Disclosure Package and the Prospectus or since the respective dates as of which information is given in the Registration Statement, the General Disclosure Package and the Prospectus, any Material Adverse Effect, and the Agent shall have received a certificate of the Chief Executive Officer or President of the Company and of the Chief Financial Officer or Chief Accounting Officer of the Company, dated such date, to the effect that (A) there has been no such Material Adverse Effect, (B) the representations and warranties of the Company in this Agreement are true and correct with the same force and effect as though expressly made on and as of such date, (C) the Company has complied with all agreements and satisfied all conditions on its part to be performed or satisfied on or prior to



such date and (D) no stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto has been issued under the 1933 Act, no notice of objection of the Commission to the use of the Registration Statement or any post-effective amendment thereto pursuant to Rule 401(g)(1) has been received by the Company, no order preventing or suspending the use of any preliminary prospectus or the Prospectus or any amendment or supplement thereto has been issued and no proceedings for any of those purposes have been instituted or are pending or, to their knowledge, contemplated.

(f) *Listing.* The Shares shall have been approved for listing, subject to official notice of issuance, on Nasdaq.

(g) *Additional Documents.* On the date of this Agreement, counsel for the Agent shall have been furnished with such documents and opinions as they may require for the purpose of enabling them to render the opinions or make the statements requested by the Agent, or in order to evidence the accuracy of any of the representations or warranties, or the fulfillment of any of the covenants, obligations or conditions, contained herein; and all proceedings taken by the Company in connection with the issuance and sale of the Shares as contemplated herein shall be satisfactory in form and substance to the Agent and counsel for the Agent.

(h) *Termination of this Agreement.* If any condition specified in this Section 5 shall not have been fulfilled when and as required to be fulfilled, this Agreement may be terminated by the Agent by notice to the Company at any time, and any such termination shall be without liability of any party to any other party except the provisions of Sections 1, 3(h), 4, 6, 7, 8, 13, 14, 15 and 16 hereof shall remain in full force and effect notwithstanding such termination.

#### Section 6. Indemnification.

(a) *Indemnification of the Agent.* The Company agrees to indemnify and hold harmless the Agent, its affiliates (as such term is defined in Rule 501(b) of the 1933 Act Regulations (each, an “Affiliate”), selling agents, officers and directors and each person, if any, who controls the Agent within the meaning of Section 15 of the 1933 Act or Section 20 of the 1934 Act as follows:

(i) against any and all loss, liability, claim, damage and expense whatsoever, as incurred, arising out of any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement (or any amendment thereto), including any information deemed to be a part thereof pursuant to Rule 430B, or the omission or alleged omission therefrom of a material fact required to be stated therein or necessary to make the statements therein not misleading or arising out of any untrue statement or alleged untrue statement of a material fact included (A) in any preliminary prospectus, any Issuer Free Writing Prospectus, the General Disclosure Package or the Prospectus (or any amendment or supplement thereto) or (B) in any materials or information provided to investors by, or with the approval of, the Company in connection with the marketing of any offering of Shares (“Marketing Materials”), including any roadshow or investor presentations made to investors by the Company (whether in person or electronically), or the omission or alleged omission in any preliminary prospectus, any Issuer Free Writing Prospectus, the General Disclosure Package or the Prospectus (or any amendment or supplement thereto) or in any Marketing Materials of a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading;

(ii) against any and all loss, liability, claim, damage and expense whatsoever, as incurred, to the extent of the aggregate amount paid in settlement of any litigation, or any investigation or proceeding by any Governmental Entity, commenced or threatened, or of any claim whatsoever based upon any such untrue statement or omission, or any such alleged untrue statement or omission; provided that (subject to Section 6(d) below) any such settlement is effected with the written consent of the Company;

(iii) against any and all expense whatsoever, as incurred (including the fees and disbursements of counsel chosen by the Agent), reasonably incurred in investigating, preparing or defending against any litigation, or any investigation or proceeding by any Governmental Entity, commenced or threatened, or any claim whatsoever based upon any such untrue statement or omission, or any such alleged untrue statement or omission, to the extent that any such expense is not paid under (i) or (ii) above;

provided, however, that this indemnity agreement shall not apply to any loss, liability, claim, damage or expense to the extent arising out of any untrue statement or omission or alleged untrue statement or omission made in the Registration Statement (or any amendment thereto), including any information deemed to be a part thereof pursuant to Rule 430B, or in the General Disclosure Package or the Prospectus (or any amendment or supplement thereto) in reliance upon and in conformity with information furnished to the Company by the Agent in writing expressly for use therein.

