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

FORM 8-K

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

Date of report (Date of earliest event reported): **March 16, 2018**

Stemline Therapeutics, Inc.

(Exact Name of Registrant as Specified in Charter)

Delaware
(State or Other Jurisdiction
of Incorporation)

001-35619
(Commission File Number)

45-0522567
(IRS Employer Identification No.)

**750 Lexington Avenue
Eleventh Floor
New York, New York 10022**
(Address of Principal Executive Offices)

(646) 502-2311
(Registrant's telephone number, including area code)

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

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

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

Emerging growth company

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

Item 8.01 Other Events.

On March 16, 2018, Stemline Therapeutics, Inc. (the “Company”) launched an at-the-market offering (the “Offering”) of up to \$50,000,000 worth of shares of the Company’s common stock, par value \$0.0001 per share, pursuant to a Distribution Agreement by and among the Company, J.P. Morgan Securities LLC, Cantor Fitzgerald & Co. and Ladenburg Thalmann & Co. Inc., dated March 16, 2018. A copy of the Distribution Agreement is attached hereto as Exhibit 1.1 and is incorporated by reference herein.

Alston & Bird LLP, counsel to the Company, delivered an opinion as to the validity of the shares, a copy of which is attached hereto as Exhibit 5.1 and is incorporated by reference herein.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits.

The following exhibit is furnished as part of this report:

Exhibit Number	Description
1.1	<u>Distribution Agreement, dated March 16, 2018, between Stemline Therapeutics, Inc., J.P. Morgan Securities LLC, Cantor Fitzgerald & Co. and Ladenburg Thalmann & Co. Inc.</u>
5.1	<u>Opinion of Alston & Bird LLP.</u>
23.1	<u>Consent of Alston & Bird LLP (included in the opinion filed as Exhibit 5.1).</u>

DISTRIBUTION AGREEMENT

March 16, 2018

J.P. Morgan Securities LLC
383 Madison Avenue
New York, New York 10179

Cantor Fitzgerald & Co.
499 Park Avenue
New York, NY 10022

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

Ladies and Gentlemen:

Stemline Therapeutics, Inc., a corporation formed under the laws of the State of Delaware (the “**Company**”), confirms its agreement with J.P. Morgan Securities LLC, Cantor Fitzgerald & Co. and Ladenburg Thalmann & Co. Inc., as agents and/or principals under any Terms Agreement (as defined in Section 1(a) below) (each, an “**agent**” and collectively, the “**Agents**”), with respect to the issuance and sale from time to time by the Company, in the manner and subject to the terms and conditions described below in this Distribution Agreement (this “**Agreement**”), of Common Stock, \$0.0001 par value per share (the “**Common Stock**”), of the Company having an aggregate Gross Sales Price (as defined in Section 2(b) below) of up to \$50,000,000 (the “**Maximum Amount**”) on the terms set forth in Section 1 of this Agreement. Such shares are hereinafter collectively referred to as the “**Shares**” and are described in the Prospectus referred to below.

The Company has filed with the Securities and Exchange Commission (the “**Commission**”) a registration statement on Form S-3 (No. 333-219794) (the “**registration statement**”) for the registration of the Shares and other securities of the Company under the Securities Act of 1933, as amended, and the rules and regulations of the Commission promulgated thereunder (collectively, the “**Act**”); and such registration statement sets forth the terms of the offering, sale and plan of distribution of the Shares and contains additional information concerning the Company and its business. Except where the context otherwise requires, “**Registration Statement**,” as used herein, means the registration statement, as amended at the time of such registration statement’s effectiveness for purposes of Section 11 of the Act, as such section applies to the Agent, including (1) all documents filed as a part thereof or incorporated or deemed to be incorporated by reference therein and (2) any information contained or incorporated by reference in a prospectus filed with the Commission pursuant to Rule 424(b) under the Act, to the extent such information is deemed, pursuant to Rule 430B or Rule 430C under the Act, to be part of the registration statement at the effective time. “**Base Prospectus**” means the prospectus dated August 8, 2017 filed as part of the Registration

Statement, including the documents incorporated by reference therein as of the date of such prospectus; “**Prospectus Supplement**” means the most recent prospectus supplement relating to the Shares, to be filed by the Company with the Commission pursuant to Rule 424(b) under the Act on or before the second business day after the date of its first use in connection with a public offering or sale of Shares pursuant hereto (or such earlier time as may be required under the Act), in the form furnished by the Company to the Agent in connection with the offering of the Shares; “**Prospectus**” means the Prospectus Supplement (and any additional prospectus supplement prepared in accordance with the provision of Section 4(h) of this Agreement and filed in accordance with the provisions of Rule 424(b)) together with the Base Prospectus attached to or used with the Prospectus Supplement; and “**Permitted Free Writing Prospectus**” has the meaning set forth in Section 3(b). Any reference herein to the Registration Statement, the Base Prospectus, the Prospectus Supplement, the Prospectus or any Permitted Free Writing Prospectus shall, unless otherwise stated, be deemed to refer to and include the documents, if any, incorporated by reference, or deemed to be incorporated by reference, therein (the “**Incorporated Documents**”), including, unless the context otherwise requires, the documents, if any, filed as exhibits to such Incorporated Documents. Any reference herein to the terms “amend,” “amendment” or “supplement” with respect to the Registration Statement, the Base Prospectus, the Prospectus Supplement, the Prospectus or any Permitted Free Writing Prospectus shall, unless stated otherwise, be deemed to refer to and include the filing of any document under the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder (collectively, the “**Exchange Act**”) on or after the initial effective date of the Registration Statement, or the date of the Base Prospectus, the Prospectus Supplement, the Prospectus or such Permitted Free Writing Prospectus, as the case may be, and deemed to be incorporated therein by reference. References in this Agreement to financial statements or other information that is “contained,” “included,” “described,” “set forth” or “provided” in the Registration Statement, the Base Prospectus, the Prospectus Supplement, the Prospectus or any Permitted Free Writing Prospectus and any similar references shall, unless stated otherwise, include any information incorporated or deemed to be incorporated by reference therein.

The Company and each Agent agree as follows:

1. Issuance and Sale.

(a) Upon the basis of the representations, warranties and agreements and subject to the terms and conditions set forth herein and provided the Company provides such Agent with any due diligence materials and information reasonably requested by such Agent necessary for such Agent to satisfy its due diligence obligations, on any Exchange Business Day (as defined below) selected by the Company, the Company and such Agent shall enter into an agreement in accordance with Section 2 hereof regarding the number of Shares to be placed by the Agent, as agent, and the manner in which and other terms upon which such placement is to occur (each such transaction being referred to as an “**Agency Transaction**”). The Company may also offer to sell the Shares directly to an Agent, as principal, in which event such parties shall enter into a separate agreement (each, a “**Terms Agreement**”) in substantially the form of Exhibit A hereto (with such changes thereto as may be agreed upon by the Company and such Agent to accommodate a transaction involving more than one Agent), relating to such sale in accordance with Section 2(g) of this Agreement (each such transaction being referred to as a “**Principal Transaction**”). As used herein, (i) the “**Term**” shall be the period commencing on the date

hereof and ending on the earlier of (x) the date on which the aggregate Gross Sales Price of Shares issued and sold pursuant to this Agreement and any Terms Agreements equal to the Maximum Amount and (y) any termination of this Agreement pursuant to Section 8, (ii) an “**Exchange Business Day**” means any day during the Term that is a trading day for the NasdaqCM (defined below) other than a day on which trading on the NasdaqCM is scheduled to close prior to its regular weekday closing time, and (iii) “**NasdaqCM**” means The NASDAQ Global Capital Market.

(b) Subject to the terms and conditions set forth below, the Company appoints the applicable Agent as agent in connection with the offer and sale of Shares in any Agency Transactions entered into hereunder. Such Agent will use its respective commercially reasonable efforts, consistent with its normal trading and sales practices, to sell such Shares in accordance with the terms and subject to the conditions hereof and of the applicable Transaction Acceptance (as defined below). Neither the Company nor any Agent shall have any obligation to enter into an Agency Transaction. The Company shall be obligated to issue and sell through an Agent, and each Agent shall be obligated to use its respective commercially reasonable efforts, consistent with its normal trading and sales practices and as provided herein and in the applicable Transaction Acceptance, to place Shares only if and when the Company makes a Transaction Proposal (as defined below) to such Agent related to such an Agency Transaction and a Transaction Acceptance related to such Agency Transaction has been delivered to the Company by such Agent as provided in Section 2 below.

(c) Each Agent, as agent in any Agency Transaction, hereby covenants and agrees not to make any sales of the Shares on behalf of the Company pursuant to this Agreement other than (A) by means of ordinary brokers’ transactions between members of the NasdaqCM that qualify for delivery of a Prospectus in accordance with Rule 153 under the Act and meet the definition of an “at the market offering” under Rule 415(a)(4) under the Act (such transactions are hereinafter referred to as “**At the Market Offerings**”) and (B) such other sales of the Shares on behalf of the Company in its capacity as agent of the Company as shall be agreed by the Company and such Agent in writing.

(d) If Shares are to be sold in an Agency Transaction in an At the Market Offering, the applicable Agent will confirm in writing to the Company the number of Shares sold on any Exchange Business Day and the related Gross Sales Price and Net Sales Price (as each of such terms is defined in Section 2(b) below) no later than the opening of trading on the immediately following Exchange Business Day.

(e) If the Company shall default on its obligation to deliver Shares to an Agent pursuant to the terms of any Agency Transaction or any Terms Agreement, the Company shall (i) indemnify and hold harmless such Agent and its successors and assigns from and against any and all losses, claims, damages, liabilities and expenses arising from or as a result of such default by the Company and (ii) notwithstanding any such default, pay to such Agent the commission to which such Agent would otherwise be entitled in connection with such sale in accordance with Section 2(b) below.

(f) The Company acknowledges and agrees that (i) there can be no assurance that the Agent will be successful in selling the Shares, (ii) no Agent shall incur any liability or obligation

to the Company or any other person or entity if it does not sell Shares for any reason other than a failure by such Agent to use its commercially reasonable efforts consistent with its normal trading and sales practices and applicable law and regulations to sell such Shares in accordance with the terms of this Agreement, and (iii) no Agent shall be under any obligation to purchase Shares on a principal basis pursuant to this Agreement, except as may otherwise be specifically agreed by such Agent and the Company in a Terms Agreement.

2. Transaction Acceptances and Terms Agreements.

(a) The Company may, from time to time during the Term, propose to an Agent that the Company and such Agent enter into an Agency Transaction to be executed on a specified Exchange Business Day or over a specified period of Exchange Business Days, which proposal shall be made to such Agent by telephone or by email or by any other form acceptable to such Agent from any of the individuals listed as an authorized representative of the Company on Schedule A hereto to make such sales and shall set forth the information specified below (each, a “**Transaction Proposal**”). If such Agent agrees to the terms of such proposed Agency Transaction or if the Company and such Agent mutually agree to modified terms for such proposed Agency Transaction, then such Agent shall promptly deliver to the Company by email a notice (each, a “**Transaction Acceptance**”) confirming the terms of such proposed Agency Transaction as set forth in such Transaction Proposal or setting forth the modified terms for such proposed Agency Transaction as agreed by the Company and such Agent, as the case may be, whereupon such Agency Transaction shall become a binding agreement between the Company and such Agent. Each Transaction Proposal shall specify:

- (i) the Exchange Business Day(s) on which the Shares subject to such Agency Transaction are intended to be sold (each, a “**Purchase Date**”);
- (ii) the maximum number of Shares to be sold by such Agent (the “**Specified Number of Shares**”) on, or over the course of, such Purchase Date(s), or as otherwise agreed between the Company and such Agent and documented in the relevant Transaction Acceptance;
- (iii) the lowest price, if any, at which the Company is willing to sell Shares on each such Purchase Date or a formula pursuant to which such lowest price shall be determined (each, a “**Floor Price**”); and
- (iv) if other than 3.0% of the Gross Sales Price, the Agent’s discount or commission.

A Transaction Proposal shall not set forth a Specified Number of Shares that, when added to the aggregate number of Shares previously purchased and to be purchased pursuant to pending Transaction Acceptances (if any) hereunder and any Terms Agreements, results or could result in a total that exceeds the Maximum Amount nor shall it set forth a Floor Price which is lower than the minimum price authorized from time to time by the Company’s board of directors or, if permitted by applicable law and the Company’s charter and by-laws, a duly authorized committee thereof. The Company shall have responsibility for

maintaining records with respect to the aggregate number and aggregate Gross Sales Price of Shares sold and for otherwise monitoring the availability of Shares for sale under the Registration Statement and for ensuring that the aggregate number and aggregate Gross Sales Price of Shares offered and sold does not exceed, and the price at which any Shares are offered or sold is not lower than, the aggregate number and aggregate Gross Sales Price of Shares and the minimum price authorized from time to time by the Company's board of directors or, if permitted by applicable law and the Company's charter and by-laws, a duly authorized committee thereof. In the event that more than one Transaction Acceptance with respect to any Purchase Date(s) is delivered by the applicable Agent to the Company, the latest Transaction Acceptance shall govern any sales of Shares for the relevant Purchase Date(s), except to the extent of any action occurring pursuant to a prior Transaction Acceptance and prior to the delivery to the Company of the latest Transaction Acceptance. The Company or the applicable Agent may, upon notice to the other such party by telephone (confirmed promptly by e-mail), suspend or terminate the offering of the Shares pursuant to Agency Transactions for any reason; *provided, however*, that such suspension or termination shall not affect or impair the Company's or such Agent's respective obligations with respect to the Shares sold hereunder prior to the giving of such notice or their respective obligations under any Terms Agreement. Notwithstanding the foregoing, if the terms of any Agency Transaction contemplate that Shares shall be sold on more than one Purchase Date, then the Company and the applicable Agent shall mutually agree to such additional terms and conditions as they deem reasonably necessary in respect of such multiple Purchase Dates, and such additional terms and conditions shall be set forth in or confirmed by, as the case may be, the relevant Transaction Acceptance and be binding to the same extent as any other terms contained therein.

