

**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: July 25, 2019  
(Date of earliest event reported)**

**T2 Biosystems, Inc.**  
(Exact name of registrant as specified in its charter)

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

**001-36571**  
(Commission  
File Number)

**20-4827488**  
(I.R.S. Employer  
Identification Number)

**101 Hartwell Avenue, Lexington, Massachusetts 02421**  
(Address of principal executive offices and zip code)

**(781) 761-4646**  
(Registrant's telephone number, including area code)

**Not Applicable**  
(Former Name or Former Address, if changed since last report)

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

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

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
<b>Common stock, par value \$0.001 per share</b>	<b>TTOO</b>	<b>The Nasdaq Stock Market LLC (Nasdaq Global Market)</b>

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (17 CFR §230.405) or Rule 12b-2 of the Securities Exchange Act of 1934 (17 CFR §240.12b-2).

Emerging growth company

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

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

### ***Canaccord Sales Agreement***

On July 30, 2019, T2 Biosystems, Inc. (the “Company”) entered into an Equity Distribution Agreement (the “Canaccord Sales Agreement”) with Canaccord Genuity LLC (“Canaccord”), pursuant to which the Company may, from time to time, sell shares (the “ATM Shares”) of the Company’s common stock, par value \$0.001 per share (“Common Stock”), having an aggregate gross sales amount of up to \$30,000,000 through Canaccord, as the Company’s sales agent. The ATM Shares have been registered under the Securities Act of 1933, as amended (the “Securities Act”), pursuant to the Company’s Registration Statement on Form S-3 (File No. 333-227847), declared effective by the Securities and Exchange Commission on October 24, 2018 (the “Registration Statement”), and a prospectus, which consists of a base prospectus, dated October 24, 2018, and a prospectus supplement, dated July 30, 2019. Sales of the ATM Shares, if any, may be made by any method permitted by law deemed to be an “at the market offering” as defined in Rule 415(a)(4) of the Securities Act, including sales made directly on or through The Nasdaq Global Market or any other existing trading market for the ATM Shares, in negotiated transactions at market prices prevailing at the time of sale or at prices related to such prevailing market prices and/or any other method permitted by law. The Company intends to use the net proceeds, if any, from the offering for working capital and general corporate purposes, which may include, among other things, funding commercialization efforts and research and development activities.

The Canaccord Sales Agreement contains customary representations, warranties and agreements by the Company, including obligations of the Company to indemnify Canaccord for certain liabilities under the Securities Act. Under the terms of the Canaccord Sales Agreement, the Company will pay Canaccord a commission equal to 3.0% of the gross proceeds from sales of the ATM Shares. In addition, the Company has agreed to pay certain expenses incurred by Canaccord in connection with the offering. The Company and Canaccord each have the right, by giving written notice as specified in the Canaccord Sales Agreement, to terminate the Canaccord Sales Agreement in each party’s sole discretion at any time. The Company has no obligation to sell any ATM Shares under the Canaccord Sales Agreement, and may at any time suspend solicitation and offers under the Canaccord Sales Agreement.

The foregoing description of the Canaccord Sales Agreement does not purport to be complete and is qualified in its entirety by reference to the full text of the Canaccord Sales Agreement, which is filed as Exhibit 10.1 to this Current Report on Form 8-K.

This Current Report on Form 8-K shall not constitute an offer to sell or a solicitation of an offer to buy any securities, nor shall there be any sale of these securities in any state or jurisdiction in which such an offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state or other jurisdiction.

### ***LPC Purchase Agreement and Registration Rights Agreement***

On July 29, 2019, the Company entered into a Purchase Agreement (the “LPC Purchase Agreement”) with Lincoln Park Capital Fund, LLC (“Lincoln Park”), pursuant to which the Company has the right to sell to Lincoln Park up to \$30,000,000 in shares of Common Stock, subject to certain limitations and conditions set forth in the LPC Purchase Agreement. Concurrently with entering into the LPC Purchase Agreement, the Company also entered into a Registration Rights Agreement with Lincoln Park (the “Registration Rights Agreement”), pursuant to which the Company agreed to file a prospectus supplement pursuant to Rule 424(b) relating to the sale of the shares of Common Stock that are being and may be issued to Lincoln Park under the LPC Purchase Agreement pursuant to the Registration Statement or a new registration statement and use its reasonable best efforts to keep such registration statement effective until the earlier of (i) the date on which Lincoln Park shall have sold all the Common Stock subject to the LPC Purchase Agreement and (ii) the earlier of (A) the first day of the month immediately following the 36-month anniversary of the Commencement Date (as defined in the LPC Purchase Agreement) and (B) the termination of the LPC Purchase Agreement.