(b) *Indemnification of Company, Directors and Officers.* The Agent agrees to indemnify and hold harmless the Company, its directors, each of its officers who signed the Registration Statement, and each person, if any, who controls the Company within the meaning of Section 15 of the 1933 Act or Section 20 of the 1934 Act against any and all loss, liability, claim, damage and expense described in the indemnity contained in Section 6(a) hereof, as incurred, but only with respect to untrue statements or omissions, or alleged untrue statements or omissions, made in the Registration Statement (or any amendment thereto), including any information deemed to be a part thereof pursuant to Rule 430B, or in the General Disclosure Package or the Prospectus (or any amendment or supplement thereto) in reliance upon and in conformity with the information furnished to the Company by the Agent in writing expressly for use therein.

(c) *Actions against Parties; Notification.* Each indemnified party shall give notice as promptly as reasonably practicable to each indemnifying party of any action commenced against it in respect of which indemnity may be sought hereunder, but failure to so notify an indemnifying party shall not relieve such indemnifying party from any liability hereunder to the extent it is not materially prejudiced as a result thereof and in any event shall not relieve it from any liability which it may have otherwise than on account of this indemnity agreement. In the case of parties indemnified pursuant to Section 6(a) hereof, counsel to the indemnified parties shall be selected by the Agent, and, in the case of parties indemnified pursuant to Section 6(b) hereof, counsel to the indemnified parties shall be selected by the Company. An indemnifying party may participate at its own expense in the defense of any such action; provided, however, that counsel to the indemnifying party shall not (except with the prior written consent of the indemnified party) also be counsel to the indemnified party. In no event shall the indemnifying parties be liable for fees and expenses of more than one counsel (in addition to any local counsel) separate from their own counsel for all indemnified parties in connection with any one action or separate but similar or related actions in the same jurisdiction arising out of the same general allegations or circumstances. No indemnifying party shall, without the prior written consent of the indemnified parties, settle or compromise or consent to the entry of any judgment with respect to any litigation, or any investigation or proceeding by any Governmental Entity, commenced or threatened, or any claim whatsoever in respect of which indemnification or contribution could be sought under this Section 6 or Section 7 hereof (whether or not the indemnified parties are actual or potential parties thereto), unless such settlement, compromise or consent (i) includes an unconditional release of each indemnified party from all liability arising out of such litigation, investigation, proceeding or claim and (ii) does not include a statement as to or an admission of fault, culpability or a failure to act by or on behalf of any indemnified party.

(d) *Settlement without Consent if Failure to Reimburse.* If at any time an indemnified party shall have requested an indemnifying party to reimburse the indemnified party for fees and expenses of counsel, such indemnifying party agrees that it shall be liable for any settlement of the nature contemplated by Section 6(a)(ii) hereof effected without its written consent if (i) such settlement is entered into more than 90 days after receipt by such indemnifying party of the aforesaid request, (ii) such indemnifying party shall have received notice of the terms of such settlement at least 60 days prior to such settlement being entered into and (iii) such indemnifying party shall not have reimbursed such indemnified party in accordance with such request prior to the date of such settlement.

Section 7. Contribution. If the indemnification provided for in Section 6 hereof is for any reason unavailable to or insufficient to hold harmless an indemnified party in respect of any losses, liabilities, claims, damages or expenses referred to therein, then each indemnifying party shall contribute to the aggregate amount of such losses, liabilities, claims, damages and expenses incurred by such indemnified party, as incurred, (i) in such proportion as is appropriate to reflect the relative benefits received by the Company, on the one hand, and the Agent, on the other hand, from the applicable offering of Shares or (ii) if the allocation provided by clause (i) is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in

clause (i) above but also the relative fault of the Company, on the one hand, and the Agent, on the other hand, in connection with the statements or omissions which resulted in such losses, liabilities, claims, damages or expenses, as well as any other relevant equitable considerations.