(b) The Purchase Date(s) in respect of the Shares deliverable pursuant to any Transaction Acceptance shall be set forth in or confirmed by, as the case may be, the applicable Transaction Acceptance. Except as otherwise agreed between the Company and an Agent, such Agent's commission for any Shares sold through an Agent pursuant to this Agreement shall be a percentage, not to exceed 3.0%, of the actual sales price of such Shares (the "**Gross Sales Price**"), which commission shall be as set forth in or confirmed by, as the case may be, the applicable Transaction Acceptance; *provided, however*, that such commission shall not apply when an Agent acts as principal, in which case such commission or a discount shall be set forth in the applicable Terms Agreement. Notwithstanding the foregoing, in the event the Company engages an Agent for a sale of Shares in an Agency Transaction that would constitute a "distribution," within the meaning of Rule 100 of Regulation M under the Exchange Act or a "block" within the meaning of Rule 10b-18(a)(5) under the Exchange Act, the Company will provide such Agent, at such Agent's request and upon reasonable advance notice to the Company, on or prior to the Settlement Date the opinions of counsel, accountants' letters and officers' certificates pursuant to Section 5(a)(i) through 5(a)(v) hereof, each dated the Settlement Date, and such other documents and information as such Agent shall reasonably request, and the Company and such Agent will agree to compensation that is customary for such Agent with respect to such transaction. The Gross Sales Price less such Agent's commission and after

deduction for any transaction fees, transfer taxes or similar taxes or fees imposed by any governmental, regulatory or self-regulatory organization in respect of the sale of the applicable Shares is referred to herein at the “**Net Sales Price**.”

(c) Payment of the Net Sales Price for Shares sold by the Company on any Purchase Date pursuant to a Transaction Acceptance shall be made to the Company by wire transfer of immediately available funds to the account of the Company (which the Company shall provide to the applicable Agent at least one Exchange Business Day prior to the applicable Agency Settlement Date (as defined below)) against delivery of such Shares to the applicable Agent’s account, or an account of such Agent’s designee, at The Depository Trust Company through its Deposit and Withdrawal at Custodian System (“**DWAC**”) or by such other means of delivery as may be agreed to by the Company and such Agent. Such payment and delivery shall be made at or about 10:00 a.m. (New York City time) on the second Exchange Business Day (or such other day as may, from time to time, become standard industry practice for settlement of such a securities issuance or as agreed to by the Company and such Agent) following each Purchase Date (each, an “**Agency Settlement Date**”).

(d) If, as set forth in or confirmed by, as the case may be, the related Transaction Acceptance, a Floor Price has been agreed to by the parties with respect to a Purchase Date, and the applicable Agent thereafter determines and notifies the Company that the Gross Sales Price for such Agency Transaction would not be at least equal to such Floor Price, then the Company shall not be obligated to issue and sell through such Agent, and such Agent shall not be obligated to place, the Shares proposed to be sold pursuant to such Agency Transaction on such Purchase Date, unless the Company and such Agent otherwise agree in writing.

(e) If any party hereto has reason to believe that the exemptive provisions set forth in Rule 101(c)(1) of Regulation M under the Exchange Act are not satisfied with respect to the Shares, it shall promptly notify the other parties hereto and sales of the Shares under this Agreement, any Transaction Acceptance or any Terms Agreement shall be suspended until that or other exemptive provisions have been satisfied in the judgment of each party hereto. On or prior to the delivery of a prospectus that is required (whether physically or through compliance with Rule 172 under the Act or any similar rule) in connection with the offering or sale of the Shares, the Company shall calculate the average daily trading volume (as defined under “**ADTV**” by Rule 100 of Regulation M under the Exchange Act) of the Common Stock based on market data provided by Bloomberg L.P. or such other sources as agreed upon by the Company and the Agents.

(f) (i) If the Company wishes to issue and sell the Shares to an Agent pursuant to this Agreement but other than as set forth in Section 2(a) of this Agreement, it will notify the applicable Agent of the proposed terms of the Principal Transaction. If such Agent, acting as principal, wishes to accept such proposed terms (which it may decline to do for any reason in its sole discretion) or, following discussions with the Company, wishes to accept amended terms, the Company and such Agent shall enter into a Terms Agreement setting forth the terms of such Principal Transaction.

(ii) The terms set forth in a Terms Agreement shall not be binding on the Company or an Agent unless and until the Company and such Agent have each executed and delivered such Terms Agreement accepting all of the terms of such Terms Agreement. In the event of a conflict between the terms of this Agreement and the terms of a Terms Agreement, the terms of such Terms Agreement shall control.

(g) Each sale of the Shares to an Agent in a Principal Transaction shall be made in accordance with the terms of this Agreement and a Terms Agreement, which shall provide for the sale of such Shares to, and the purchase thereof by, such Agent. A Terms Agreement may also specify certain provisions relating to the reoffering of such Shares by the Agent. The commitment of such Agent to purchase the Shares pursuant to any Terms Agreement shall be deemed to have been made on the basis of the representations, warranties and agreements of the Company contained, and shall be subject to the terms and conditions set forth, in this Agreement and such Terms Agreement. Any such Terms Agreement shall specify the number of the Shares to be purchased by the applicable Agent pursuant thereto, the price to be paid to the Company for such Shares, any provisions relating to rights of, and default by, underwriters, if any, acting together with such Agent in the reoffering of the Shares, and the time and date (each such time and date being referred to herein as a "**Principal Settlement Date**"; and, together with any Agency Settlement Date, a "**Settlement Date**") and place of delivery of and payment for such Shares.

(h) Notwithstanding any other provision of this Agreement, the Company shall not offer, sell or deliver, or request the offer or sale, of any Shares pursuant to this Agreement (whether in an Agency Transaction or a Principal Transaction) and, by notice to the applicable Agent given by telephone (confirmed promptly by email), shall cancel any instructions for the offer or sale of any Shares, and no Agent shall be obligated to offer or sell any Shares, (i) during any period in which the Company's insider trading policy, as it exists on the date of this Agreement, would prohibit the purchases or sales of the Company's Common Stock by any of its officers or directors unless the Company affirmatively confirms that it is not, and could not be deemed to be, in possession of any material non-public information, (ii) during any period in which the Company is, or could be deemed to be, in possession of material non-public information or (iii) at any time from and including the date on which the Company shall issue a press release containing, or shall otherwise publicly announce, its earnings, revenues or other results of operations (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 that includes consolidated financial statements as of and for the same period or periods, as the case may be, covered by such Earnings Announcement.

(i) The Company agrees that any offer to sell, any solicitation of an offer to buy, or any sales of Shares by the Company shall be effected only by or through an Agent on any Exchange Business Day.

(j) The Company agrees that any offer to sell, any solicitation of an offer to buy, or any sales of Shares or any other equity security of the Company by the Company shall only be effected by or through only one Agent on any single given day; provided, however, that the foregoing limitation shall only apply with respect to an Agency Transaction.

(k) Anything in this Agreement to the contrary notwithstanding, the Company shall not authorize the issuance and sale of, and the applicable Agent, as sales agent, shall not be obligated to use its commercially reasonable efforts, consistent with its normal trading and sales practices, to sell, any Shares at a price lower than the minimum price, or in a number or with an aggregate gross or net sales price in excess of the number or aggregate gross or net sales price, as the case may be, authorized from time to time to be issued and sold under this Agreement and any Terms Agreement, in each case by the Company's board of directors or, if permitted by applicable law and the Company's charter and by-laws, a duly authorized committee thereof, or in a number in excess of the number of Shares approved for listing on the NasdaqCM, or in excess of the number or amount of Shares available for issuance on the Registration Statement or as to which the Company has paid the applicable registration fee, it being understood and agreed by the parties hereto that compliance with any such limitations shall be the sole responsibility of the Company.

3. Representations, Warranties and Agreements of the Company. The Company represents and warrants to, and agrees with, each Agent, on and as of (i) the date hereof, (ii) each date on which the Company receives a Transaction Acceptance (the "**Time of Acceptance**"), (iii) each date on which the Company executes and delivers a Terms Agreement, (iv) each Time of Sale (as defined in Section 3(a)), (v) each Settlement Date and (vi) each Bring-Down Delivery Date (as defined in Section 6(b)) (each such date listed in (i) through (vi), a "**Representation Date**"), as follows:

(a) Compliance with the Act. The Registration Statement has been filed with the Commission not earlier than three years prior to the date hereof; there is no order preventing or suspending the use of the Registration Statement, the Prospectus or any Permitted Free Writing Prospectus, and, to the knowledge of the Company, no proceeding for that purpose or pursuant to Section 8A of the Act against the Company or related to the offering has been initiated or threatened by the Commission; no notice of objection of the Commission to the use of such Registration Statement pursuant to Rule 401(g) (2) under the Act has been received by the Company; the Registration Statement complied when it initially became effective, complies as of the date hereof and, as then amended or supplemented, as of each other Representation Date will comply, in all material respects, with the requirements of the Act; the conditions to the use of Form S-3 in connection with the offering and sale of the Shares as contemplated hereby have been satisfied; the Registration Statement meets, and the offering and sale of the Shares as contemplated hereby complies with, the requirements of Rule 415 under the Act (including, without limitation, Rule 415(a)(5)); the Prospectus complied or will comply, at the time it was or will be filed with the Commission, and will comply, as then amended or supplemented, as of each Representation Date, in all material respects, with the requirements of the Act; the Registration Statement did not, as of the time of its initial effectiveness, and does not or will not, as then amended or supplemented, as of each Representation Date, contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading; as of each Representation Date, the Prospectus, as then amended or supplemented, together with all of the then issued Permitted Free Writing Prospectuses, if any, will not contain an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; *provided, however*, that the Company makes no representation or warranty with respect to any statement in or omission from the Registration

Statement, the Prospectus or any Permitted Free Writing Prospectus made in reliance upon and in conformity with information concerning any Agent and furnished in writing by or on behalf of any Agent expressly for use in the Registration Statement, the Prospectus or such Permitted Free Writing Prospectus (it being understood that such information consists solely of the information specified in Section 9(b)). As used herein, “**Time of Sale**” means (i) with respect to each offering of Shares pursuant to this Agreement, the time of the applicable Agent’s initial entry into contracts with investors for the sale of such Shares and (ii) with respect to each offering of Shares pursuant to any relevant Terms Agreement, the time of sale of such Shares.

(b) Prior to the execution of this Agreement, the Company has not, directly or indirectly, offered or sold any of the Shares by means of any “prospectus” (within the meaning of the Act) or used any “prospectus” (within the meaning of the Act) in connection with the offer or sale of the Shares, in each case other than the Base Prospectus. The Company represents and agrees that, unless it obtains the prior consent of the Agents, until the termination of this Agreement, it will not make any offer relating to the Shares that would constitute an “issuer free writing prospectus” (as defined in Rule 433 under the Act) or that would otherwise constitute a “free writing prospectus” (as defined in Rule 405 under the Act) other than any Permitted Free Writing Prospectus. Any such free writing prospectus relating to the Shares consented to by the Agents (including any Free Writing Prospectus prepared by the Company solely for use in connection with the offering contemplated by a particular Terms Agreement) is hereinafter referred to as a “**Permitted Free Writing Prospectus**”. The Company has complied and will comply in all material respects with the requirements of Rule 433 under the Act applicable to any Permitted Free Writing Prospectus, including timely filing with the Commission where required, legending and record keeping. The conditions set forth in one or more of subclauses (i) through (iv), inclusive, of Rule 433(b)(1) under the Act are satisfied, and the registration statement relating to the offering of the Shares contemplated hereby, as initially filed with the Commission, includes a prospectus that, other than by reason of Rule 433 under the Act, satisfies the requirements of Section 10 of the Act; the Company is not disqualified, by reason of Rule 164(f) or (g) under the Act, from using, in connection with the offer and sale of the Shares, “free writing prospectuses” (as defined in Rule 405 under the Act) pursuant to Rules 164 and 433 under the Act; the Company was not as of each eligibility determination date for purposes of Rules 164 and 433 under the Act with respect to the offering of the Shares contemplated by the Registration Statement and this Agreement and is not an “ineligible issuer” (as defined in Rule 405 under the Act). The Company has paid the registration fee for the offering of the Maximum Amount of Shares pursuant to Rule 457 under the Act.

(c) Incorporated Documents. The Incorporated Documents, when they were filed with the Commission (or, if any amendment with respect to any such document was filed, when such amendment was filed), conformed in all material respects to the requirements of the Act or the Exchange Act, as applicable, and none of such documents contained any untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading; and any further documents so filed during the Term and incorporated by reference in the Registration Statement, the Prospectus or any Permitted Free Writing Prospectus, when such documents become effective or are filed with the Commission, as the case may be, will conform in all material respects to the requirements of the Act or the Exchange Act, as applicable, and will not contain any untrue statement of a material fact or omit to state a material fact required to

be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading.

(d) Pursuant to the Exchange Act. The Shares are registered pursuant to Section 12(b) under the Exchange Act. The Company has taken no action designed to, or likely to have the effect of, terminating the registration of the Shares under the Exchange Act, nor has the Company received any notification that the Commission is contemplating terminating such registration.

(e) S-3 Eligibility. The Company and the transactions contemplated by this Agreement and any Terms Agreement meet the requirements for, and comply with the conditions for the use of, Form S-3 under the Act, including but not limited to Instruction I.B.1 of Form S-3. The Company is not a shell company (as defined in Rule 405 of the Act) and has not been a shell company for at least 12 calendar months.

(f) Stock Exchange Listing. All of the Shares that have been or may be sold under this Agreement and any Terms Agreement have been approved for listing on NasdaqCM and the Company has taken no action designed to, or likely to have the effect of, delisting the Shares from the NasdaqCM, nor has the Company received any notification that the NasdaqCM is contemplating terminating such listing.

(g) No Stop Orders, etc. Neither the Commission nor, to the best of the Company's knowledge, any state regulatory authority has issued any order preventing or suspending the use of the Registration Statement or the Prospectus or has instituted or, to the best of the Company's knowledge, threatened to institute, any proceedings with respect to such an order. The Company has complied with each request (if any) from the Commission for additional information.

(h) Disclosure of Agreements. The agreements and documents described in the Registration Statement, the Prospectus and any Permitted Free Writing Prospectus conform in all material respects to the descriptions thereof contained or incorporated by reference therein and there are no agreements or other documents required by the Act, to be described in the Registration Statement, the Prospectus and any Permitted Free Writing Prospectus or to be filed with the Commission as exhibits to the Registration Statement or to be incorporated by reference in the Registration Statement, the Prospectus and any Permitted Free Writing Prospectus, that have not been so described or filed or incorporated by reference. Each agreement or other instrument (however characterized or described) to which the Company is a party or by which it is or may be bound or affected and (i) that is referred to or incorporated by reference in the Registration Statement, the Prospectus and any Permitted Free Writing Prospectus, or (ii) is material to the Company's business, has been duly authorized and validly executed by the Company, is in full force and effect in all material respects and is enforceable against the Company and, to the Company's knowledge, the other parties thereto, in accordance with its terms, except (x) as such enforceability may be limited by bankruptcy, insolvency, reorganization or similar laws affecting creditors' rights generally, (y) as enforceability of any indemnification or contribution provision may be limited under the federal and state securities laws, and (z) that the remedy of specific performance and injunctive and other forms of equitable relief may be subject to the equitable defenses and to the discretion of the court before which any proceeding therefor may be brought. None of such agreements or instruments has been assigned

by the Company, and neither the Company nor, to the best of the Company's knowledge, any other party is in default thereunder and, to the best of the Company's knowledge, no event has occurred that, with the lapse of time or the giving of notice, or both, would constitute a default thereunder. To the best of the Company's knowledge, performance by the Company of the material provisions of such agreements or instruments will not result in a violation of any existing applicable law, rule, regulation, judgment, order or decree of any governmental agency or court, domestic or foreign, having jurisdiction over the Company or any of its assets or businesses (each, a "**Governmental Entity**"), including, without limitation, those relating to environmental laws and regulations.