Upon the satisfaction of the conditions in the LPC Purchase Agreement, the Company will have the right, from time to time at its sole discretion over the 36-month period from and after the Commencement Date, to direct Lincoln Park to purchase up to 200,000 shares of Common Stock on any business day (subject to certain limitations contained in the LPC Purchase Agreement), with such amounts increasing based on certain threshold prices set forth in the LPC Purchase Agreement; provided however, no regular purchase shall exceed \$2,000,000 in total purchase proceeds up to 300,000 shares of Common Stock. The purchase price of shares of Common Stock that the Company elects to sell to Lincoln Park pursuant to the LPC Purchase Agreement will be based on the market prices of the Common Stock at the time of such purchases as set forth in the LPC Purchase Agreement.

In addition to regular purchases, as described above, the Company may also direct Lincoln Park to purchase additional amounts as accelerated purchases or as additional accelerated purchases if the closing sale price of the Common Stock is not below certain threshold prices, as set forth in the LPC Purchase Agreement. In all instances, the Company may not sell shares of its Common Stock to Lincoln Park if it would result in Lincoln Park beneficially owning more than 9.99% of the Common Stock at any time, and the Company also may not sell shares of its Common Stock to Lincoln Park under the LPC Purchase Agreement if it would result in the issuance of more than 19.99% of the number of shares of the Company's Common Stock outstanding immediately prior to the signing of the LPC Purchase Agreement unless shareholder approval is obtained or certain other conditions are satisfied in compliance with the rules of the Nasdaq Global Market where the Common Stock is listed.

The LPC Purchase Agreement contains customary representations, warranties, covenants and indemnification provisions. Lincoln Park has covenanted not to cause or engage in any manner whatsoever, any direct or indirect short selling or hedging of the Company's common stock. Except for a prohibition on entering into any other variable rate transactions, there are no limitations on use of proceeds, financial or business covenants, restrictions on future fundings, rights of first refusal, participation rights, penalties or liquidated damages in the LPC Purchase Agreement.

As consideration for Lincoln Park's commitment to purchase shares of Common Stock pursuant to the LPC Purchase Agreement, the Company is issuing to Lincoln Park Capital a total of 413,349 shares of Common Stock (the "Commitment Shares"). The Company will not receive any cash proceeds from the issuance of the Commitment Shares.

The Company has no obligation to sell Lincoln Park any shares of Common Stock under the LPC Purchase Agreement, the Company has the right, by giving written notice as specified in the LPC Purchase Agreement, to terminate the LPC Purchase Agreement at any time. The Company intends to use the net proceeds, if any, from the sales pursuant to the LPC Purchase Agreement for working capital and general corporate purposes, which may include, among other things, funding commercialization efforts and research and development activities.

The Common Stock subject to the LPC Purchase Agreement was registered pursuant to the Registration Statement and the related base prospectus included in the Registration Statement, as supplemented by a prospectus supplement dated July 30, 2019.

The foregoing descriptions of the LPC Purchase Agreement and Registration Rights Agreement do not purport to be complete and are qualified in their entirety by reference to the full text of the LPC Purchase Agreement and Registration Rights Agreement, which are filed as Exhibits 10.2 and 4.1, respectively, to this Current Report on Form 8-K.

This Current Report on Form 8-K shall not constitute an offer to sell or a solicitation of an offer to buy any securities, nor shall there be any sale of these securities in any state or jurisdiction in which such an offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state or other jurisdiction.

**Item 5.02 Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers.**

On July 25, 2019, John McDonough notified the Company of his resignation as President and Chief Executive Officer ("CEO") of the Company, effective as of the date on which his successor commences employment with the Company or such earlier date as determined by the Board of Directors of the Company (the "Separation Date"). Mr. McDonough's employment with the Company will end on the Separation Date, and he will become the Chairman of the Board of Directors effective July 30, 2019.

In connection with Mr. McDonough's resignation, the Company has entered into a Second Amendment to Employment Agreement with Mr. McDonough (the "Amendment"), amending the terms of Mr. McDonough's existing Employment Agreement with the Company, dated as of March 14, 2008, as amended on July 22, 2014 and by the Amendment (together, the "Amended Employment Agreement").

The Amendment memorializes Mr. McDonough's current annual base salary of \$550,000 and current target annual bonus of 85% of his annual base salary. The Amendment also amends the award of 434,783 performance based restricted stock units granted to Mr. McDonough on March 15, 2018 pursuant to the Company's 2014 Incentive Award Plan so that Mr. McDonough's Termination of Service under and within the meaning of the agreement governing the award is deemed to occur upon the termination of his employment with the Company for any reason.