The relative benefits received by the Company, on the one hand, and the Agent, on the other hand, in connection with the applicable offering of Shares shall be deemed to be in the same proportion as the total net proceeds from such offering (before deducting expenses) received by the Company, on the one hand, bear to the total commissions or underwriting discounts received by the Agent, on the other hand.

The relative fault of the Company, on the one hand, and the Agent, on the other hand, shall be determined by reference to, among other things, whether any such untrue or alleged untrue statement of a material fact or omission or alleged omission to state a material fact relates to information supplied by the Company or by the Agent and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission.

The Company and the Agent agree that it would not be just and equitable if contribution pursuant to this Section 7 were determined by pro rata allocation or by any other method of allocation which does not take account of the equitable considerations referred to above in this Section 7. The aggregate amount of losses, liabilities, claims, damages and expenses incurred by an indemnified party and referred to above in this Section 7 shall be deemed to include any legal or other expenses reasonably incurred by such indemnified party in investigating, preparing or defending against any litigation, or any investigation or proceeding by any Governmental Entity, commenced or threatened, or any claim whatsoever based upon any such untrue or alleged untrue statement or omission or alleged omission.

Notwithstanding the provisions of this Section 7, the Agent shall not be required to contribute any amount in excess of the total commissions or underwriting discounts received by the Agent in connection with Shares placed or underwritten by it for sale to the public.

No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the 1933 Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation.

For purposes of this Section 7, each person, if any, who controls the Agent within the meaning of Section 15 of the 1933 Act or Section 20 of the 1934 Act and the Agent's Affiliates, selling agents, officers and directors shall have the same rights to contribution as the Agent, and each director of the Company, each officer of the Company who signed the Registration Statement, and each person, if any, who controls the Company within the meaning of Section 15 of the 1933 Act or Section 20 of the 1934 Act shall have the same rights to contribution as the Company.

Section 8. Representations, Warranties and Agreements to Survive. All representations, warranties and agreements contained in this Agreement or in certificates of officers of the Company or any of its subsidiaries submitted pursuant hereto, shall remain operative and in full force and effect regardless of (i) any investigation made by or on behalf of the Agent or its Affiliates, selling agents, officers or directors or any person controlling the Agent, or the Company or its officers or directors, or any person controlling the Company and (ii) delivery of and payment for the Shares.

#### Section 9. Termination.

(a) This Agreement may be terminated for any reason, at any time, by either the Company or the Agent upon the giving of one day's prior written notice to the other party hereto.

(b) The Agent may terminate a Terms Agreement to which it is a party, at any time at or prior to the Settlement Date, (i) if there has been, in such judgment of such Agent, since the time of execution of such Terms Agreement or since the respective dates as of which information is given in the Registration Statement, the General Disclosure Package or the Prospectus, any Material Adverse Effect, or (ii) if there has occurred any material adverse change in the financial markets in the United States or the international financial markets, any outbreak of hostilities

or escalation thereof or other calamity or crisis or any change or development involving a prospective change in national or international political, financial or economic conditions, in each case the effect of which is such as to make it, in the judgment of such Agent, impracticable or inadvisable to proceed with the completion of the offering of Shares contemplated by such Terms Agreement or to enforce contracts for the sale of such Shares, or (iii) if trading in any securities of the Company has been suspended or materially limited by the Commission or Nasdaq, or (iv) if trading generally on the NYSE, the NYSE Amex or Nasdaq has been suspended or materially limited, or minimum or maximum prices for trading have been fixed, or maximum ranges for prices have been required, by any of said exchanges or by order of the Commission, FINRA or any other Governmental Entity, or (v) if a material disruption has occurred in commercial banking or securities settlement or clearance services in the United States or with respect to the systems of Clearstream Banking, société anonyme, or Euroclear Bank, S.A./N.V., in Europe, or (vi) if a banking moratorium has been declared by either Federal or New York authorities.