(i) Prior Securities Transactions. No unregistered securities of the Company have been sold on behalf of, or for the benefit of, any person or persons controlling, controlled by or under common control with the Company, and no securities of the Company have been sold by the Company during the six-month period the date hereof, except as disclosed in the Registration Statement, the Prospectus and any Permitted Free Writing Prospectus.

(j) No Material Adverse Change. Since the respective dates as of which information is given in the Registration Statement, the Prospectus and any Permitted Free Writing Prospectus, except as otherwise specifically stated therein: (i) there has been no material adverse change, nor any change or development that, singularly or in the aggregate, would involve a material adverse change or a prospective material adverse change, in or affecting the condition (financial or otherwise), results of operations, business, assets or prospects of the Company (a "**Material Adverse Change**"); (ii) there have been no material transactions entered into by the Company, other than as contemplated pursuant to this Agreement and any Terms Agreement; and (iii) no officer or director of the Company has resigned from any position with the Company.

(k) Recent Securities Transactions, etc. Subsequent to the respective dates as of which information is given in the Registration Statement and the Prospectus, and except as may otherwise be indicated or contemplated herein or disclosed in the Registration Statement, the Prospectus and any Permitted Free Writing Prospectus, the Company has not: (i) issued any securities or incurred any liability or obligation, direct or contingent, for borrowed money; or (ii) declared or paid any dividend or made any other distribution on or in respect to its capital stock.

(l) Commission Filings. Since January 1, 2017, the Company has made all filings with the Commission required under the Exchange Act.

(m) Independent Accountants. To the knowledge of the Company, Ernst & Young LLP (the "**Auditor**"), whose report is filed with the Commission and included or incorporated by reference in the Registration Statement and the Prospectus is an independent registered public accounting firm as required by the Act and the Public Company Accounting Oversight Board. The Auditor has not, during the periods covered by the financial statements included or incorporated by reference in the Registration Statement, and the Prospectus, provided to the Company any non-audit services, as such term is used in Section 10A(g) of the Exchange Act.

(n) Financial Statements, etc. The financial statements, including the notes thereto and supporting schedules, included or incorporated by reference in the Registration Statement

and the Prospectus, fairly present the financial position and the results of operations of the Company at the dates and for the periods to which they apply; and such financial statements have been prepared in conformity with U.S. generally accepted accounting principles (“GAAP”), consistently applied throughout the periods involved (provided that unaudited interim financial statements are subject to year end audit adjustments that are not expected to be material in the aggregate) and the supporting schedules included or incorporated by reference in the Registration Statement or the Prospectus present fairly the information required to be stated therein. Each of the Registration Statement and the Prospectus discloses all material off-balance sheet transactions, arrangements, obligations (including contingent obligations), and other relationships of the Company with unconsolidated entities or other persons that may result in a material current or future effect on the Company’s financial condition, changes in financial condition, results of operations, liquidity, capital expenditures, capital resources, or significant components of revenues or expenses. Except as disclosed in the Registration Statement and the Prospectus, (a) the Company has not incurred any material liabilities or obligations, direct or contingent, or entered into any material transactions other than in the ordinary course of business, (b) the Company has not declared or paid any dividends or made any distribution of any kind with respect to its capital stock, (c) there has not been any change in the capital stock of the Company, or, other than in the course of business, any grants under any stock compensation plan, and (d) there has not been any Material Adverse Change in the Company’s long-term or short-term debt.

(o) Authorized Capital: Options, etc. The Company had, at the date or dates indicated in the Registration Statement, the Prospectus and any Permitted Free Writing Prospectus, the duly authorized, issued and outstanding capitalization as set forth therein. Except as set forth in, or contemplated by, the Registration Statement, the Prospectus and any Permitted Free Writing Prospectus, as of each Time of Sale and Settlement Date, as though made at and as of each such time, there will be no stock options, warrants, or other rights to purchase or otherwise acquire any authorized, but unissued shares of Common Stock of the Company or any security convertible into or exercisable for shares of Common Stock of the Company, or any contracts or commitments to issue or sell shares of Common Stock or any such options, warrants, rights or convertible securities.

(p) Outstanding Securities. All issued and outstanding securities of the Company issued prior to the transactions contemplated by this Agreement and any Terms Agreement have been duly authorized and validly issued and are fully paid and non-assessable; the holders thereof have no rights of rescission with respect thereto, and are not subject to personal liability by reason of being such holders; and none of such securities were issued in violation of the preemptive rights of any holders of any security of the Company or similar contractual rights granted by the Company. The authorized shares of Common Stock conform in all material respects to all statements relating thereto contained in the Registration Statement, the Prospectus and any Permitted Free Writing Prospectus. The offers and sales of the outstanding shares of Common Stock were at all relevant times either registered under the Act and the applicable state securities or “blue sky” laws or, based in part on the representations and warranties of the purchasers of such shares, exempt from such registration requirements.

(q) Securities Sold Pursuant to this Agreement. The Shares to be issued and sold by the Company hereunder or under any Terms Agreement have been duly authorized for issuance

and sale and, when issued and paid for in accordance with this Agreement or in any Terms Agreement, as the case may be, will be validly issued, fully paid and non-assessable; the Public Securities are not and will not be subject to the preemptive rights of any holders of any security of the Company or similar contractual rights granted by the Company; and all corporate action required to be taken for the authorization, issuance and sale of the Public Securities has been duly and validly taken. The Shares conform in all material respects to all statements with respect thereto contained in the Registration Statement, the Prospectus and any Permitted Free Writing Prospectus.

(r) Registration Rights of Third Parties. Except as set forth in the Registration Statement, the Prospectus and any Permitted Free Writing Prospectus, or on Schedule 1 hereto (in each case, which registration rights shall have been validly exercised or waived in connection with the filing of the Registration Statement and the offering of the Shares pursuant to this Agreement and any Terms Agreements), no holders of any securities of the Company or any rights exercisable for or convertible or exchangeable into securities of the Company have the right to require the Company to register any such securities of the Company under the Act or to include any such securities in a registration statement to be filed by the Company.

(s) Validity and Binding Effect of Agreements. This Agreement has been duly and validly authorized, executed and delivered by the Company, and constitutes, the valid and binding agreement of the Company, and any Terms Agreement will have been duly and validly authorized, executed and delivered by the Company, and constitute, the valid and binding agreement of the Company, in each case enforceable against the Company in accordance with its terms, except: (i) as such enforceability may be limited by bankruptcy, insolvency, reorganization or similar laws affecting creditors' rights generally; (ii) as enforceability of any indemnification or contribution provision may be limited under the federal and state securities laws; and (iii) that the remedy of specific performance and injunctive and other forms of equitable relief may be subject to the equitable defenses and to the discretion of the court before which any proceeding therefor may be brought.

(t) No Conflicts, etc. The execution, delivery and performance by the Company of this Agreement, any Terms Agreement and all ancillary documents, the consummation by the Company of the transactions herein and therein contemplated and the compliance by the Company with the terms hereof and thereof do not and will not, with or without the giving of notice or the lapse of time or both: (i) result in a breach of, or conflict with any of the terms and provisions of, or constitute a default under, or result in the creation, modification, termination or imposition of any lien, charge or encumbrance upon any property or assets of the Company pursuant to the terms of any agreement or instrument to which the Company is a party; (ii) result in any violation of the provisions of the Company's Certificate of Incorporation (as the same may be amended or restated from time to time, the "**Charter**") or the by-laws of the Company; or (iii) violate any existing applicable law, rule, regulation, judgment, order or decree of any Governmental Entity as of the date hereof (including, without limitation, those promulgated by the United States Food and Drug Administration (the "**FDA**") or by any foreign, federal, state or local regulatory authority performing functions similar to those performed by the FDA), except in the case of (i) or (iii) above for such violations as would not, individually or in the aggregate, result in a Material Adverse Change.

(u) No Defaults: Violations. No material default exists in the due performance and observance of any term, covenant or condition of any material license, contract, indenture, mortgage, deed of trust, note, loan or credit agreement, or any other agreement or instrument evidencing an obligation for borrowed money, or any other material agreement or instrument to which the Company is a party or by which the Company may be bound or to which any of the properties or assets of the Company is subject. The Company is not (i) in violation of any term or provision of its Charter or by-laws, or (ii) except as would not reasonably be expected to result in a Material Adverse Change, in violation of any franchise, license, permit, applicable law, rule, regulation, judgment or decree of any Governmental Entity.

(v) Conduct of Business. Except as described in the Registration Statement, the Prospectus and any Permitted Free Writing Prospectus, the Company has all requisite corporate power and authority, and has all necessary authorizations, approvals, orders, licenses, certificates and permits of and from all governmental regulatory officials and bodies that it needs as of the date hereof to conduct its business purpose as described in the Registration Statement, the Prospectus and any Permitted Free Writing Prospectus. The disclosures in the Registration Statement, the Prospectus and any Permitted Free Writing Prospectus concerning the effects of federal, state, local and foreign regulation on the offering of the Shares pursuant to this Agreement and any Terms Agreements and the Company's business as currently contemplated are correct in all material respects and no other such regulations are required to be disclosed in the Registration Statement, the Prospectus and any Permitted Free Writing Prospectus which are not so disclosed.

(w) Transactions Contemplated Herein. The Company has all corporate power and authority to enter into this Agreement and any Terms Agreement and to carry out the provisions and conditions hereof and the transactions contemplated hereby, and all consents, authorizations, approvals and orders required in connection therewith have been obtained. No consent, authorization or order of, and no filing with, any court, government agency or other body is required for the valid issuance, sale and delivery of the Public Securities and the consummation of the transactions and agreements contemplated by this Agreement and any Terms Agreement and as contemplated by the Registration Statement, the Prospectus and any Permitted Free Writing Prospectus, except with respect to applicable federal and state securities laws and the rules and regulations of the Financial Industry Regulatory Authority, Inc. ("FINRA").

(x) Litigation: Governmental Proceedings. There is no action, suit, proceeding, inquiry, arbitration, investigation, litigation or governmental proceeding pending or, to the Company's knowledge, threatened against, or involving the Company or, to the Company's knowledge, any executive officer or director which would, individually or in the aggregate, reasonably be expected to result in a Material Adverse Change.

(y) Good Standing. The Company has been duly organized and is validly existing as a corporation and is in good standing under the laws of the State of Delaware as of the date hereof, and is duly qualified to do business and is in good standing in each other jurisdiction in which its ownership or lease of property or the conduct of business requires such qualification, except where the failure to qualify, singularly or in the aggregate, would not have or reasonably be expected to result in a Material Adverse Change.

(z) Insurance. The Company carries or is entitled to the benefits of insurance, with reputable insurers, in such amounts and covering such risks which the Company believes are adequate, and all such insurance is in full force and effect. The Company has no reason to believe that it will not be able (i) to renew its existing insurance coverage as and when such policies expire or (ii) to obtain comparable coverage from similar institutions as may be necessary or appropriate to conduct its business as now conducted and at a cost that would not result in a Material Adverse Change.

(aa) Finder's Fees. Except as described in the Registration Statement, the Prospectus and any Permitted Free Writing Prospectus, there are no claims, payments, arrangements, agreements or understandings relating to the payment of a finder's, consulting or origination fee by the Company or any Insider with respect to the sale of the Public Securities hereunder or any other arrangements, agreements or understandings of the Company or, to the Company's knowledge, any of its stockholders that may affect the Agents' compensation, as determined by FINRA.

(bb) Payments Within Twelve (12) Months. Except as described in the Registration Statement, the Prospectus and any Permitted Free Writing Prospectus, the Company has not made any direct or indirect payments (in cash, securities or otherwise) to: (i) any person, as a finder's fee, consulting fee or otherwise, in consideration of such person raising capital for the Company or introducing to the Company persons who raised or provided capital to the Company; (ii) any FINRA member; or (iii) any person or entity that has any direct or indirect affiliation or association with any FINRA member, within the twelve (12) months prior to the date of this Agreement or any Terms Agreement, other than the payment to the Agents as provided hereunder.

(cc) Use of Proceeds. None of the net proceeds of the offering of the Shares pursuant to this Agreement and any Terms Agreements will be paid by the Company to any participating FINRA member or its affiliates, except as specifically authorized herein.

(dd) FINRA Affiliation. There is no (i) officer or director of the Company, (ii) beneficial owner of 5% or more of any class of the Company's securities or (iii) beneficial owner of the Company's unregistered equity securities which were acquired during the 180-day period immediately preceding the filing of the Registration Statement that is an affiliate or associated person of a FINRA member participating in the offering of the Shares pursuant to this Agreement and any Terms Agreements (as determined in accordance with the rules and regulations of FINRA).

(ee) Information. All information provided by the Company in its FINRA Questionnaire to Agents' Counsel specifically for use by Agents' Counsel in connection with its determination of compliance for the offering of the Shares pursuant to this Agreement and any Terms Agreements with applicable FINRA rules is true, correct and complete in all material respects.

(ff) Foreign Corrupt Practices Act. None of the Company or, to the Company's knowledge, any director, officer, agent, employee or affiliate of the Company or any other person acting on behalf of the Company, has (i) used any corporate funds for any unlawful

contribution, gift, entertainment or other unlawful expense relating to political activity; (ii) made or taken an act in furtherance of an offer, promise or authorization of any direct or indirect unlawful payment or benefit to any foreign or domestic government official or employee, including of any government-owned or controlled entity or of a public international organization, or any person acting in an official capacity for or on behalf of any of the foregoing, or any political party or party official or candidate for political office; (iii) violated or is in violation of any provision of the Foreign Corrupt Practices Act of 1977, as amended, or any applicable law or regulation implementing the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions, or committed an offence under the Bribery Act 2010 of the United Kingdom or any other applicable anti-bribery or anti-corruption law; or (iv) made, offered, agreed, requested or taken an act in furtherance of any unlawful bribe or other unlawful benefit, including, without limitation, any rebate, payoff, influence payment, kickback or other unlawful or improper payment or benefit.