Under the terms of the Amended Employment Agreement, Mr. McDonough has agreed to resign his position as President and Chief Executive Officer, effective as of the Separation Date. Subject to Mr. McDonough's continued compliance with certain requirements of the Amended Employment Agreement, his continued service through the Separation Date or earlier termination without "Cause" (as defined in the Amended Employment Agreement) and his execution and non-revocation of a general release of claims agreement, Mr. McDonough will be entitled to receive the following amounts upon his resignation as described above or earlier termination without Cause: (i) continued base salary for 15 months following the termination date (the "Transition Period"), which equals an aggregate amount of \$687,500, (ii) an amount equal to \$233,750, which represents 50% of his current target annual bonus, payable in a single lump sum on March 15 of the year following the year in which the termination date occurs, (iii) if such termination occurs prior to the receipt of an annual bonus in respect of 2019, the amount of any annual bonus that would have been earned had Mr. McDonough remained employed, based on actual performance and pro-rated for the portion of 2019 that Mr. McDonough remained employed (or, if his termination occurs in a subsequent year, the amount of any annual bonus that would have been earned had Mr. McDonough remained employed, based on actual performance and pro-rated for the portion of such year that Mr. McDonough remained employed), payable in a lump sum on March 15 of the year following the year in his termination date occurs, (iv) all premium payments for up to 15 months of continued medical coverage under COBRA; and (v) accelerated vesting of certain outstanding equity awards held by Mr. McDonough, as further described in the Amended Employment Agreement, each of which shall become vested on the termination date.

The foregoing description of the Amendment does not purport to be complete and is qualified in its entirety by reference to the actual Amendment, a copy of which is attached hereto as Exhibit 10.3 and incorporated herein by reference.

## **Item 9.01 Financial Statements and Exhibits**

### **(d) Exhibits.**

<u>Exhibit No.</u>	<u>Description</u>
4.1	<a href="#">Registration Rights Agreement dated as of July 29, 2019 by and between T2 Biosystems, Inc. and Lincoln Park Capital Fund, LLC.</a>
5.1	<a href="#">Opinion of Latham &amp; Watkins LLP</a>
5.2	<a href="#">Opinion of Latham &amp; Watkins LLP</a>
10.1	<a href="#">Equity Distribution Agreement dated as of July 30, 2019 by and between T2 Biosystems, Inc. and Canaccord Genuity LLC.</a>
10.2	<a href="#">Purchase Agreement dated as of July 29, 2019 by and between T2 Biosystems, Inc. and Lincoln Park Capital Fund, LLC.</a>
10.3	<a href="#">Second Amendment to Employment Agreement, dated July 30, 2019, between the Company and John McDonough.</a>
23.1	<a href="#">Consent of Latham &amp; Watkins LLP (contained in Exhibit 5.1).</a>
23.2	<a href="#">Consent of Latham &amp; Watkins LLP (contained in Exhibit 5.2).</a>

**SIGNATURE**

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

Dated: July 30, 2019

T2 BIOSYSTEMS, INC.

By: /s/ John McDonough

Name: John McDonough

Title: President and Chief Executive Officer

**REGISTRATION RIGHTS AGREEMENT**

**THIS REGISTRATION RIGHTS AGREEMENT** (this "Agreement"), dated as of July 29, 2019, is entered into by and between **T2 BIOSYSTEMS, INC.**, a Delaware corporation (the "Company"), and **LINCOLN PARK CAPITAL FUND, LLC**, an Illinois limited liability company (together with its permitted assigns, the "Investor"). Capitalized terms used herein and not otherwise defined herein shall have the respective meanings set forth in the Purchase Agreement by and between the parties hereto, dated as of the date hereof (as amended, restated, supplemented or otherwise modified from time to time, the "Purchase Agreement").

**WHEREAS:**

A. Upon the terms and subject to the conditions of the Purchase Agreement, (i) the Company has agreed to issue to the Investor, and the Investor has agreed to purchase, up to Thirty Million Dollars (\$30,000,000) of the Company's Common Stock, par value \$0.001 per share (the "Common Stock"), pursuant to Section 2 of the Purchase Agreement (such shares, the "Purchase Shares"), and (ii) the Company has agreed to issue to the Investor such number of shares of Common Stock as is required pursuant to Section 5(e) of the Purchase Agreement (the "Commitment Shares"); and

B. To induce the Investor to enter into the Purchase Agreement, the Company has agreed to provide certain registration rights under the Securities Act of 1933, as amended, and the rules and regulations thereunder, or any similar successor statute (collectively, the "Securities Act"), and applicable state securities laws.

**NOW, THEREFORE**, in consideration of the promises and the mutual covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Company and the Investor hereby agree as follows:

**1. Definitions.**

For purposes of this Agreement, the following terms shall have the following meanings:

(a) "Register," "Registered," and "Registration" refer to a registration effected by preparing and filing one or more registration statements of the Company in compliance with the Securities Act and providing for offering securities on a continuous basis, and the declaration or ordering of effectiveness of such registration statement(s) by the SEC.

(b) "Registrable Securities" means the Purchase Shares that may from time to time be issued or issuable to the Investor upon purchases of the Available Amount under the Purchase Agreement (without regard to any limitation or restriction on purchases) the Commitment Shares issued or issuable to the Investor, and any Common Stock issued or issuable with respect to the Purchase Shares, the Commitment Shares or the Purchase Agreement as a result of any stock split, stock dividend, recapitalization, exchange or similar event, without regard to any limitation on purchases under the Purchase Agreement.