(c) In the event of any termination under this Section 9, neither party will have any liability to the other party hereto, except that (i) the Agent shall be entitled to any commissions earned in accordance with Section 2(b) hereof, (ii) if at the time of termination (a) the Agent shall own any Shares purchased by it as principal or (b) an offer to purchase any Shares has been accepted by the Company but the Settlement Date has not occurred, the covenants set forth in Section 3 hereof shall remain in effect until such Shares are resold or so delivered, as the case may be, and (iii) the covenant set forth in Section 3(h) hereof, the provisions of Section 4 hereof, the indemnity and contribution agreements set forth in Sections 6 and 7 hereof, and the provisions of Sections 8, 13, 14, 15 and 16 hereof shall remain in effect.

Section 10. Notices. All notices and other communications hereunder shall be in writing and shall be deemed to have been duly given if mailed or transmitted by any standard form of telecommunication. Notices to the Agent shall be directed to BofA Securities, Inc., One Bryant Park, New York, New York 10036, Attention: Syndicate Department, with a copy to ECM Legal; and notices to the Company shall be directed to it at 188 East Blaine Street, Suite 450, Seattle, Washington 98102, Attention: Chief Executive Officer.

Section 11. No Advisory or Fiduciary Relationship. The Company acknowledges and agrees that (a) each purchase and sale of Shares pursuant to this Agreement, including the determination of the respective initial public offering prices of Shares, if any, and any related discounts and commissions, is an arm's-length commercial transaction between the Company, on the one hand, and the Agent, on the other hand, (b) the Agent has not assumed and will not assume any advisory or fiduciary responsibility in favor of the Company or any of its subsidiaries or other affiliates with respect to any offering of Shares or the process leading thereto (irrespective of whether the Agent has advised or is currently advising the Company or any of its subsidiaries or other affiliates on other matters) or any other obligation to the Company except the obligations expressly set forth in this Agreement, (c) the Agent and its affiliates may be engaged in a broad range of transactions that involve interests that differ from those of the Company, and (d) the Agent has not provided any legal, accounting, financial, regulatory or tax advice to the Company or any other person or entity with respect to any offering of Shares and the Company has consulted its own respective legal, accounting, financial, regulatory and tax advisors to the extent it deemed appropriate.

Section 12. Recognition of the U.S. Special Resolution Regimes.

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

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

For purposes of this Section 12, a “BHC Act Affiliate” has the meaning assigned to the term “affiliate” in, and shall be interpreted in accordance with, 12 U.S.C. § 1841(k). “Covered Entity” means any of the following: (i) a “covered entity” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 252.82(b); (ii) a “covered bank” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 47.3(b); or (iii) a “covered FSI” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 382.2(b). “Default Right” has the meaning assigned to that term in, and shall be interpreted in accordance with, 12 C.F.R. §§ 252.81, 47.2 or 382.1, as applicable. “U.S. Special Resolution Regime” means each of (i) the Federal Deposit Insurance Act and the regulations promulgated thereunder and (ii) Title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act and the regulations promulgated thereunder.

Section 13. Parties. This Agreement shall each inure to the benefit of and be binding upon the Agent and the Company and their respective successors. Nothing expressed or mentioned in this Agreement is intended or shall be construed to give any person, firm or corporation, other than the Agent, its Affiliates and selling agents, the Company and their respective successors and the controlling persons and officers and directors referred to in Sections 6 and 7 and their heirs and legal representatives, any legal or equitable right, remedy or claim under or in respect of this Agreement or any provision herein contained. This Agreement and all conditions and provisions hereof are intended to be for the sole and exclusive benefit of the Agent, its Affiliates and selling agents, the Company and their respective successors, and said controlling persons and officers and directors and their heirs and legal representatives, and for the benefit of no other person, firm or corporation. No purchaser of Shares shall be deemed to be a successor by reason merely of such purchase.

Section 14. Trial by Jury. Each of the Company (on its behalf and, to the extent permitted by applicable law, on behalf of its stockholders and affiliates), and the Agent hereby irrevocably waives, to the fullest extent permitted by applicable law, any and all right to trial by jury in any legal proceeding arising out of or relating to this Agreement or the transactions contemplated hereby.

Section 15. GOVERNING LAW. THIS AGREEMENT AND ANY CLAIM, CONTROVERSY OR DISPUTE ARISING UNDER OR RELATED TO THIS AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF, THE STATE OF NEW YORK WITHOUT REGARD TO ITS CHOICE OF LAW PROVISIONS.