(gg) Compliance with OFAC. None of the Company or, to the Company's knowledge, any director, officer, agent, employee or affiliate of the Company or any other person acting on behalf of the Company, is currently subject to, or the target of, any sanctions administered or enforced by the U.S. government, (including, without limitation, the Office of Foreign Assets Control of the U.S. Department of the Treasury ("**OFAC**") or the U.S. Department of State and including, without limitation, the designation as a "specially designated national" or "blocked person"), the United Nations Security Council ("**UNSC**"), the European Union, Her Majesty's Treasury ("**HMT**") or other relevant sanctions authority (collectively, "**Sanctions**"), nor is the Company located, organized or resident in a country or territory that is the subject or target of Sanctions, including, without limitation, Cuba, Iran, North Korea, Syria and Crimea (each, a "**Sanctioned Country**"); and the Company will not, directly or indirectly, use the proceeds of the offering of the Shares pursuant to this Agreement and any Terms Agreements, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other person or entity (i) to fund or facilitate any activities of or business with any person that, at the time of such funding or facilitation, is the subject or target of Sanctions, (ii) to fund or facilitate any activities of or business in any Sanctioned Country or (iii) in any other manner that will result in a violation by any person (including any person participating in the transaction, whether as underwriter, advisor, investor or otherwise) of Sanctions. For the past five years, the Company has not knowingly engaged in and are not now knowingly engaged in any dealings or transactions with any person that at the time of the dealing or transaction is or was the subject or the target of Sanctions or with any Sanctioned Country.

(hh) Money Laundering Laws. The operations of the Company are and have been conducted at all times in compliance with applicable financial recordkeeping and reporting requirements, including those of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the applicable money laundering statutes of all jurisdictions where the Company conducts business, the rules and regulations thereunder and any related or similar rules, regulations or guidelines issued, administered or enforced by any Governmental Entity (collectively, the "**Money Laundering Laws**"); and no action, suit or proceeding by or before any Governmental Entity involving the Company with respect to the Money Laundering Laws is pending or, to the best knowledge of the Company, threatened.

(ii) Environmental Matters. The Company is in compliance in all material respects with all rules, laws and regulation relating to the use, treatment, storage and disposal of toxic substances and protection of health or the environment (“**Environmental Law**”) which are applicable to its business; (ii) the Company has not received any written notice from any governmental authority or third party of an asserted claim under Environmental Laws; (iii) the Company has received all permits, licenses or other approvals required of it under applicable Environmental Laws to conduct its business and is in compliance with all terms and conditions of any such permit, license or approval in all material respects; (iv) to the Company’s knowledge, no facts currently exist that will require the Company to make future material capital expenditures to comply with Environmental Laws; and (v) no property which is or has been owned, leased or occupied by the Company has been designated as a Superfund site pursuant to the Comprehensive Environmental Response, Compensation of Liability Act of 1980, as amended (42 U.S.C. Section 9601, et. seq.) (“**CERCLA 1980**”) or otherwise designated as a contaminated site under applicable state or local law. The Company has not been named as a “potentially responsible party” under CERCLA 1980.

(jj) Subsidiaries. The Company has no direct or indirect subsidiary or subsidiaries and does not control, directly or indirectly, any corporation, partnership, joint venture, association or other business organization.

(kk) Related Party Transactions. There are no business relationships or related party transactions involving the Company or any other person required to be described or incorporated by reference in the Registration Statement, the Prospectus and any Permitted Free Writing Prospectus that have not been described or incorporated by reference as required.

(ll) Board of Directors. The Board of Directors of the Company is comprised of the persons set forth in the Pricing Prospectus, the Prospectus and the documents incorporated by reference therein. The qualifications of the persons serving as board members and the overall composition of the board comply with the Sarbanes-Oxley Act of 2002 and the rules promulgated thereunder (the “**Sarbanes-Oxley Act**”) applicable to the Company and the listing rules of the NASDAQ Stock Market LLC. At least one member of the Audit Committee of the Board of Directors of the Company qualifies as a “financial expert,” as such term is defined under the Sarbanes-Oxley Act and the listing rules of the NASDAQ Stock Market LLC. In addition, at least a majority of the persons serving on the Board of Directors of the Company qualify as “independent,” as defined under the listing rules of the NASDAQ Stock Market LLC.

(mm) Disclosure Controls. The Company has developed and currently maintains disclosure controls and procedures that comply with Rule 13a-15 or 15d-15 under the Exchange Act, and such controls and procedures are effective to ensure that all material information concerning the Company are made known on a timely basis to the individuals responsible for the preparation of the Company’s Exchange Act filings and other public disclosure documents.

(nn) Compliance. The Company is in material compliance with the provisions of the Sarbanes-Oxley Act applicable to it, and has implemented or will implement such programs and taken reasonable steps to ensure the Company’s future compliance (not later than the relevant statutory and regulatory deadlines therefor) with all of the material provisions of the Sarbanes-Oxley Act.

(oo) Accounting Controls. The Company maintains systems of “internal control over financial reporting” (as defined under Rules 13-a15 and 15d-15 under the Exchange Act) that comply with the requirements of the Exchange Act and have been designed by, or under the supervision of, its respective principal executive and principal financial officers, or persons performing similar functions, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP, including, but not limited to, internal accounting controls sufficient to provide reasonable assurance that (i) transactions are executed in accordance with management’s general or specific authorizations; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain asset accountability; (iii) access to assets is permitted only in accordance with management’s general or specific authorization; and (iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences. The Company is not aware of any material weaknesses in its internal controls. The Company’s auditors and the Audit Committee of the Board of Directors of the Company have been advised of: (i) all significant deficiencies and material weaknesses in the design or operation of internal controls over financial reporting which are known to the Company’s management and that have adversely affected or are reasonably likely to adversely affect the Company’s ability to record, process, summarize and report financial information; and (ii) any fraud known to the Company’s management, whether or not material, that involves management or other employees who have a significant role in the Company’s internal controls over financial reporting.

(pp) No Investment Company Status. The Company is not and, after giving effect to the offering of the Shares pursuant to this Agreement and any Terms Agreements and the application of the proceeds thereof as described in the Registration Statement, the Prospectus and any Permitted Free Writing Prospectus, will not be, an “investment company,” as defined in the Investment Company Act of 1940, as amended.

(qq) No Labor Disputes. No labor dispute with the employees of the Company exists or, to the knowledge of the Company, is imminent.

(rr) Intellectual Property Rights. Except (i) as described in the Registration Statement, the Prospectus and any Permitted Free Writing Prospectus, or (ii) as would not, individually or in the aggregate, result in a Material Adverse Change, (A) to the Company’s knowledge, the Company owns or possesses the right to use all patents, trademarks, trademark registrations, service marks, service mark registrations, trade names, copyrights, licenses, inventions, software, databases, know-how, Internet domain names, trade secrets and other unpatented and/or unpatentable proprietary or confidential technology and information, systems or procedures, and other material intellectual property (collectively, “**Intellectual Property**”) necessary to carry on its business as currently conducted, and as proposed to be conducted, in each case as described in the Registration Statement, any Preliminary Prospectus, the Pricing Prospectus or the Prospectus (collectively, “**Company Intellectual Property**”) and the Company is not aware of any claim to the contrary or any challenge by any other person or entity to the rights of the Company with respect to the foregoing; (B) each of the agreements described in the Registration Statement, any Preliminary Prospectus, the Pricing Prospectus or the Prospectus, which include licensing or transfer of Intellectual Property (each an “**Intellectual**

Property Agreement”) are valid, binding upon, and enforceable by or against the Company in accordance with its terms, except as enforceability may be limited by bankruptcy, insolvency or similar laws affecting the rights of creditors generally and general equitable principles; (C) the Company has complied in all material respects with, and is not in breach nor has received any asserted or threatened claim of breach of, any Intellectual Property Agreement, and the Company has no knowledge of any breach or anticipated breach by any other person to any Intellectual Property Agreement; (D) the Company has not received any notice from, and there is no pending or, to the Company’s knowledge, threatened action, suit, proceeding or claim by, others that the Company infringes or otherwise violates, or would, upon the commercialization of any product or service described in the Registration Statement, any Preliminary Prospectus, the Pricing Prospectus or the Prospectus as under development, infringe or violate, any Intellectual Property or franchise right of any person or entity; (E) the Company has not instituted, and does not currently plan to institute, any claim against any person or entity for infringement of the Company Intellectual Property; (F) to the Company’s knowledge, no person or entity infringes or is otherwise in conflict with the Company Intellectual Property; (G) the Company has taken all steps reasonably necessary to protect, maintain and safeguard its rights in all Company Intellectual Property, including the execution of appropriate nondisclosure and confidentiality agreements; (H) the consummation of the transactions contemplated by this Agreement and any Terms Agreement will not result in the loss or impairment of or payment of any additional amounts with respect to, nor require the consent of any other person in respect of, the Company’s right to own, use, or hold for use any of the Company Intellectual Property as owned, used or held for use in the conduct of its business; (I) the granted and/or issued Company Intellectual Property owned or licensed by the Company is currently in force and has been properly maintained and has not been adjudged by a court of competent jurisdiction as invalid or unenforceable, in whole or in part, and there is no pending or, to the Company’s knowledge, threatened action, suit, proceeding or claim by others challenging the validity or scope of any such Intellectual Property nor to the Company’s knowledge is there any reasonable basis for such a claim; and (J) the pending government registered Company Intellectual Property owned or licensed by the Company is current, up-to-date and in good standing, and the Company has followed in all material respects all relevant laws, rules, procedures and requirements in the filing, prosecution and maintenance of such pending government registered Intellectual Property in the relevant jurisdiction to which such government registered Company Intellectual Property is pending. The Company has at all times complied in all material respects with all applicable laws relating to privacy, data protection, and the collection and use of personal information collected, used, or held for use by the Company in the conduct of the Company’s business. No claims have been asserted or, to the Company’s knowledge, threatened against the Company alleging a violation of any person’s privacy or personal information or data rights, and the consummation of the transactions contemplated hereby will not breach or otherwise cause any violation of any law related to privacy, data protection, or the collection and use of personal information collected, used, or held for use by the Company in the conduct of the Company’s business. The Company takes reasonable measures to ensure that such information is protected against unauthorized access, use, modification, or other misuse. The Company is not a party to or bound by any options, licenses or agreements with respect to the Intellectual Property of any other person or entity that are required to be set forth in the Registration Statement, any Preliminary Prospectus, the Pricing Prospectus or the Prospectus and are not described therein.

(ss) Taxes. The Company has filed all returns (as hereinafter defined) required to be filed with taxing authorities prior to the date hereof or has duly obtained extensions of time for the filing thereof. The Company has paid all taxes (as hereinafter defined) shown as due on such returns that were filed and has paid all taxes imposed on or assessed against the Company. The provisions for taxes payable, if any, shown on the financial statements filed with or as part of the Registration Statement are sufficient for all accrued and unpaid taxes, whether or not disputed, and for all periods to and including the dates of such consolidated financial statements. No issues have been raised (and are currently pending) by any taxing authority in connection with any of the returns or taxes asserted as due from the Company, and no waivers of statutes of limitation with respect to the returns or collection of taxes have been given by or requested from the Company. The term “**taxes**” mean all federal, state, local, foreign and other net income, gross income, gross receipts, sales, use, ad valorem, transfer, franchise, profits, license, lease, service, service use, withholding, payroll, employment, excise, severance, stamp, occupation, premium, property, windfall profits, customs, duties or other taxes, fees, assessments or charges of any kind whatever, together with any interest and any penalties, additions to tax or additional amounts with respect thereto. The term “**returns**” means all returns, declarations, reports, statements and other documents required to be filed in respect to taxes.

(tt) ERISA Compliance. The Company 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 or its “ERISA Affiliates” (as defined below) are in compliance in all material respects with ERISA. “**ERISA Affiliate**” means, with respect to the Company, 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 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 or any of its ERISA Affiliates. No “employee benefit plan” established or maintained by the Company or any of its ERISA Affiliates, if such “employee benefit plan” were terminated, would have any “amount of unfunded benefit liabilities” (as defined under ERISA). Neither the Company nor any of its ERISA Affiliates has incurred or reasonably expects to incur any material liability under (i) Title IV of ERISA with respect to termination of, or withdrawal from, any “employee benefit plan” or (ii) Sections 412, 4971, 4975 or 4980B of the Code. Each “employee benefit plan” established or maintained by the Company or any of its ERISA Affiliates that is intended to be qualified under Section 401(a) of the Code is so qualified and, to the knowledge of the Company, nothing has occurred, whether by action or failure to act, which would cause the loss of such qualification.

(uu) Compliance with Laws. Except as would not, individually or in the aggregate, result in a Material Adverse Change, the Company: (A) possesses all material licenses, certificates, approvals, clearances, authorizations, permits and supplements or amendments thereto (“**Authorizations**”) required by all statutes, rules, or regulations applicable to the Company (“**Applicable Laws**”) and each such Authorization is valid and in full force and effect and is not in material violation of any term of any other Authorization; (B) has not received notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from any governmental authority or third party alleging any violation of any Applicable Laws or Authorizations and has no knowledge that any such governmental authority

or third party is considering any such claim, litigation, arbitration, action, suit, investigation or proceeding; (C) has not received notice that any governmental authority has taken, is taking or intends to take action to limit, suspend, modify or revoke any Authorizations and has no knowledge that any such governmental authority is considering such action; and (D) has 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 (or were corrected or supplemented by a subsequent submission).

(vv) **Industry Data.** The statistical and market-related data included in each of the Registration Statement, the Prospectus and any Permitted Free Writing Prospectus are based on or derived from sources that the Company reasonably and in good faith believes are reliable and accurate or represent the Company's good faith estimates that are made on the basis of data derived from such sources.