(c) "Registration Statement" means the Shelf Registration Statement and any other registration statement of the Company that Registers Registrable Securities, including a New Registration Statement, as amended when each became effective, including all documents filed as part thereof or incorporated by reference therein, and including any information contained in a Prospectus subsequently filed with the SEC.

(d) "Shelf Registration Statement" means the Company's existing registration statement on Form S-3 (File No. 333- 227847).

## 2. Registration.

(a) Mandatory Registration. The Company agrees that it shall, within the time required under Rule 424(b) under the Securities Act, file with the SEC the Initial Prospectus Supplement pursuant to Rule 424(b) under the Securities Act specifically relating to the transactions contemplated by, and describing the material terms and conditions of, the Transaction Documents, containing information previously omitted at the time of effectiveness of the Registration Statement in reliance on Rule 430B under the Securities Act, and disclosing all information relating to the transactions contemplated hereby required to be disclosed in the Registration Statement and the Prospectus as of the date of the Initial Prospectus Supplement, including, without limitation, information required to be disclosed in the section captioned "Plan of Distribution" in the Prospectus. The Investor acknowledges that it will be identified in the Initial Prospectus Supplement as an underwriter within the meaning of Section 2(a)(11) of the Securities Act. The Company shall permit the Investor to review and comment upon the Initial Prospectus Supplement at least two (2) Business Days prior to their filing with the SEC, the Company shall give due consideration to all such comments, and the Company shall not file the Initial Prospectus Supplement with the SEC in a form to which the Investor reasonably objects. The Investor shall use its reasonable best efforts to comment upon the Initial Prospectus Supplement within one (1) Business Day from the date the Investor receives the final pre-filing draft version thereof from the Company. The Investor shall furnish to the Company such information regarding itself, the Securities held by it and the intended method of distribution thereof, including any arrangement between the Investor and any other Person relating to the sale or distribution of the Securities, as shall be reasonably requested by the Company in connection with the preparation and filing of the Initial Prospectus Supplement, and shall otherwise cooperate with the Company as reasonably requested by the Company in connection with the preparation and filing of the Initial Prospectus Supplement with the SEC.

(b) Effectiveness. The Company shall use its reasonable best efforts to keep the Registration Statement effective under the Securities Act (including through any necessary renewals), and to keep the Registration Statement and the Prospectus current and available (including through any necessary renewals) for issuances and sales of all possible Registrable Securities by the Company to the Investor, and for the resale of all of the Registrable Securities by the Investor, at all times during the Registration Period. Without limiting the generality of the foregoing, during the Registration Period, the Company shall (a) take all action necessary to cause the Common Stock to continue to be Registered as a class of securities under Section 12(b) of the Exchange Act and shall not take any action or file any document (whether or not permitted by the Exchange Act) to terminate or suspend such registration and (b) file or furnish on or before their respective due dates all reports and other documents required to be filed or furnished by the Company pursuant to Sections 13(a), 13(c), 14, 15(d) or any other provision of or under the Exchange Act, and shall not take any action or file any document (whether or not permitted by the Exchange Act) to terminate or suspend its reporting and filing obligations under the Exchange Act. The Registration Statement (including any amendments or supplements thereto and prospectuses contained therein) shall not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances then existing, not misleading.

(c) Prospectus Amendments or Supplements. Except as provided in this Agreement and other than periodic and current reports required to be filed pursuant to the Exchange Act, the Company shall not file with the SEC any amendment to the Registration Statement or any supplement to the Base Prospectus that refers to the Investor, the Transaction Documents or the transactions contemplated thereby

(including, without limitation, any Prospectus Supplement filed in connection with the transactions contemplated by the Transaction Documents), in each case with respect to which (a) the Investor shall not previously have been advised and afforded the opportunity to review and comment thereon at least two (2) Business Days prior to filing with the SEC, as the case may be, (b) the Company shall not have given due consideration to any comments thereon received from the Investor or its counsel, or (c) the Investor shall reasonably object, unless the Company reasonably has determined that it is necessary to amend the Registration Statement or make any supplement to the Prospectus to comply with the Securities Act or any other applicable law or regulation, in which case the Company shall promptly (but in no event later than 24 hours) so inform the Investor, the Investor shall be provided with a reasonable opportunity to review and comment upon any disclosure referring to the Investor, the Transaction Documents or the transactions contemplated thereby, as applicable, and the Company shall expeditiously furnish to the Investor a copy thereof. In addition, for so long as, in the reasonable opinion of counsel for the Investor, the Prospectus is required to be delivered in connection with any acquisition or sale of Securities by the Investor, the Company shall not file any Prospectus Supplement with respect to the Securities without furnishing to the Investor as many copies of such Prospectus Supplement, together with the Prospectus, as the Investor may reasonably request.