Section 16. Consent to Jurisdiction; Waiver of Immunity. Each of the Company and the Agent agrees that any legal suit, action or proceeding arising out of or based upon this Agreement or the transactions contemplated hereby shall be instituted in (i) the federal courts of the United States of America located in the City and County of New York, Borough of Manhattan or (ii) the courts of the State of New York located in the City and County of New York, Borough of Manhattan (collectively, the “Specified Courts”), and irrevocably submits to the exclusive jurisdiction (except for proceedings instituted in regard to the enforcement of a judgment of any Specified Court, as to which such jurisdiction is non-exclusive) of the Specified Courts in any such suit, action or proceeding. Service of any process, summons, notice or document by mail to a party’s address set forth in Section 10 hereof shall be effective service of process upon such party for any suit, action or proceeding brought in any Specified Court. Each of the Company and the Agent irrevocably and unconditionally waives any objection to the laying of venue of any suit, action or proceeding in the Specified Courts and irrevocably and unconditionally waives and agrees not to plead or claim in any Specified Court that any such suit, action or proceeding brought in any Specified Court has been brought in an inconvenient forum.

Section 17. TIME. TIME SHALL BE OF THE ESSENCE OF THIS AGREEMENT. EXCEPT AS OTHERWISE SET FORTH HEREIN, SPECIFIED TIMES OF DAY REFER TO NEW YORK CITY TIME.

Section 18. Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be deemed to be an original, but all such counterparts shall together constitute one and the same Agreement. Counterparts may be delivered via facsimile, electronic mail (including any electronic signature covered by the U.S. federal ESIGN Act of 2000, Uniform Electronic Transactions Act, the Electronic Signatures and Records Act (N.Y. State Tech. §§ 301-309), as amended from time to time, or other applicable law, e.g., www.docusign.com) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

Section 19. Effect of Headings. The Section headings herein are for convenience only and shall not affect the construction hereof.

If the foregoing is in accordance with your understanding of our agreement, please sign and return to the Company a counterpart hereof, whereupon this instrument, along with all counterparts, will become a binding agreement between the Agent and the Company in accordance with its terms.

Very truly yours,

Neoleukin Therapeutics, Inc.

By: /s/ Jonathan G. Drachman

Name: Jonathan G. Drachman

Title: Chief Executive Officer

Accepted as of the date hereof:

BofA Securities, Inc.

By: /s/ Greg Butz

Name: Greg Butz

Title: Managing Director

Neoleukin Therapeutics, Inc.

Common Stock  
(\$0.000001 par value)

**TERMS AGREEMENT**

BofA Securities, Inc.  
One Bryant Park  
New York, New York 10036

Ladies and Gentlemen:

Neoleukin Therapeutics, Inc., a Delaware corporation (the "Company"), proposes, on the basis of the representations and warranties, and subject to the terms and conditions, stated herein and in the ATM Equity Offering<sup>SM</sup> Sales Agreement, dated November 4, 2021 (the "Sales Agreement"), between the Company and BofA Securities, Inc. (the "Agent"), to issue and sell to the Agent as principal for resale (the "Underwriter"), and the Underwriter agrees to purchase from the Company the shares of Common Stock specified in Schedule A hereto (the "[Initial] Securities") [, and to grant to the Underwriter the option to purchase the additional shares of Common Stock specified in the Schedule A hereto (the "Option Securities", and together with the Initial Securities, the "Securities")]\*,[in each case]\* on the terms specified in Schedule A hereto. Capitalized terms but and not defined herein have the respective meanings ascribed thereto in the Sales Agreement.

[The Company grants an option to the Underwriter to purchase up to an additional [●] Option Securities at the price per share set forth in Schedule A hereto, less an amount per share equal to any dividends or distributions declared by the Company and payable on the Initial Securities but not payable on the Option Securities. The option hereby granted may be exercised for 30 days after the date hereof and may be exercised in whole or in part at any time from time to time upon notice by the Underwriter to the Company setting forth the number of Option Securities as to which the Underwriter is then exercising the option and the time and date of payment and delivery for such Option Securities. Any such time and date of delivery (a "Date of Delivery") shall be determined by the Underwriter, but shall not be later than seven full business days after the exercise of said option, nor in any event prior to the Settlement Date (as defined below). If the option is exercised as to all or any portion of the Option Securities, the Underwriter will purchase that proportion of the total number of Option Securities then being purchased which the number of Initial Securities set forth in Schedule A hereto opposite the name of such Underwriter bears to the total number of Initial Securities, subject, in each case, to such adjustments as BofA Securities, Inc. in its sole discretion shall make to eliminate any sales or purchases of fractional shares. For purposes of clarity, the parties hereto agree that the officers' certificate, opinions and letter of counsel and accountants' letter referred to in Section 3(o), (p) and (q), respectively, of the Sales Agreement are required to be delivered by or on behalf of the Company on the Settlement Date.]\*