(ww) Except as set forth in the Registration Statement, the Prospectus and any Permitted Free Writing Prospectus, the Company has such permits, licenses, certificates, approvals, clearances, authorizations or amendments thereto (the "**Regulatory Permits**") issued by the appropriate federal, state, local or foreign regulatory agencies or bodies necessary to conduct the business of the Company as described in the Registration Statement, any Preliminary Prospectus, the Pricing Prospectus or the Prospectus and any Issuer Free Writing Prospectus, including, without limitation, any Investigational New Drug Application ("**IND**"), New Drug Application ("**NDA**"), or Biologics License Application ("**BLA**") as required by the FDA or other authorizations issued by federal, state, local or foreign agencies or bodies, including Health Canada, engaged in the regulation of pharmaceuticals and biological products such as those being developed by the Company (collectively, "**Governmental Authorities**," and each, a "**Governmental Authority**"), except for any of the foregoing that would not, individually or in the aggregate, result in a Material Adverse Change; the Company is in compliance with the requirements of the Regulatory Permits, and all of the Regulatory Permits are valid and in full force and effect, in each case in all material respects; the Company has not received any notice of proceedings relating to the revocation, termination, modification or impairment of rights of any of the Regulatory Permits that, individually or in the aggregate, if the subject of an unfavorable decision, ruling or finding, could reasonably be expected to result in a Material Adverse Change; the Company has not failed to file with the FDA or any Governmental Authority any required application, submission, report, document, notice, supplement, or amendment, and all such filings were in material compliance with applicable laws when filed and have been supplemented as necessary to remain in material compliance with applicable laws and no material deficiencies have been asserted by the FDA or any Governmental Authority with respect to any such filings.

(xx) To the Company's knowledge, the research, studies and clinical trials conducted by or on behalf of the Company or being relied on by the Company have been and, if still pending, are being conducted, in all material respects, in accordance with experimental protocols and procedures pursuant to all applicable laws and Regulatory Permits and the results of such research, studies and clinical trials described in the Registration Statement, any Preliminary Prospectus, the Pricing Prospectus or the Prospectus and any Issuer Free Writing Prospectus, are accurate and fairly present, in all material respects, the data derived from such research, studies,

and clinical trials; any research, studies and clinical trials conducted by or on behalf of the Company if still pending, are, to the Company's knowledge, being conducted in all material respects in accordance with professional and scientific standards and the applicable requirements of the FDA and other Governmental Authorities; neither the Company, nor to the Company's knowledge any Physician Sponsor, has received any notice or correspondence from the FDA nor any Governmental Authority requiring the termination, suspension or modification of any such study or clinical trial; and except to the extent disclosed in the Registration Statement, any Preliminary Prospectus, the Pricing Prospectus or the Prospectus and any Issuer Free Writing Prospectus, the Company is not aware of any research, study or clinical trial, the results of which the Company believes reasonably call into question the results described or referred to in the Registration Statement, any Preliminary Prospectus, the Pricing Prospectus or the Prospectus and any Issuer Free Writing Prospectus.

(yy) Neither the Company nor, to the Company's knowledge, any of its directors, officers, employees or agents has been convicted of any crime under any Applicable Laws that would be reasonably likely to lead to FDA debarment or has been the subject of an FDA debarment proceeding. The Company has not been nor is it now subject to FDA's Application Integrity Policy. To the Company's knowledge, neither the Company, nor any of its directors, officers, employees or agents, has made, or caused the making of, any false statements on, or material omissions from, any other records or documentation prepared or maintained to comply with the requirements of the FDA or any other Governmental Entity.

(zz) Forward-Looking Statements. No forward-looking statement (within the meaning of Section 27A of the Act and Section 21E of the Exchange Act) contained in the Registration Statement, the Prospectus and any Permitted Free Writing Prospectus has been made or reaffirmed by the Company without a reasonable basis or has been disclosed by the Company other than in good faith.

(aaa) Exchange Act Reports. The Company has filed in a timely manner all reports required to be filed pursuant to Sections 13(a), 13(e), and 14 of the Exchange Act during the preceding 12 months.

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

4. Certain Covenants of the Company. The Company hereby agrees with each Agent:

(a) For so long as the delivery of a prospectus is required (whether physically or through compliance with Rule 172 under the Act or any similar rule) in connection with the offering or sale of Shares, before using or filing any Permitted Free Writing Prospectus and before using or filing any amendment or supplement to the Registration Statement, the Prospectus or any Permitted Free Writing Prospectus (in each case, other than due to the filing of an Incorporated Document), to furnish to each Agent a copy of each such proposed Permitted Free Writing Prospectus, amendment or supplement within a reasonable period of time before

filing with the Commission or using any such Permitted Free Writing Prospectus, amendment or supplement and the Company will not use or file any such Permitted Free Writing Prospectus or any such proposed amendment or supplement to which an Agent reasonably objects, unless the Company's legal counsel has advised the Company that use or filing of such document is required by law; and the Company will not use or file any such Permitted Free Writing Prospectus or proposed, amendment or supplement to which an Agent reasonably objects unless the Company's legal counsel has advised the Company that use or filing of such document is required by law.

(b) To file the Prospectus, each Prospectus Supplement and any other amendments or supplements to the Prospectus pursuant to, and within the time period required by, Rule 424(b) under the Act (without reference to Rule 424(b)(8)) and to file any Permitted Free Writing Prospectus to the extent required by Rule 433 under the Act and to provide copies of the Prospectus, each Prospectus Supplement, any other amendments or supplements to the Prospectus and each Permitted Free Writing Prospectus (to the extent not previously delivered or filed on the Commission's Electronic Data Gathering, Analysis and Retrieval system or any successor system thereto (collectively, "EDGAR")) to the Agents via e-mail in ".pdf" format on such filing date to an e-mail account designated by such Agent and, at an Agent's request, to also furnish copies of the Prospectus, each Prospectus Supplement, any other amendments or supplements to the Prospectus and each Permitted Free Writing Prospectus to each exchange or market on which sales were effected as may be required by the rules or regulations of such exchange or market.

(c) To file timely all reports and any definitive proxy or information statements required to be filed by the Company with the Commission pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act for so long as the delivery of a prospectus is required (whether physically or through compliance with Rule 172 under the Act or any similar rule) in connection with the offering or sale of the Shares, and during such same period to advise the Agents, promptly after the Company receives notice thereof, (i) of the time when any amendment to the Registration Statement has been filed or has become effective or any supplement to the Prospectus or any Permitted Free Writing Prospectus or any amended Prospectus has been filed with the Commission; (ii) of the issuance by the Commission of any stop order or any order preventing or suspending the use of any prospectus relating to the Shares or the initiation or threatening of any proceeding for that purpose, pursuant to Section 8A of the Act; (iii) of any objection by the Commission to the use of Form S-3ASR by the Company pursuant to Rule 401(g)(2) under the Act; (iv) of the suspension of the qualification of the Shares for offering or sale in any jurisdiction or of the initiation or threatening of any proceeding for any such purpose; (v) of any request by the Commission for the amendment of the Registration Statement or the amendment or supplementation of the Prospectus (in each case including any documents incorporated by reference therein) or for additional information; (vi) of the occurrence of any event as a result of which the Prospectus or any Permitted Free Writing Prospectus as then amended or supplemented includes any untrue statement of a material fact or omits to state a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances existing when the Prospectus or any such Permitted Free Writing Prospectus is delivered to a purchaser, not misleading; and (vii) of the receipt by the Company of any notice of objection of the Commission to the use of the Registration Statement or any post-effective amendment thereto.

(d) In the event of the issuance of any such stop order or of any such order preventing or suspending the use of any such prospectus or suspending any such qualification, or of any notice of objection pursuant to Rule 401(g)(2) under the Act, to use promptly its commercially reasonable efforts to obtain its withdrawal.

(e) To furnish such information as may be required and otherwise cooperate in qualifying the Shares for offering and sale under the securities or blue sky laws of such states or other jurisdictions as any Agent may reasonably designate and to maintain such qualifications in effect so long as required for the distribution of the Shares; provided that the Company shall not be required to qualify as a foreign corporation, become a dealer of securities, or become subject to taxation in, or to consent to the service of process under the laws of, any such state or other jurisdictions (except service of process with respect to the offering and sale of the Shares); and to promptly advise the Agents of the receipt by the Company of any notification with respect to the suspension of the qualification of the Shares for sale in any jurisdiction or the initiation of any proceeding for such purpose.

(f) To make available to the Agents at their respective offices in New York City, without charge, as soon as reasonably practicable after the Registration Statement becomes effective, and thereafter from time to time to furnish to the Agents, as many copies of the Prospectus and the Prospectus Supplement (or of the Prospectus or Prospectus Supplement as amended or supplemented if the Company shall have made any amendments or supplements thereto and documents incorporated by reference therein after the effective date of the Registration Statement) and each Permitted Free Writing Prospectus as the Agents may reasonably request for so long as the delivery of a prospectus is required (whether physically or through compliance with Rule 172 under the Act or any similar rule); and for so long as this Agreement is in effect, the Company will prepare and file promptly such amendment or amendments to the Registration Statement, the Prospectus or any Permitted Free Writing Prospectus as may be necessary to comply with the requirements of Section 10(a)(3) of the Act.

(g) To furnish or make available to the Agents during the Term (i) copies of any reports or other communications which the Company shall send to its shareholders or shall from time to time publish or publicly disseminate and (ii) copies of all annual, quarterly and current reports filed with the Commission on Forms 10-K, 10-Q and 8-K, or such other similar form as may be designated by the Commission, and to furnish to the Agents from time to time during the Term such other information as the Agents may reasonably request regarding the Company, in each case as soon as such reports, communications, documents or information becomes available or promptly upon the request of the Agents, as applicable; provided, however, that the Company shall have no obligation to provide the Agents with any document filed on EDGAR or included on the Company's Internet website.

(h) If, at any time during the Term, any event shall occur or condition shall exist as a result of which it is necessary in the reasonable opinion of counsel for the Agents or counsel for the Company, to further amend or supplement the Prospectus or any Permitted Free Writing Prospectus as then amended or supplemented in order that the Prospectus or any such Permitted Free Writing Prospectus will not include an untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary in order to make the statements therein not misleading, in light of the circumstances existing at the time the Prospectus or any

such Permitted Free Writing Prospectus is delivered to a purchaser, or if it shall be necessary, in the reasonable opinion of either such counsel, to amend or supplement the Registration Statement, the Prospectus or any Permitted Free Writing Prospectus in order to comply with the requirements of the Act, in the case of such a determination by counsel to the Company, prompt notice shall be given, and confirmed in writing, to the Agents to cease the solicitation of offers to purchase the Shares in the Agents' capacity as agents, and, in either case, the Company will, subject to Section 4(a) above, promptly prepare and file with the Commission such amendment or supplement, whether by filing documents pursuant to the Act, the Exchange Act or otherwise, as may be necessary to correct such untrue statement or omission or to make the Registration Statement, the Prospectus or any such Permitted Free Writing Prospectus comply with such requirements.

(i) To generally make available to its security holders as soon as reasonably practicable, but not later than 16 months after the first day of each fiscal quarter referred to below, an earnings statement (in form complying with the provisions of Section 11(a) under the Act and Rule 158 of the Commission promulgated thereunder) covering each twelve-month period beginning, in each case, not later than the first day of the Company's fiscal quarter next following each "effective date" (as defined in such Rule 158) of the Registration Statement with respect to each sale of Shares.

(j) To apply the net proceeds from the sale of the Shares in the manner described in the Prospectus Supplement under the caption "Use of Proceeds."

(k) Not to, and to cause its affiliates not to take, directly or indirectly, any action designed to cause or result in, or that constitutes or might reasonably be expected to constitute, the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Shares; *provided* that nothing herein shall prevent the Company from filing or submitting reports under the Exchange Act or issuing press releases in the ordinary course of business.

(l) Except as otherwise agreed between the Company and the Agents, to pay all costs, expenses, fees and taxes in connection with (i) the preparation and filing of the Registration Statement, the Prospectus, any Permitted Free Writing Prospectus, and any amendments or supplements thereto, and the printing and furnishing of copies of each thereof to the Agents and to dealers (including costs of mailing and shipment), (ii) the registration, issue and delivery of the Shares, (iii) the qualification of the Shares for offering and sale under the securities or blue sky laws of such states or other jurisdictions as the Agents may reasonably designate as aforesaid (including filing fees and the reasonable legal fees and disbursements of counsel to the Agents in connection therewith) and the printing and furnishing of copies of any blue sky surveys to the Agents, (iv) the listing of the Shares on the Exchange and any registration thereof under the Exchange Act, (v) the fees and disbursements of counsel to the Company and of the Company's independent registered public accounting firm, (vi) the performance of the Company's other obligations hereunder and under any Terms Agreement and (vii) the documented out-of-pocket expenses of the Agents, including the reasonable fees and disbursements of counsel to the Agents in connection with this Agreement and ongoing services in connection with the transactions contemplated hereunder.

(m) With respect to the offering(s) contemplated by this Agreement or any Terms Agreement, the Company will not offer shares of Common Stock or any securities convertible into or exchangeable or exercisable for shares of the Common Stock in a manner in violation of the Act or the Exchange Act; and the Company will not distribute any offering material in connection with the offer and sale of the Shares, other than the Registration Statement, the Prospectus or any Permitted Free Writing Prospectus and any amendments or supplements thereto.

(n) During each period commencing on the date of each Transaction Proposal and ending after the close of business on the Purchase Date for the related Agency Transaction, the Company will not (i) offer, pledge, announce the intention to sell, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase or otherwise transfer or dispose of, directly or indirectly, or file with the Commission a registration statement under the Act (other than a registration statement on Form S-8) relating to, any shares of its Common Stock or any securities convertible into, or exercisable or exchangeable for, such shares or (ii) enter into any swap or other agreement that transfers, in whole or in part, any of the economic consequences of ownership of such shares, whether any such transaction described in clause (i) or (ii) above is to be settled by delivery of shares or such other securities, in cash or otherwise, without the prior written consent of the applicable Agent with respect to such Agency Transaction, except for (A) the Shares to be sold hereunder, (B) the issuance of shares pursuant to the Company's Amended and Restated 2004 Employee, Director and Consultant Stock Plan, 2012 Equity Incentive Plan, the Employee Stock Purchase Plan, and/or the 2016 Long-Term Incentive Plan as described in the Registration Statement and the Prospectus, and (C) securities issued in connection with a transaction that includes a commercial relationship (including joint ventures, marketing or distribution arrangements, collaboration agreements or intellectual property license agreements) or any acquisition of assets or not less than a majority or controlling portion of the equity of another entity; provided that the aggregate number of shares or securities issued pursuant to this clause (C) shall not exceed 5.0% of the total number of outstanding shares of Common Stock immediately following execution of this Agreement. Unless the Company has given written notice to the Agents that the Company has suspended activity under this Agreement and there are no pending Agency Transactions or Principal Transactions, the Company will not, without (A) giving the Agents at least three Exchange Business Days' prior written notice specifying the nature of the proposed sale and the date of such proposed sale and (B) the Agents suspending activity under this program for such period of time as requested by the Company or deemed appropriate by the Agents in light of the proposed sale.

(o) The Company will not make an "at the market offering" of its Common Stock with any entity other than the Agents.