(d) Sufficient Number of Shares Registered. In the event the number of shares available under the Shelf Registration Statement at any time is insufficient to cover the Registrable Securities, the Company shall, to the extent necessary and permissible, amend the Shelf Registration Statement or file a new registration statement (together with any prospectuses or prospectus supplements thereunder, a "New Registration Statement"), so as to cover all of such Registrable Securities as soon as reasonably practicable, but in any event not later than ten (10) Business Days after the necessity therefor arises. The Company shall use its reasonable best efforts to have such amendment and/or any New Registration Statement become effective as soon as reasonably practicable following the filing thereof.

(e) Offering. If the SEC seeks to characterize any offering pursuant to a Registration Statement filed pursuant to this Agreement as constituting an offering of securities that does not permit such Registration Statement to become effective and be used by the Investor under Rule 415 at then-prevailing market prices (and not fixed prices), or if after the filing of the Initial Prospectus Supplement with the SEC pursuant to Section 2(a), the Company is otherwise required by the Staff or the SEC to reduce the number of Registrable Securities included in such initial Registration Statement, then the Company shall reduce the number of Registrable Securities to be included in such initial Registration Statement (with the prior consent, which shall not be unreasonably withheld, of the Investor and its legal counsel as to the specific Registrable Securities to be removed therefrom) until such time as the SEC shall so permit such Registration Statement to become effective and be used as aforesaid. In the event of any reduction in Registrable Securities pursuant to this paragraph, the Company shall file one or more New Registration Statements in accordance with Section 2(d) until such time as all Registrable Securities have been included in Registration Statements that have been declared effective and the prospectuses contained therein is available for use by the Investor.

### **3. Related Obligations.**

With respect to the Registration Statement and whenever any Registrable Securities are to be Registered pursuant to Section 2, including on the Shelf Registration Statement or on any New Registration Statement, the Company shall use its reasonable best efforts to effect the registration of the Registrable Securities in accordance with the intended method of disposition thereof and, pursuant thereto, the Company shall have the following obligations:



(a) Notifications. The Company will notify the Investor promptly of the time when any subsequent amendment to the Shelf Registration Statement or any New Registration Statement, other than documents incorporated by reference, has been filed with the SEC and/or has become effective or where a receipt has been issued therefor or any subsequent supplement to a Prospectus has been filed and of any request by the SEC for any amendment or supplement to the Registration Statement, any New Registration Statement or any Prospectus or for additional information.

(b) Amendments. The Company will prepare and file with the SEC, promptly upon the Investor's request, any amendments or supplements to the Shelf Registration Statement, any New Registration Statement or any Prospectus, as applicable, that, in the Investor's reasonable opinion, may be necessary or advisable in connection with any acquisition or sale of Registrable Securities by the Investor (provided, however, that the failure of the Investor to make such request shall not relieve the Company of any obligation or liability hereunder).

(c) Investor Review. The Company will not file any amendment or supplement to the Registration Statement, any New Registration Statement or any Prospectus, other than documents incorporated by reference, relating to the Investor, the Registrable Securities or the transactions contemplated hereby unless (A) the Investor shall have been advised and afforded the opportunity to review and comment thereon at least two (2) Business Days prior to filing with the SEC (B) the Company shall have given due consideration to any comments thereon received from the Investor or its counsel, and (C) the Investor has not reasonably objected thereto (provided, however, that the failure of the Investor to make such objection shall not relieve the Company of any obligation or liability hereunder), and the Company will furnish to the Investor at the time of filing thereof a copy of any document that upon filing is deemed to be incorporated by reference into the Registration Statement or any Prospectus, except for those documents available via EDGAR.

(d) Form S-3. The Company will cause each amendment or supplement to the Prospectus, other than documents incorporated by reference, to be filed with the SEC as required pursuant to the rules of Form S-3.

(e) Copies Available. The Company will furnish to the Investor and its counsel (at the expense of the Company) copies of the Registration Statement, the Prospectus (including all documents incorporated by reference therein), any Prospectus Supplement, any New Registration Statement and all amendments and supplements to the Registration Statement, the Prospectus or any New Registration Statement that are filed with the SEC during the Registration Period (including all documents filed with or furnished to the SEC during such period that are deemed to be incorporated by reference therein), in each case as soon as reasonably practicable and in such quantities as the Investor may from time to time reasonably request and, at the Investor's request, will also furnish copies of the Prospectus to each exchange or market on which sales of the Registrable Securities may be made; provided, however, that the Company shall not be required to furnish any document (other than the Prospectus) to the Investor to the extent such document is available on EDGAR.

(f) Qualification. The Company shall take all such action, if any, as is reasonably necessary in order to obtain an exemption for or to qualify (i) the issuance of the Commitment Shares and the sale of the Purchase Shares to the Investor under this Agreement and (ii) any subsequent resale of all Commitment Shares and all Purchase Shares by the Investor, in each case, under applicable securities or "Blue Sky" laws of the states of the United States in such states as is reasonably requested by the Investor during the Registration Period, and shall provide evidence of any such action so taken to the Investor. The Company shall promptly notify the Investor who holds Registrable Securities of the receipt by the Company of any notification with respect to the suspension of the registration or qualification of any of the Registrable Securities for sale under the securities or "blue sky" laws of any jurisdiction in the United States or its receipt of actual notice of the initiation or threat of any proceeding for such purpose.