Payment of the purchase price for, and delivery of certificates for, the Initial Securities shall be made at the offices of Cooley LLP, or at such other place as shall be agreed upon by the Underwriter and the Company, at 9:00 A.M. (New York City time) on the second (or third, if the pricing occurs after 4:30 P.M. (New York City time) on any given day) business day after the date hereof (unless postponed in accordance with the provisions of Section 9(c) of the Sales Agreement), or such other time not later than ten business days after such date as shall be agreed upon by the Underwriter and the Company (such time and date of payment and delivery being herein called "Settlement Date").

In addition, in the event that any or all of the Option Securities are purchased by the Underwriter, payment of the purchase price for, and delivery of certificates for, such Option Securities shall be made at the above-mentioned offices, or at such other place as shall be agreed upon by the Underwriter and the Company, on each Date of Delivery as specified in the notice from the Underwriter to the Company.

Payment shall be made to the Company by wire transfer of immediately available funds to a bank account designated by the Company against delivery to the Underwriter.

Each of the provisions of the Sales Agreement not related solely to the Agent, as agent of the Company, is incorporated herein by reference in its entirety, and shall be deemed to be part of this Terms Agreement to the same extent as if each such provision had been set forth in full herein. Each of the representations and warranties set forth in the Sales Agreement shall be deemed to have been made at and as of the date of this Terms Agreement [and] [,] the Applicable Time [and any Date of Delivery].

If the foregoing is in accordance with your understanding of our agreement, please sign and return to the Company a counterpart hereof, whereupon this instrument, along with all counterparts, will become a binding agreement between the Underwriter and the Company in accordance with its terms.

THIS TERMS AGREEMENT AND ANY CLAIM, CONTROVERSY OR DISPUTE ARISING UNDER OR RELATED TO THIS TERMS AGREEMENT SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAWS OF THE STATE OF NEW YORK WITHOUT REGARD TO ITS CHOICE OF LAW PROVISIONS.

Very truly yours,

Neoleukin Therapeutics, Inc.

By: \_\_\_\_\_  
Name:  
Title:

Accepted as of the date hereof:

BofA Securities, Inc.

By: \_\_\_\_\_  
Name:  
Title:

\* Include only if the Underwriter has an option to purchase additional shares of Common Stock from the Company.





555 California Street  
12th Floor  
San Francisco, CA 94104

415.875.2300  
Fenwick.com

November 4, 2021

Neoleukin Therapeutics, Inc.  
188 East Blaine Street, Suite 450  
Seattle, Washington 98102

Ladies and Gentlemen:

We deliver this opinion with respect to certain matters in connection with the sale by Neoleukin Therapeutics, Inc., a Delaware corporation (the "**Company**"), through BofA Securities, Inc., as the sales agent (the "**Sales Agent**"), from time to time of shares of the Company's common stock ("**Common Stock**"), par value \$0.000001 per share (the "**Placement Shares**"), having an aggregate maximum offering price of up to \$40,000,000, pursuant to that certain ATM Equity Offering Sales Agreement, dated as of November 4, 2021 (the "**Sales Agreement**"), by and between the Company and the Sales Agent. The Placement Shares were registered pursuant to the Registration Statement on Form S-3 (File No. 333-251294) filed by the Company with the Securities and Exchange Commission (the "**Commission**") on December 11, 2020 (the "**Registration Statement**") under the Securities Act of 1933, as amended (the "**Securities Act**"), declared effective on December 21, 2020, including the prospectus dated December 1, 2017 included therein (the "**Base Prospectus**"), and as supplemented by the prospectus supplement dated November 4, 2021, which was filed with the Commission pursuant to Rule 424(b) under the Securities Act (the "**Prospectus Supplement**" and, together with the Base Prospectus, the "**Prospectus**").