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

(q) The Company will use commercially reasonable efforts to cause the Shares to be listed on the NasdaqCM.

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

5. Execution of Agreement. Each Agent's obligations under this Agreement shall be subject to the satisfaction of the following conditions in connection with and on the date of the execution of this Agreement:

- (a) the Company shall have delivered to the Agents:
 - (i) an officers' certificate of its Chairman, President and Chief Executive Officer and its Vice President of Finance and Chief Accounting Officer certifying as to the matters set forth in Exhibit B hereto;
 - (ii) a secretary's certificate certifying, among other things: (i) that each of the Charter and Bylaws is true and complete, has not been modified and is in full force and effect; (ii) that the resolutions of the Company's Board of Directors and any committee thereof relating to the offer and sale of the Shares are in full force and effect and have not been modified; (iii) as to the accuracy and completeness of all correspondence between the Company or its counsel and the Commission; and (iv) as to the incumbency of the officers of the Company. The documents referred to in such certificate shall be attached to such certificate;
 - (iii) a regulatory certificate of the Company's regulatory affairs officer, in a form satisfactory to the Agents, with respect to the regulatory affairs of the Company;
 - (iv) an opinion and, if not covered in such opinion, a negative assurance letter of Alston & Bird LLP, counsel for the Company, addressed to the Agents and dated the date of this Agreement, in the form of Exhibit C hereto;
 - (v) a "comfort" letter from Ernst & Young LLP, addressed to the Agents and dated the date of this Agreement, addressing such matters as the Agents may reasonably request;
 - (vi) evidence reasonably satisfactory to the Agents and the Agent's counsel that the Shares have been approved for listing on the NasdaqCM, subject only to notice of issuance on or before the date hereof;
 - (vii) resolutions duly adopted by the Company's board of directors, and certified by an officer of the Company, authorizing the Company's execution of this Agreement and the consummation by the Company of the transactions contemplated hereby, including the issuance and sale of the Shares; and
 - (viii) such other documents as the Agents shall reasonably request; and

(b) The Agents shall have received a legal opinion and negative assurance letter of Davis Polk & Wardwell LLP, counsel to the Agents, addressed to the Agents and dated the date of this Agreement, addressing such matters as the Agents may reasonably request.

6. Additional Covenants of the Company. The Company further covenants and agrees with each Agent as follows:

(a) Each Transaction Proposal made by the Company that is accepted by an Agent by means of a Transaction Acceptance and each execution and delivery by the Company of a Terms Agreement shall be deemed to be (i) an affirmation that the representations, warranties and agreements of the Company herein contained and contained in any certificate delivered to the Agents pursuant hereto are true and correct at such Time of Acceptance or the date of such Terms Agreement, as the case may be, and (ii) an undertaking that such representations, warranties and agreements will be true and correct on any applicable Time of Sale and Settlement Date, as though made at and as of each such time (it being understood that such representations, warranties and agreements shall relate to the Registration Statement, the Prospectus or any Permitted Free Writing Prospectus as amended and supplemented to the time of such Transaction Acceptance or Terms Agreement, as the case may be).

(b) Each time that (i) the Registration Statement, the Prospectus or any Permitted Free Writing Prospectus shall be amended or supplemented (including, except as noted in the proviso at the end of this Section 6(b), by the filing of any Incorporated Document), (ii) there is a Principal Settlement Date pursuant to a Terms Agreement, or (iii) the Agents shall reasonably request (each date referred to clauses (i), (ii) and (iii) above, a “**Bring-Down Delivery Date**”), the Company shall, unless the Agents agrees otherwise, furnish or cause to be furnished to the Agents certificates, dated as of such Bring-Down Delivery Date and delivered within one Exchange Business Day after the applicable Bring-Down Delivery Date or, in the case of a Bring-Down Delivery Date resulting from a Principal Settlement Date, delivered on such Principal Settlement Date, of the same tenor as the certificates referred to in Sections 5(a)(i)-(iii) hereof, modified as necessary to relate to the Registration Statement, the Prospectus or any Permitted Free Writing Prospectus as amended and supplemented to the time of delivery of such certificates, or, in lieu of such certificates, certificates to the effect that the statements contained in the certificates referred to in Sections 5(a)(i) hereof furnished to Agent are true and correct as of such Bring-Down Delivery Date as though made at and as of such date (except that such statements shall be deemed to relate to the Registration Statement, the Prospectus or any Permitted Free Writing Prospectus as amended and supplemented to the time of delivery of such certificate); *provided, however*, that the filing of a Current Report on Form 8-K will not constitute a Bring-Down Delivery Date under clause (i) above unless either (A) (x) such Current Report on Form 8-K is filed at any time during which either a Transaction Acceptance is binding and the Company has not suspended the use thereof (and prior to the settlement of the Shares specified therein) or a prospectus relating to the Shares is required to be delivered under the Act (whether physically or through compliance with Rule 172 under the Act or any similar rule) or such Current Report on Form 8-K is filed at any time from and including the date of a Terms Agreement through and including the related Settlement Date and (y) any Agent has reasonably requested that such date be deemed to be a Bring-Down Delivery Date based upon the event or events reported in such Current Report on Form 8-K or (B) such Current Report on Form 8-K contains capsule financial information, historical or pro forma financial statements, supporting

schedules or other financial data, including any Current Report on Form 8-K or part thereof under Item 2.02 of Regulation S-K of the Commission that is considered “filed” under the Exchange Act; and *provided, further*, that an amendment or supplement to the Registration Statement or the Prospectus relating to the offering of other securities pursuant to the Registration Statement will not constitute a Bring-Down Delivery Date.

(c) Each Bring-Down Delivery Date, the Company shall, unless the Agents agree otherwise, cause to be furnished to the Agents (A) the written opinion and, if not included in such opinion, negative assurance letter of Alston & Bird LLP, counsel to the Company, and the written opinion and negative assurance letter of Davis Polk & Wardwell LLP, counsel to the Agents, each dated as of the applicable Bring-Down Delivery Date and delivered within one Exchange Business Day after the applicable Bring-Down Delivery Date or, in the case of a Bring-Down Delivery Date resulting from a Principal Settlement Date, dated and delivered on such Principal Settlement Date, of the same tenor as the opinion and letter referred to in Section 5(a)(iv) or Section 5(b) hereof, as applicable, but modified as necessary to relate to the Registration Statement, the Prospectus or any Permitted Free Writing Prospectus as amended and supplemented to the time of delivery of such opinion and letter, or, in lieu of such opinion and letter, such counsel shall furnish the Agents with a letter substantially to the effect that the Agent may rely on the opinion and letter of such counsel referred to in Section 5(a)(iv) or Section 5(b), as applicable, furnished to the Agents, to the same extent as though they were dated the date of such letter authorizing reliance (except that statements in such last opinion and letter of such counsel shall be deemed to relate to the Registration Statement, the Prospectus or any Permitted Free Writing Prospectus as amended and supplemented to the time of delivery of such letters authorizing reliance).

(d) Each Bring-Down Delivery Date, the Company shall, unless the Agents agree otherwise, cause Ernst & Young LLP to furnish to the Agents a “comfort” letter, dated as of the applicable Bring-Down Delivery Date and delivered within one Exchange Business Day after the applicable Bring-Down Delivery Date or, in the case of a Bring-Down Delivery Date resulting from a Principal Settlement Date, delivered on such Principal Settlement Date, of the same tenor as the letter referred to in Section 5(a)(v) hereof, but modified to relate to the Registration Statement, the Prospectus or any Permitted Free Writing Prospectus as amended and supplemented to the date of such letter, and, if the Registration Statement, the Prospectus or any Permitted Free Writing Prospectus shall include or incorporate by reference the financial statements of any entity or business (other than the consolidated financial statements of the Company), the Company shall, if requested by the Agents, cause a firm of independent public accountants to furnish to the Agents a “comfort” letter, dated as of the applicable Bring-Down Delivery Date and delivered within one Exchange Business Day after the applicable Bring-Down Delivery Date or, in the case of a Bring-Down Delivery Date resulting from a Principal Settlement Date, delivered on such Principal Settlement Date, addressing such matters as the Agents may reasonably request.

(e) (i) No order suspending the effectiveness of the Registration Statement shall be in effect, and no proceeding for such purpose or pursuant to Section 8A under the Act shall be pending before or threatened by the Commission; the Prospectus and each Permitted Free Writing Prospectus shall have been timely filed with the Commission under the Act (in the case of a Permitted Free Writing Prospectus, to the extent required by Rule 433 under the Act); and

all requests by the Commission for additional information shall have been complied with to the satisfaction of the Agents and no suspension of the qualification of the Shares for offering or sale in any jurisdiction, or of the initiation or threatening of any proceedings for any of such purposes, shall have occurred and be in effect at the time the Company delivers a Transaction Proposal to an Agent or the time such Agent delivers a Transaction Acceptance to the Company; and (ii) the Registration Statement, the Prospectus or any Permitted Free Writing Prospectus shall not contain an untrue statement of material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading at the time the Company delivers a Transaction Proposal to an Agent or the time such Agent delivers a Transaction Acceptance to the Company.

(f) The Company shall reasonably cooperate with any reasonable due diligence review requested by the Agents or their counsel from time to time in connection with the transactions contemplated hereby or any Terms Agreement, including, without limitation, (i) at the commencement of each intended Purchase Date and any applicable Time of Sale or Settlement Date, providing information and making available appropriate documents and appropriate corporate officers of the Company and, upon reasonable request, representatives of Ernst & Young LLP (and, if the Registration Statement, the Prospectus or any Permitted Free-Writing Prospectus shall include or incorporate by reference the financial statements of any entity or business (other than the consolidated financial statements of the Company), representatives of the independent public accountants that audited or reviewed such financial statements) for an update on diligence matters with representatives of each Agent and (ii) at each Bring-Down Delivery Date and otherwise as the Agents may reasonably request, providing information and making available documents and appropriate corporate officers of the Company and representatives of Ernst & Young LLP (and, if the Registration Statement, the Prospectus or any Permitted Free-Writing Prospectus shall include or incorporate by reference the financial statements of any entity or business (other than the consolidated financial statements of the Company), representatives of the independent public accountants that audited or reviewed such financial statements) for one or more due diligence sessions with representatives of each Agent and their counsel.

(g) The Company shall disclose, in its quarterly reports on Form 10-Q and in its annual report on Form 10-K and, if reasonably requested by the Agents, in supplements to the Prospectus to be filed by the Company with the Commission from time to time, the number of the Shares sold through the Agent under this Agreement and any Terms Agreement, and the gross and net proceeds to the Company from the sale of the Shares and the compensation paid by the Company with respect to sales of the Shares pursuant to this Agreement during the relevant quarter or, in the case of any such prospectus supplement, such shorter period as the Agent may reasonably request or, in the case of an Annual Report on Form 10-K, during the fiscal year covered by such Annual Report and the fourth quarter of such fiscal year.

All opinions, letters and other documents referred to in Sections 6(b) through (d) above shall be reasonably satisfactory in form and substance to the Agents. The Agents will provide the Company with such notice (which may be oral, and in such case, will be confirmed via e-mail as soon as reasonably practicable thereafter) as is reasonably practicable under the circumstances when requesting an opinion, letter or other document referred to in Sections 6(b) through (d) above.

7. Conditions of the Agents' Obligation. The Agent's obligation to solicit purchases on an agency basis for the Shares or otherwise take any action pursuant to a Transaction Acceptance and to purchase the Shares pursuant to any Terms Agreement shall be subject to the satisfaction of the following conditions:

- (a) At the Time of Acceptance, at the time of the commencement of trading on the NasdaqCM on the Purchase Date(s) and at the relevant applicable Time of Sale and Agency Settlement Date, or with respect to a Principal Transaction pursuant to a Terms Agreement, at the time of execution and delivery of the Terms Agreement by the Company and at the relevant applicable Time of Sale and Principal Settlement Date:
- (i) The representations, warranties and agreements on the part of the Company herein contained or contained in any certificate of an officer or officers of the Company delivered pursuant to the provisions hereof shall be true and correct in all respects.
 - (ii) The Company shall have performed and observed its covenants and other obligations hereunder and/or under any Terms Agreement, as the case may be, in all material respects.
 - (iii) In the case of an Agency Transaction, from the Time of Acceptance until the Agency Settlement Date, or, in the case of a Principal Transaction pursuant to a Terms Agreement, from the time of execution and delivery of the Terms Agreement by the Company until the Principal Settlement Date, trading in the Common Stock on the NasdaqCM shall not have been suspended.
 - (iv) From the date of this Agreement, no event or condition of a type described in Section 3(e) hereof shall have occurred or shall exist, which event or condition is not described in a Permitted Free Writing Prospectus (excluding any amendment or supplement thereto) or the Prospectus (excluding any amendment or supplement thereto) and the effect of which in the judgment of the applicable Agent makes it impracticable or inadvisable to proceed with the offering, sale or delivery of the Shares on the applicable Settlement Date on the terms and in the manner contemplated by this Agreement, any Terms Agreement, any Permitted Free Writing Prospectus and the Prospectus.
 - (v) Subsequent to the relevant Time of Acceptance or, in the case of a Principal Transaction, subsequent to execution of the applicable Terms Agreement, (A) no downgrading shall have occurred in the rating accorded any debt securities or preferred equity securities of or guaranteed by the Company or any of its subsidiaries by any "nationally recognized statistical rating organization", as such term is defined by the Commission for purposes of Section 3(a)(62) of the Exchange Act and (B) no such organization shall have publicly announced that it has under surveillance or review, or has changed its outlook with respect to, its rating of any debt

securities or preferred equity securities of or guaranteed by the Company or any of its subsidiaries (other than an announcement with positive implications of a possible upgrading) in each case that has not been described in any Permitted Free Writing Prospectus issued prior to any related applicable Time of Sale.