(g) Notification of Stop Orders. The Company shall advise the Investor promptly (but in no event later than 24 hours) and shall confirm such advice in writing, in each case: (i) of the Company's receipt of notice of any request by the SEC or any other federal or state governmental authority for amendment of or a supplement to the Registration Statement or any Prospectus or for any additional information; (ii) of the Company's receipt of notice of the issuance by the SEC or any other federal or state governmental authority of any stop order suspending the effectiveness of the Registration Statement or prohibiting or suspending the use of the Prospectus or Prospectus Supplement, or any New Registration Statement, or of the Company's receipt of any notification of the suspension of qualification of the Registrable Securities for offering or sale in any jurisdiction or the initiation or contemplated initiation of any proceeding for such purpose; and (iii) of the Company becoming aware of the happening of any event, which makes any statement of a material fact made in the Registration Statement or any Prospectus untrue or which requires the making of any additions to or changes to the statements then made in the Registration Statement or any Prospectus in order to state a material fact required by the Securities Act to be stated therein or necessary in order to make the statements then made therein (in the case of any Prospectus, in light of the circumstances under which they were made) not misleading, or of the necessity to amend the Registration Statement or any Prospectus to comply with the Securities Act or any other law. The Company shall not be required to disclose to the Investor the substance or specific reasons of any of the events set forth in clauses (i) through (iii) of the immediately preceding sentence, but rather, shall only be required to disclose that the event has occurred. If at any time the SEC, or any other federal or state governmental authority shall issue any stop order suspending the effectiveness of the Registration Statement or prohibiting or suspending the use of the Prospectus or Prospectus Supplement, the Company shall use its reasonable best efforts to obtain the withdrawal of such order at the earliest possible time. The Company shall furnish to the Investor, without charge, a copy of any correspondence from the SEC or the staff of the SEC, or any other federal or state governmental authority to the Company or its representatives relating to the Shelf Registration Statement, any New Registration Statement or any Prospectus, or Prospectus Supplement as the case may be. The Company shall not deliver to the Investor any Regular Purchase Notice, Accelerated Purchase Notice or Additional Accelerated Purchase Notice, and the Investor shall not be obligated to purchase any shares of Common Stock under this Agreement, during the continuation or pendency of any of the foregoing events. If at any time the SEC shall issue any stop order suspending the effectiveness of the Registration Statement or prohibiting or suspending the use of the Prospectus or any Prospectus Supplement, the Company shall use its reasonable best efforts to obtain the withdrawal of such order at the earliest possible time. The Company shall furnish to the Investor, without charge, a copy of any correspondence from the SEC or the staff of the SEC to the Company or its representatives relating to the Registration Statement or the Prospectus, as the case may be.

(h) Listing on the Principal Market. The Company shall promptly secure the listing, or conditional listing as applicable, of all of the Purchase Shares and Commitment Shares to be issued to the Investor hereunder on the Principal Market (subject to standard listing conditions, if any, for transactions of this nature, official notice of issuance and the Exchange Cap) and upon each other national securities exchange or automated quotation system, if any, upon which the Common Stock are then listed, and shall maintain, so long as any Common Stock shall be so listed, such listing of all such Registrable Securities from time to time issuable hereunder. The Company shall use commercially reasonable efforts to maintain the listing of the Common Stock on the Principal Market and shall comply in all respects with the Company's reporting, filing and other obligations under the bylaws or rules and regulations of the Principal Market. Neither the Company nor any of its Subsidiaries shall take any action that would reasonably be expected to result in the delisting or suspension of the Common Stock on the Principal Market. The Company shall promptly, and in no event later than the following Business Day, provide to the Investor copies of any notices it receives from any Person regarding the continued eligibility of the Common Stock for listing on the Principal Market; provided, however, that the Company shall not provide the Investor copies of any such notice that the Company reasonably believes constitutes material non-public information, and the Company would not be required to publicly disclose such notice in any report or statement filed with the SEC under the Exchange Act (including on Form 8-K) or the Securities Act. The Company shall pay all fees and expenses in connection with satisfying its obligations under this Section 3(h).

(i) Delivery of Shares. The Company shall cooperate with the Investor to facilitate the timely preparation and delivery of DWAC Shares (not bearing any restrictive legend) representing the Registrable Securities to be offered pursuant to the Shelf Registration Statement or any New Registration Statement and enable such DWAC Shares to be in such denominations or amounts as the Investor may reasonably request and registered in such names as the Investor may request.

(j) Transfer Agent. The Company shall at all times maintain the services of the Transfer Agent with respect to its Common Stock.

(k) Approvals. The Company shall use its reasonable best efforts to cause the Registrable Securities covered by any Registration Statement to be Registered with or approved by such other governmental agencies or authorities in the United States as may be necessary to consummate the disposition of such Registrable Securities.