In connection with our opinion expressed below we have examined originals or copies of the Sales Agreement, the Company's Amended and Restated Certificate of Incorporation, as amended, filed with, and certified by, the Delaware Secretary of State (the "**Restated Certificate**") and the Company's Amended and Restated Bylaws (the "**Bylaws**"), the Registration Statement, together with the exhibits filed as a part thereof and all other documents incorporated therein by reference, the Prospectus, certain corporate proceedings of the Company's board of directors (the "**Board**") or a committee or committees of the Board and the Company's stockholders relating to the Registration Statement, the Company's Restated Certificate and Bylaws, and such other agreements, documents, certificates and statements of the Company, its transfer agent and public or government officials, as we have deemed advisable, and have examined such questions of law as we have considered necessary.

We have assumed, and express no opinion as to, the genuineness of all signatures on documents submitted to us, the authenticity and completeness of all documents submitted to us as originals, the conformity to originals and completeness of all documents submitted to us as copies, the legal capacity of all persons or entities executing the same, the absence of any undisclosed termination, modification, waiver or amendment to any document reviewed by us, the absence of any other extrinsic agreements or documents that might change or affect the interpretation or terms of documents we have reviewed, and the due authorization, execution and delivery of all such documents where due authorization, execution and delivery are prerequisites to the effectiveness thereof. In giving our opinion, we have also relied upon a good standing certificate regarding the Company issued by the Delaware Secretary of State dated November 4, 2021 and a management certificate addressed to us and dated of even date herewith executed by the Company containing certain factual representations by the Company.

We render this opinion only with respect to, and express no opinion herein concerning the application or effect of any laws other than the existing Delaware General Corporation Law.

In connection with our opinions expressed below, we have assumed that, (i) at or prior to the time of the issuance and delivery of any of the Placement Shares, there will not have occurred any change in the law or the facts affecting the validity of the Placement Shares, any change in actions of the Board or the Company's stockholders, or any amendments to the Restated Certificate or Bylaws, (ii) at the time of the offer, issuance and sale of any Placement Shares, the Company will have a sufficient number of authorized and unissued and unreserved shares of Common Stock to be able to issue all such Placement Shares and (iii) at the time of the offer, issuance and sale of any Placement Shares, no stop order suspending the Registration Statement's effectiveness will have been issued and remain in effect, and that the Registration Statement will not have been modified or rescinded. We also have assumed that the issuance and delivery of the Placement Shares subsequent to the date hereof and the compliance by the Company with the terms of such Placement Shares will not result in a violation of the Restated Certificate or any provision of any instrument or agreement then binding upon the Company or any restriction imposed by any court or governmental body then having jurisdiction over the Company.

Based upon, and subject to, the foregoing, it is our opinion that the Placement Shares, when issued, sold and delivered in the manner and for the consideration stated in the Registration Statement and the Prospectus, and in accordance with the resolutions adopted by the Board or a committee thereof, will be validly issued, fully paid and non-assessable.

We consent to the use of this opinion as an exhibit to the Current Report on Form 8-K to be filed by the Company with the Commission in connection with the offering of the Placement Shares and further consent to all references to us, if any, in the Registration Statement, the Prospectus and any amendments or supplements thereto. We do not thereby admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission promulgated thereunder.

This opinion is intended solely for use in connection with the issuance and sale of the Placement Shares subject to the Registration Statement and is not to be relied upon for any other purpose. In providing this opinion, we are opining only as to the specific legal issues expressly set forth above and no opinion shall be inferred as to any other matter or matters. This opinion is rendered on, and speaks, only as of the date of this letter first written above, is based solely on our understanding of facts in existence as of such date after the date of this opinion letter and does not address any potential change in facts or law that may occur after the date of this opinion letter. We assume no obligation to advise you of any fact, circumstance, event or change in the law or the facts that may hereafter be brought to our attention, whether or not such occurrence would affect or modify the opinion expressed herein.

*[Signature Follows on Next Page]*

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Very truly yours,

**FENWICK & WEST LLP**

/s/ Fenwick & West LLP

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