- (vi) The Shares to be issued pursuant to the Transaction Acceptance or pursuant to a Terms Agreement, as applicable, shall have been approved for listing on the NasdaqCM, subject only to notice of issuance.
- (vii) (A) No action shall have been taken and no statute, rule, regulation or order shall have been enacted, adopted or issued by any federal, state or foreign governmental or regulatory authority that would, as of the relevant Settlement Date, prevent the issuance or sale of the Shares and (B) no injunction or order of any federal, state or foreign court shall have been issued that would, as of the relevant Settlement Date, prevent the issuance or sale of the Shares.
- (viii) (A) No order suspending the effectiveness of the Registration Statement shall be in effect, no proceeding for such purpose or pursuant to Section 8A of the Act shall be pending before or threatened by the Commission and no notice of objection of the Commission to the use of the Registration Statement pursuant to Rule 401(g)(2) under the Act shall have been received by the Company; (B) the Prospectus and each Permitted Free Writing Prospectus shall have been timely filed with the Commission under the Act (in the case of any Permitted Free Writing Prospectus, to the extent required by Rule 433 under the Act); (C) all requests by the Commission for additional information shall have been complied with to the satisfaction of the Agent; and (D) no suspension of the qualification of the Shares for offering or sale in any jurisdiction, and no initiation or threatening of any proceedings for any of such purposes, shall have occurred and be in effect. The Registration Statement, the Prospectus or any Permitted Free Writing Prospectus shall not contain an untrue statement of material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading at the time an Agent delivers a Transaction Acceptance to the Company or the Company and an Agent execute a Terms Agreement, as the case may be.
- (ix) No amendment or supplement to the Registration Statement, the Prospectus or any Permitted Free Writing Prospectus shall have been filed to which the Agent shall have reasonably objected in writing.

(b) Within one Exchange Business Day after the applicable Bring-Down Delivery Date or, in the case of a Bring-Down Delivery Date resulting from a Principal Settlement Date, on such Principal Settlement Date, the Agents shall have received the officers' certificates, opinions and negative assurance letters of counsel and "comfort" letters and other documents

provided for under Sections 6(b) through (d), inclusive. For purposes of clarity and without limitation to any other provision of this Section 7 or elsewhere in this Agreement, the Company and each of the Agents agree that an Agent's obligations, if any, to solicit purchases of Shares on an agency basis or otherwise take any action pursuant to a Transaction Acceptance shall, unless otherwise agreed in writing by such Agent, be suspended during the period from and including a Bring-Down Delivery Date through and including the time that such Agent shall have received the documents described in the preceding sentence.

8. Termination.

- (a) (i) The Company may terminate this Agreement in its sole discretion at any time upon prior written notice to the Agents. Any such termination shall be without liability of any party to any other party, except that (A) with respect to any pending sale, the obligations of the Company, including in respect of compensation of the Agents, shall remain in full force and effect notwithstanding such termination; and (B) the provisions of Sections 3, 4 (except that if no Shares have been previously sold hereunder or under any Terms Agreement, only Section 4(l)), 9, 13, 14 and 16 of this Agreement shall remain in full force and effect notwithstanding such termination.
- (ii) In the case of any sale by the Company pursuant to a Terms Agreement, the obligations of the Company pursuant to such Terms Agreement and this Agreement may not be terminated by the Company without the prior written consent of the Agents.
- (b) (i) Each Agent may terminate this Agreement in its sole discretion at any time upon giving prior written notice to the Company. Any such termination shall be without liability of any party to any other party, except that the provisions of Sections 3, 4 (except that if no Shares have been previously sold hereunder or under any Terms Agreement, only Section 4(l)), 9, 13, 14 and 16 of this Agreement shall remain in full force and effect notwithstanding such termination.
- (ii) In the case of any purchase by an Agent pursuant to a Terms Agreement, the obligations of such Agent pursuant to such Terms Agreement shall be subject to termination by such Agent at any time prior to or at the Principal Settlement Date if (A) since the time of execution of the Terms Agreement or the respective dates as of which information is given in the Registration Statement, the Prospectus and any Permitted Free Writing Prospectus, (i) trading generally shall have been suspended or materially limited on or by any of the New York Stock Exchange, the Nasdaq Stock Market, the Chicago Board Options Exchange, the Chicago Mercantile Exchange or the Chicago Board of Trade; (ii) trading of any securities issued or guaranteed by the Company or any of its subsidiaries shall have been suspended on any exchange or in any over-the counter market, (iii) a general moratorium on commercial banking activities shall have been declared by federal or New York state authorities, (iv) there shall have occurred any outbreak or

escalation of hostilities or any change in financial markets or any calamity or crisis, either within or outside the United States, that, solely in the case of events and conditions described in this clause (iv), in the Agents' judgment, is material and adverse and makes it impracticable or inadvisable to proceed with the offering, sale or delivery of the Shares on the terms and in the manner contemplated in the Prospectus or such Terms Agreement. If any Agent elects to terminate its obligations pursuant to this Section 8(b)(ii), the Company shall be notified promptly in writing.

(c) This Agreement shall remain in full force and effect until the earliest of (A) termination of the Agreement pursuant to Section 8(a) or 8(b) above or otherwise by mutual written agreement of the parties and (B) such date that the Maximum Amount has been sold in accordance with the terms of this Agreement and any Terms Agreements, in each case except that the provisions of Sections 3, 4 (except that if no Shares have been previously sold hereunder or under any Terms Agreement, only Section 4(l)), 9, 13, 14 and 16 of this Agreement shall remain in full force and effect notwithstanding such termination.

(d) Any termination of this Agreement shall be effective on the date specified in such notice of termination; *provided* that, notwithstanding the foregoing, such termination shall not be effective until the close of business on the date of receipt of such notice by an Agent or the Company, as the case may be, or such later date as may be required pursuant to Section 8(a) or (b). If such termination shall occur prior to the Settlement Date for any sale of Shares, such sale shall settle in accordance with the provisions of Section 2 hereof.

9. Indemnity and Contribution.

(a) The Company agrees to indemnify and hold harmless each Agent, each Agent's affiliates, directors and officers and each person, if any, who controls each Agent within the meaning of Section 15 of the Act or Section 20 of the Exchange Act, from and against any and all losses, claims, damages and liabilities (including, without limitation, reasonable out of pocket legal fees and other expenses incurred in connection with any suit, action or proceeding or any claim asserted, as such fees and expenses are incurred), that arise out of, or are based upon, (i) any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement (or any amendment thereto) or caused by any omission or alleged omission to state therein a material fact required to be stated therein or necessary in order to make the statements therein, not misleading or (ii) any untrue statement or alleged untrue statement of a material fact contained in the Prospectus (or any amendment or supplement thereto), any Permitted Free Writing Prospectus (or any amendment or supplement thereto), any "issuer information" filed or required to be filed pursuant to Rule 433(d) under the Act or any road show as defined in Rule 433(h) under the Act (a "**road show**"), or caused by any omission or alleged omission to state therein a material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading, in each case except insofar as such losses, claims, damages or liabilities arise out of, or are based upon, any untrue statement or omission or alleged untrue statement or omission made in reliance upon and in conformity with any information relating to the Agents furnished to the Company in writing by the Agents expressly for use therein, it being understood and agreed that the only such information furnished by the Agents consists of the information described as such in subsection (b) below.

(b) Each Agent agrees, severally and not jointly, to indemnify and hold harmless the Company, its directors, its officers who signed the Registration Statement and each person, if any, who controls the Company within the meaning of Section 15 of the Act or Section 20 of the Exchange Act to the same extent as the indemnity set forth in paragraph (a) above, but only with respect to any losses, claims, damages or liabilities that arise out of, or are based upon, any untrue statement or omission or alleged untrue statement or omission made in reliance upon and in conformity with any information relating to any Agent furnished to the Company in writing by any Agent expressly for use in the Registration Statement (or any amendment thereto), the Prospectus (or any amendment or supplement thereto), any Permitted Free Writing Prospectus (or any amendment or supplement thereto) or any road show, it being understood and agreed upon that such information shall consist solely of the following: the information appearing in the 6th, 9th and 11th paragraph under the caption “Plan of Distribution” in the Prospectus Supplement.

(c) If any suit, action, proceeding (including any governmental or regulatory investigation), claim or demand shall be brought or asserted against any person in respect of which indemnification may be sought pursuant to either Section 9(a) or 9(b) above, such person (the “**Indemnified Person**”) shall promptly notify the person against whom such indemnification may be sought (the “**Indemnifying Person**”) in writing; provided that the failure to notify the Indemnifying Person shall not relieve it from any liability that it may have under this Section 9 except to the extent that it has been materially prejudiced (through the forfeiture of substantive rights or defenses) by such failure; and provided, further, that the failure to notify the Indemnifying Person shall not relieve it from any liability that it may have to an Indemnified Person otherwise than under this Section 9. If any such proceeding shall be brought or asserted against an Indemnified Person and it shall have notified the Indemnifying Person thereof, the Indemnifying Person shall retain counsel reasonably satisfactory to the Indemnified Person (who shall not, without the consent of the Indemnified Person, be counsel to the Indemnifying Person) to represent the Indemnified Person and any others entitled to indemnification pursuant to this Section 9 that the Indemnifying Person may designate in such proceeding and shall pay the fees and expenses of such counsel related to such proceeding, as incurred. In any such proceeding, any Indemnified Person shall have the right to retain its own counsel), but the fees and expenses of such counsel shall be at the expense of such Indemnified Person unless (i) the Indemnifying Person and the Indemnified Person shall have mutually agreed to the contrary; (ii) the Indemnifying Person has failed within a reasonable time to retain counsel reasonably satisfactory to the Indemnified Person; (iii) the Indemnified Person shall have reasonably concluded that there may be legal defenses available to it that are different from or in addition to those available to the Indemnifying Person; or (iv) the named parties in any such proceeding (including any impleaded parties) included both the Indemnifying Person and the Indemnified Person and representation of both parties by the same counsel would be inappropriate due to actual or potential differing interests between them. It is understood and agreed that the Indemnifying Person shall not, in connection with any proceeding or related proceeding in the same jurisdiction, be liable for the reasonable fees and expenses of more than one separate firm (in addition to any local counsel) for (A) the Agents, their affiliates, directors and officers and any control persons of the Agents, if any, or (B) the Company, its directors, its officers who signed the Registration Statement and its control persons, if any, as the case may be, and that all such reasonable fees and expenses shall be paid or reimbursed as they are incurred. Any such separate firm for the Agents and their affiliates, directors and officers and any control persons of the Agents, if any, shall be designated in writing by the Agent, and any such separate firm for the

Company, its directors, its officers who signed the Registration Statement and any control persons, if any, shall be designated in writing by the Company. The Indemnifying Person shall not be liable for any settlement of any proceeding effected without its written consent, but if settled with such consent or if there be a final judgment for the plaintiff, the Indemnifying Person agrees to indemnify each Indemnified Person from and against any loss or liability by reason of such settlement or judgment. No Indemnifying Person shall, without the written consent of the Indemnified Person, effect any settlement of any pending or threatened proceeding in respect of which any Indemnified Person is or could have been a party and indemnification is or could have been sought hereunder by such Indemnified Person, unless such settlement (x) includes an unconditional release of such Indemnified Person, in form and substance reasonably satisfactory to such Indemnified Person, from all liability on claims that are the subject matter of such proceeding and (y) does not include any statement as to or any admission of fault, culpability or a failure to act by or on behalf of any Indemnified Person. Notwithstanding the foregoing sentence, if at any time an Indemnified Person shall have requested an Indemnifying Person to reimburse the Indemnified Person for fees and expenses of counsel as contemplated by this Section 9(c), the Indemnifying Person agrees that it shall be liable for any settlement of any proceeding effected without its written consent if (i) such settlement is entered into more than 30 days after receipt by such Indemnifying Person of the aforesaid request and (ii) such Indemnifying Person shall not have reimbursed the Indemnified Person in accordance with such request prior to the date of such settlement.

(d) If the indemnification provided for in Sections 9(a) and 9(b) above is unavailable to an Indemnified Person or insufficient in respect of any losses, claims, damages or liabilities referred to therein, then each Indemnifying Person under such Sections, in lieu of indemnifying such Indemnified Person thereunder, shall contribute to the amount paid or payable by such Indemnified Person as a result of such losses, claims, damages or liabilities (i) in such proportion as is appropriate to reflect the relative benefits received by the Company, on the one hand, and the applicable Agents, on the other, from the offering of the Shares pursuant to this Agreement and any Terms Agreements or (ii) if the allocation provided by clause (i) is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) but also the relative fault of the Company, on the one hand, and the applicable Agents, on the other, in connection with the statements or omissions that resulted in such losses, claims, damages or liabilities, as well as any other relevant equitable considerations. The relative benefits received by the Company, on the one hand, and the applicable Agents, on the other, shall be deemed to be in the same respective proportions as the net proceeds (before deducting expenses) received by the Company from the sale of the Shares pursuant to this Agreement and any Terms Agreements and the total discounts and commissions received by the applicable Agents in connection therewith bear to the aggregate Gross Sales Price of such Shares. The relative fault of the Company, on the one hand, and applicable Agents, on the other, shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Company, on the one hand, or by applicable Agents, on the other hand, and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission.

(e) The Company and each Agent agree that it would not be just and equitable if contribution pursuant to this Section 9 were determined by pro rata allocation or by any other

method of allocation that does not take account of the equitable considerations referred to in Section 9(d) above. The amount paid or payable by an Indemnified Person as a result of the losses, claims, damages and liabilities referred to in Section 9(d) above shall be deemed to include, subject to the limitations set forth above, any legal or other expenses incurred by such Indemnified Person in connection with any such action or claim. Notwithstanding the provisions of this Section 9, in no event shall an Agent be required to contribute any amount in excess of the amount by which the total discounts and commissions received by such Agent with respect to the offering of the Shares pursuant to this Agreement and any Terms Agreements exceeds the amount of any damages that such Agent has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation.

(f) The remedies provided for in this Section 9 are not exclusive and shall not limit any rights or remedies which may otherwise be available to any Indemnified Person at law or in equity.

10. Notices. All notices and other communications under this Agreement and any Terms Agreement shall be in writing and shall be deemed to have been duly given if mailed or transmitted and confirmed by any standard form of communication, and, if to an Agent, shall be sufficient in all respects if delivered or sent to J.P. Morgan Securities LLC, 383 Madison Avenue, 10th Floor, New York, New York 10179, to the attention of Special Equities Group, Adam Rosenbluth (email adam.s.rosenbluth@jpmorgan.com) or Cantor Fitzgerald & Co., 499 Park Avenue, New York, New York 10022, to the attention of Capital Markets, Jeffrey Luby (email JLumby@cantor.com) or Ladenburg Thalmann & Co. Inc., 277 Park Avenue, 26th Floor, New York, New York 10172, to the attention of Joseph Giovanniello (jgiovanniello@ladenburg.com) and, if to the Company, shall be sufficient in all respects if delivered or sent to it at Stemline Therapeutics, Inc., 750 Lexington Avenue, Eleventh Floor, New York, New York 10022, to the attention of Chief Accounting Officer.

11. Notwithstanding the foregoing, Transaction Proposals shall be delivered by the Company to the applicable Agent by email to Adam Rosenbluth (email adam.s.rosenbluth@jpmorgan.com), Jeffrey Luby (email JLumby@cantor.com) and Kenneth Brush (email KBrush@ladenburg.com); and Transaction Acceptances shall be delivered by the applicable Agent to the Company by email to David Gionco (email dgionco@stemline.com).