(l) Confirmation of Effectiveness. If reasonably requested by the Investor at any time, the Company shall deliver to the Investor a written confirmation from Company's counsel of whether or not the effectiveness of such Registration Statement has lapsed at any time for any reason (including, without limitation, the issuance of a stop order) and whether or not the Registration Statement is currently effective and available to the Company for sale of all of the Registrable Securities.

(m) Further Assurances. The Company agrees to take all other reasonable actions as necessary and reasonably requested by the Investor to expedite and facilitate disposition by the Investor of Registrable Securities pursuant to any Registration Statement.

(n) Suspension of Sales. The Investor agrees that, upon receipt of any notice from the Company of the existence of any suspension or stop order as set forth in Section 3(f) or 3(g), the Investor will immediately discontinue disposition of Registrable Securities pursuant to any Registration Statement covering such Registrable Securities until the Investor's receipt of the copies of a notice regarding the resolution or withdrawal of the suspension or stop order as contemplated by Section 3(f) or 3(g). Notwithstanding anything to the contrary, the Company shall cause its transfer agent to promptly deliver DWAC Shares of Common Stock without any restrictive legend in accordance with the terms of the Purchase Agreement in connection with any sale of Registrable Securities with respect to which an Investor has entered into a contract for sale prior to the Investor's receipt of a notice from the Company of the happening of any event of the kind described in Section 3(f) or 3(g) and for which the Investor has not yet settled.

#### **4. Obligations of the Investor.**

(a) Investor Information. The Investor has furnished to the Company in Exhibit A hereto such information regarding itself, the Registrable Securities held by it, the Registrable Securities held by it and the intended method of disposition thereof, including any arrangement between the Investor and any other Person relating to the sale or distribution of the Securities, as required to effect the registration of such Registrable Securities and shall execute such documents in connection with such registration as the Company may reasonably request. The Company shall notify the Investor in writing of any other information the Company reasonably requires from the Investor in connection with any Registration Statement hereunder. The Investor will as promptly as practicable notify the Company of any material change in the information set forth in Exhibit A, other than changes in its ownership of Common Stock.

(b) Investor Cooperation. The Investor agrees to cooperate with the Company as reasonably requested by the Company in connection with the preparation and filing of any amendments and supplements to any Registration Statement or New Registration Statement hereunder.

**5. Expenses of Registration.**

All reasonable expenses of the Company, other than sales or brokerage commissions and fees and disbursements of counsel for the Investor, incurred in connection with registrations, filings or qualifications pursuant to Sections 2 and 3, including, without limitation, all registration, listing and qualifications fees, printers and accounting fees, and fees and disbursements of counsel for the Company, shall be paid by the Company.

**6. Indemnification.**

(a) To the fullest extent permitted by law, the Company will, and hereby does, indemnify, hold harmless and defend the Investor, each Person, if any, who controls the Investor, the members, the directors, officers, partners, employees, members, managers, agents, representatives of the Investor and each Person, if any, who controls the Investor within the meaning of the Securities Act or the Exchange Act (each, an "Indemnified Person"), against any losses, claims, damages, liabilities, judgments, fines, penalties, charges, costs, reasonable attorneys' fees, amounts paid in settlement (with the consent of the Company, such consent not to be unreasonably withheld) or reasonable expenses, (collectively, "Claims") reasonably incurred in investigating, preparing or defending any action, claim, suit, inquiry, proceeding, investigation or appeal taken from the foregoing by or before any court or governmental, administrative or other regulatory agency or body or the SEC, whether pending or threatened, whether or not an indemnified party is or may be a party thereto ("Indemnified Damages"), to which any of them may become subject insofar as such Claims (or actions or proceedings, whether commenced or threatened, in respect thereof) arise out of or are based upon: (i) any untrue statement or alleged untrue statement of a material fact in the Shelf Registration Statement, any New Registration Statement or any post-effective amendment thereto or in any filing made in connection with the qualification of the offering under the securities or other "blue sky" laws of any jurisdiction in which Registrable Securities are offered ("Blue Sky Filing"), or the omission or alleged omission to state a material fact required to be stated therein or necessary to make the statements therein not misleading, (ii) any untrue statement or alleged untrue statement of a material fact contained in the final Prospectus or the omission or alleged omission to state therein any material fact necessary to make the statements made therein, in light of the circumstances under which the statements therein were made, not misleading, (iii) any violation or alleged violation by the Company of the Securities Act, the Exchange Act, any other law, including, without limitation, any state securities law, or any rule or regulation thereunder relating to the offer or sale of the Registrable Securities pursuant to the Shelf Registration Statement or any New Registration Statement or (iv) any material violation by the Company of this Agreement (the matters in the foregoing clauses (i) through (iv) being, collectively, "Violations"). The Company shall reimburse each Indemnified Person promptly as such expenses are incurred and are due and payable, for any reasonable legal fees or other reasonable expenses incurred by them in connection with investigating or defending any such Claim. Notwithstanding anything to the contrary contained herein, the indemnification agreement contained in this Section 6(a): (A) shall not apply to a Claim by an Indemnified Person arising out of or based upon a Violation which occurs in reliance upon and in conformity with information furnished in writing to the Company by the Investor or such Indemnified Person expressly for use in connection with the preparation of the Registration Statement, any New Registration Statement, the Prospectus or any such amendment thereof or supplement thereto, if such in each case if the foregoing was timely made available by the Company; (B) with respect to any superseded prospectus, shall not inure to the benefit of any such Person from whom the Person asserting any such Claim purchased the Registrable Securities that are the subject thereof (or to the benefit of any other