12. No Fiduciary Relationship. The Company acknowledges and agrees that each Agent is acting solely in the capacity of an arm's length contractual counterparty to the Company with respect to the offering of Shares contemplated hereby and any Terms Agreements (including in connection with determining the terms of the offering) and not as a financial advisor or a fiduciary to, or an agent of, the Company or any other person. Additionally, no Agent is advising the Company or any other person as to any legal, tax, investment, accounting or regulatory matters in any jurisdiction. The Company shall consult with its own advisors concerning such matters and shall be responsible for making its own independent investigation and appraisal of the transactions contemplated hereby, and no Agent shall have any responsibility or liability to the Company with respect thereto. Any review by the Agents of the Company, the transactions contemplated hereby or other matters relating to such transactions

will be performed solely for the benefit of the Agents and shall not be on behalf of the Company.

13. Adjustments for Stock Splits. The parties acknowledge and agree that all share related numbers contained in this Agreement, any Transaction Proposal and any Transaction Acceptance shall be adjusted to take into account any stock split effected with respect to the Shares.

14. Governing Law: Construction.

(a) This Agreement, any Terms Agreement and any claim, counterclaim or dispute of any kind or nature whatsoever arising out of or in any way relating to this Agreement or any Terms Agreement (each a “**Claim**”), directly or indirectly, shall be governed by, and construed in accordance with, the laws of the State of New York.

(b) The Section headings in this Agreement and any Terms Agreement have been inserted as a matter of convenience of reference and are not a part of this Agreement or any Terms Agreement.

15. Persons Entitled to Benefit of Agreement. This Agreement and any Terms Agreement shall inure to the benefit of and be binding upon the parties hereto and thereto, respectively, and their respective successors and the officers, directors, affiliates and controlling persons referred to in Section 9 hereof. Nothing in this Agreement or any Terms Agreement is intended or shall be construed to give any other person any legal or equitable right, remedy or claim under or in respect of this Agreement or any such Terms Agreement or any provision contained herein or therein. No purchaser of Shares from or through the Agents shall be deemed to be a successor merely by reason of purchase.

16. Counterparts. This Agreement and any Terms Agreement may be signed in counterparts (which may include counterparts delivered by any standard form of telecommunication), each of which shall be an original and all of which together shall constitute one and the same instrument.

17. Survival. The respective indemnities, rights of contribution, representations, warranties and agreements of the Company and the Agents contained in this Agreement or any Terms Agreement or made by or on behalf of the Company or the Agent pursuant to this Agreement or any Terms Agreement or any certificate delivered pursuant hereto or thereto shall survive the delivery of and payment for the Shares and shall remain in full force and effect, regardless of any termination of this Agreement or any Terms Agreement or any investigation made by or on behalf of the Company or the Agents.

18. Certain Defined Terms. For purposes of this Agreement, except where otherwise expressly provided, the term “affiliate” has the meaning set forth in Rule 405 under Act; the term “business day” means any day other than a day on which banks are permitted or required to be closed in New York City; and the term “subsidiary” has the meaning set forth in Rule 405 under the Act.

19. Amendments or Waivers. No amendment or waiver of any provision of this Agreement or any Terms Agreement, nor any consent or approval to any departure therefrom, shall in any event be effective unless the same shall be in writing and signed by the parties hereto or thereto as the case may be.

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

[Signature Page Follows]

If the foregoing correctly sets forth the understanding between the Company and each Agent, please so indicate in the space provided below for that purpose, whereupon this letter and your acceptance shall constitute a binding agreement among the Company and each Agent.

Very truly yours,

STEMLINE THERAPEUTICS, INC.

By: /s/ Kenneth Hoberman
Name: Kenneth Hoberman
Title: Chief Operating Officer

Accepted and agreed to as of the
date first above written:

J.P. MORGAN SECURITIES LLC

By: /s/ Adam S. Rosenbluth
Name: Adam S. Rosenbluth
Title: Executive Director

CANTOR FITZGERALD & CO.

By: /s/ Jeffrey Lumby
Name: Jeffrey Lumby
Title: Senior Managing Director

LADENBURG THALMANN & CO. INC.

By: /s/ David J. Strupp, Jr.
Name: David J. Strupp, Jr.
Title: Managing Director

Authorized Company Representatives

Ivan Bergstein

Kenneth Hoberman

Stemline Therapeutics, Inc. Common Stock

TERMS AGREEMENT

, 20

J.P. Morgan Securities LLC
383 Madison Avenue
New York, New York 10179

Cantor Fitzgerald & Co.
499 Park Avenue
New York, NY 10022

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

Dear Sirs:

Stemline Therapeutics, Inc., a Delaware corporation (the “**Company**”), proposes, subject to the terms and conditions stated herein and in the Distribution Agreement dated March 16, 2018 (the “**Distribution Agreement**”) among the Company, J.P. Morgan Securities LLC, Cantor Fitzgerald & Co. and Ladenburg Thalmann & Co. Inc., to issue and sell to J.P. Morgan Securities LLC, Cantor Fitzgerald & Co. and Ladenburg Thalmann & Co. Inc. (the “**Agents**”) the securities specified in the Schedule hereto (the “**Purchased Securities**”). Unless otherwise defined below, terms defined in the Distribution Agreement shall have the same meanings when used herein.

Each of the provisions of the Distribution Agreement not specifically related to the solicitation by the Agent, as agent of the Company, of offers to purchase securities 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 such provisions had been set forth in full herein. Each of the representations, warranties and agreements set forth therein shall be deemed to have been made as of the date of this Terms Agreement and the Settlement Date set forth in the Schedule hereto.

An amendment to the Registration Statement or a supplement to the Prospectus, as the case may be, relating to the Purchased Securities, in the form heretofore delivered to the Agent, is now proposed to be filed with the Securities and Exchange Commission.

Subject to the terms and conditions set forth herein and in the Distribution Agreement which are incorporated herein by reference, the Company agrees to issue and sell to the Agent, and the latter agrees to purchase from the Company, the Purchased Securities at the time and place and at the purchase price set forth in the Schedule hereto.

Notwithstanding any provision of the Distribution Agreement or this Terms Agreement to the contrary, the Company consents to the Agent trading in the Common Stock for Agent’s

own account and for the account of its clients at the same time as sales of the Purchased Securities occur pursuant to this Terms Agreement.

[Signature Page Follows]

If the foregoing is in accordance with your understanding, please sign and return to us a counterpart hereof, whereupon this Terms Agreement, including those provisions of the Distribution Agreement incorporated herein by reference, shall constitute a binding agreement between the Agent and the Company.

STEMLINE THERAPEUTICS, INC.

By: _____
Name:
Title:

Accepted and agreed as of
the date first above written:

J.P. MORGAN SECURITIES LLC

By: _____
Name:
Title:

CANTOR FITZGERALD & CO.

By: _____
Name:
Title:

LADENBURG THALMANN & CO. INC.

By: _____
Name:
Title:

Schedule to Terms Agreement

Title of Purchased Securities:

Common Stock, par value \$0.0001 per share

Number of Shares of Purchased Securities:

[•] shares

Initial Price to Public:

\$[•] per share

Purchase Price Payable by the Agent:

\$[•] per share

Method of and Specified Funds for Payment of Purchase Price:

[By wire transfer to a bank account specified by the Company in same day funds.]

Method of Delivery:

[To the Agent's account, or the account of the Agent's designee, at The Depository Trust Company via DWAC in return for payment of the purchase price.]

Settlement Date:

[•], 20[•]

Closing Location:

[•]

Documents to be Delivered:

The following documents referred to in the Distribution Agreement shall be delivered on the Settlement Date as a condition to the closing for the Purchased Securities (which documents shall be dated on or as of the Settlement Date and shall be appropriately updated to cover any Permitted Free Writing Prospectuses and any amendments or supplements to the Registration Statement, the Prospectus, any Permitted Free Writing Prospectuses and any documents incorporated by reference therein):

- (1) the certificates referred to in Sections 5(a)(i)-(iii);
- (2) the opinion and negative assurance letter of the Company's outside counsel referred to in Section 5(a)(iv);
- (3) the "comfort" letter referred to in Section 5(a)(v);
- (4) the opinion and negative assurance letter referred to in Section 5(b); and
- (5) such other documents as the Agent shall reasonably request.

[Lockup:]

[•]

Time of sale: [•] [a.m./p.m.] (New York City time) on [•], [•]

Time of sale information:

- The number of shares of Purchased Securities set forth above
- The initial price to public set forth above

OFFICERS' CERTIFICATE

Dated , 20

We, Ivan Bergstein, M.D., Chairman, President and Chief Executive Officer and David Gionco, Vice President of Finance and Chief Accounting Officer of Stemline Therapeutics, Inc., a Delaware corporation (the "**Company**"), do hereby certify that this certificate is signed by us pursuant to the Distribution Agreement dated March 16, 2018 among the Company, J.P. Morgan Securities LLC, Cantor Fitzgerald & Co. and Ladenburg Thalmann & Co. Inc. (the "**Agreement**"), and do hereby further certify on behalf of the Company, as follows:

1. We, the undersigned officers have carefully examined the Registration Statement, the Prospectus and any Permitted Free Writing Prospectus and, in our opinion, the Registration Statement and each amendment thereto, the Prospectus and any Permitted Free Writing Prospectus as of the date hereof did not include any untrue statement of a material fact and did not omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading.;
2. Since the effective date of the Registration Statement, no event has occurred which should have been set forth in a supplement or amendment to the Registration Statement, the Prospectus or any Permitted Free Writing Prospectus;
3. To the best of our knowledge after reasonable investigation, as of the date hereof, the representations and warranties of the Company in the Agreement are true and correct and the Company has complied with all agreements and satisfied all conditions on its part to be performed or satisfied thereunder at or prior to the date hereof; and
4. There has not been, subsequent to the date of the most recent audited financial statements included or incorporated by reference in the Registration Statement, the Prospectus or any Permitted Free Writing Prospectus, any Material Adverse Change in the financial position or results of operations of the Company, or any change or development that, singularly or in the aggregate, would involve a Material Adverse Change or a prospective Material Adverse Change, in or affecting the condition (financial or otherwise), results of operations, business, assets or prospects of the Company, except as set forth in the Registration Statement, the Prospectus or any Permitted Free Writing Prospectus.

All capitalized terms used herein and not otherwise defined shall have the respective meanings assigned to them in the Agreement.

[Signature Page Follows]

Name:
Title:

Name:
Title:

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**FORM OF OPINION AND NEGATIVE ASSURANCE STATEMENT OF
ALSTON & BIRD, LLP
COUNSEL TO THE COMPANY**

Warrants to purchase 99,529 shares of the Company's Common Stock issued to Aegis Capital Corp. on January 31, 2013.

ALSTON & BIRD

90 Park Avenue
New York, NY 10016
212-210-9400 | Fax: 212-210-9444

Matthew W. Mamak

Direct Dial: 212-210-1256

Email: matthew.mamak@alston.com

March 16, 2018

Stemline Therapeutics, Inc.
750 Lexington Avenue, 11th Floor
New York, New York 10022

Re: Stemline Therapeutics, Inc. — Public Offering of Shares of Common Stock

Ladies and Gentlemen:

We are acting as counsel to Stemline Therapeutics, Inc., a Delaware corporation (the “*Company*”) in connection with the registration statement on Form S-3 (File No. 333-219794) filed by the Company with the Securities and Exchange Commission (the “*Commission*”) pursuant to the Securities Act of 1933, as amended (the “*Securities Act*”), on August 8, 2017 (the “*Registration Statement*”) and declared effective by the Commission on August 18, 2017. We are delivering this supplemental opinion in connection with the prospectus supplement (the “*Prospectus Supplement*”) filed on March 16, 2018 by the Company pursuant to Rule 424 under the Securities Act. The Prospectus Supplement relates to the at-the-market offering by the Company of up to \$50,000,000 in shares (the “*Shares*”) of the Company’s common stock, par value \$0.0001 per share (the “*Common Stock*”) covered by the Registration Statement. The Shares may be issued and sold by the sales agents named in, and pursuant to, the Distribution Agreement among the Company and such sales agents (the “*Distribution Agreement*”) dated March 16, 2018. This opinion is furnished to you at your request in accordance with the requirements of Item 16 of the Commission’s Form S-3 and Item 601(b)(5) of Regulation S-K promulgated under the Securities Act.

We have examined the Amended and Restated Certificate of Incorporation of the Company, the Restated Bylaws of the Company, records of proceedings of the Board of Directors, or committees thereof, and records of proceedings of the stockholders, deemed by us to be relevant to this opinion letter, and the Registration Statement. We also have made such further legal and factual examinations and investigations as we deemed necessary for purposes of expressing the opinion set forth herein. In rendering such opinion, we have relied as to factual matters upon the representations, warranties and other statements made in the Distribution Agreement.

As to certain factual matters relevant to this opinion letter, we have relied conclusively upon originals or copies, certified or otherwise identified to our satisfaction, of such records,

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agreements, documents and instruments, including certificates or other comparable documents of officers of the Company and of public officials, as we have deemed appropriate as a basis for the opinion hereinafter set forth. Except to the extent expressly set forth herein, we have made no independent investigations with regard to matters of fact, and, accordingly, we do not express any opinion as to matters that might have been disclosed by independent verification.

Based upon the foregoing, and subject to the limitations set forth herein, we are of the opinion that the Shares, when issued by the Company out of the Company's duly authorized Common Stock and issued and delivered by the Company against payment therefor as contemplated by the Agreement, will be duly and validly issued, fully paid and non-assessable.

Our opinion set forth herein is limited to the General Corporation Law of the State of Delaware, the laws of the State of New York, and the federal law of the United States, and we do not express any opinion herein concerning any other laws.

This opinion letter is provided to the Company for its use solely in connection with the transactions contemplated by the Distribution Agreement and may not be used, circulated, quoted or otherwise relied upon for any other purpose without our express written consent. The only opinion rendered by us consists of that set forth in the fourth paragraph of this letter, and no opinion may be implied or inferred beyond the opinion expressly stated. Our opinion expressed herein is as of the date hereof, and we undertake no obligation to advise you of any changes in applicable law or any other matters that may come to our attention after the date hereof that may affect our opinion expressed herein.

We consent to the filing of this opinion letter as an exhibit to the Prospectus Supplement and to the use of our name under the heading "Legal Matters" in the section constituting a part thereof. In giving such consent, 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 thereunder.

Very truly yours,

ALSTON & BIRD LLP

By: /s/ Matthew W. Mamak

Matthew W. Mamak

Partner