Indemnified Person) if the untrue statement or omission of material fact contained in the superseded prospectus was corrected in the revised prospectus, as then amended or supplemented, if such revised prospectus was timely made available by the Company pursuant to Section 3(c) or Section 3(e), and the Indemnified Person was promptly advised in writing not to use the incorrect prospectus prior to the use giving rise to a violation; (C) shall not be available to the extent such Claim is based on a failure of the Investor to deliver, or to cause to be delivered, the prospectus made available by the Company, if such prospectus was theretofore made available by the Company pursuant to Section 3(c) or Section 3(e); and (D) shall not apply to amounts paid in settlement of any Claim if such settlement is effected without the prior written consent of the Company, which consent shall not be unreasonably withheld. Such indemnity shall remain in full force and effect regardless of any investigation made by or on behalf of the Indemnified Person and shall survive the transfer of the Registrable Securities by the Investor pursuant to Section 8.

(b) In connection with the Shelf Registration Statement any New Registration Statement or Prospectus, the Investor agrees to indemnify, hold harmless and defend, to the same extent and in the same manner as is set forth in Section 6(a), the Company, each of its directors, each of its officers who signed the Shelf Registration Statement or signs any New Registration Statement, each Person, if any, who controls the Company within the meaning of the Securities Act or the Exchange Act (collectively and together with an Indemnified Person, an “Indemnified Party”), against any Claim or Indemnified Damages arise out of or are based upon any Violation, in each case to the extent, and only to the extent, that such Violation occurs in reliance upon and in conformity with written information about the Investor set forth on Exhibit A attached hereto or updated from time to time in writing by the Investor and furnished to the Company by the Investor expressly for inclusion in the Shelf Registration Statement or Prospectus or any New Registration Statement or from the failure of the Investor to deliver or to cause to be delivered the prospectus made available by the Company, if such prospectus was timely made available by the Company pursuant to Section 3(c) or Section 3(e); and, subject to Section 6(d), the Investor will reimburse any legal or other expenses reasonably incurred by them in connection with investigating or defending any such Claim; provided, however, that the indemnity agreement contained in this Section 6(b) and the agreement with respect to contribution contained in Section 7 shall not apply to amounts paid in settlement of any Claim if such settlement is effected without the prior written consent of the Investor, which consent shall not be unreasonably withheld; provided, further, however, that the Investor shall be liable under this Section 6(b) for only that amount of a Claim or Indemnified Damages as does not exceed the net proceeds to the Investor as a result of the sale of Registrable Securities pursuant to such Registration Statement. Such indemnity shall remain in full force and effect regardless of any investigation made by or on behalf of such Indemnified Party and shall survive the transfer of the Registrable Securities by the Investor pursuant to Section 8.

(c) Promptly after receipt by an Indemnified Person or Indemnified Party under this Section 6 of notice of the commencement of any action or proceeding (including any governmental action or proceeding) involving a Claim, such Indemnified Person or Indemnified Party shall, if a Claim in respect thereof is to be made against any indemnifying party under this Section 6, deliver to the indemnifying party a written notice of the commencement thereof, and the indemnifying party shall have the right to participate in, and, to the extent the indemnifying party so desires, jointly with any other indemnifying party similarly noticed, to assume control of the defense thereof with counsel mutually satisfactory to the indemnifying party and the Indemnified Person or the Indemnified Party, as the case may be; provided, however, that an Indemnified Person or Indemnified Party shall have the right to retain its own counsel with the fees and expenses to be paid by the indemnifying party, if, in the reasonable opinion of counsel retained by the indemnifying party, the representation by such counsel of the Indemnified Person or Indemnified Party and the indemnifying party would be inappropriate due to actual or potential differing interests between such Indemnified Person or Indemnified Party and any other party represented by such counsel in such proceeding. The Indemnified Party or Indemnified Person shall cooperate with the indemnifying party in

connection with any negotiation or defense of any such action or claim by the indemnifying party and shall furnish to the indemnifying party all information reasonably available to the Indemnified Party or Indemnified Person which relates to such action or claim. The indemnifying party shall keep the Indemnified Party or Indemnified Person fully apprised as to the status of the defense or any settlement negotiations with respect thereto. No indemnifying party shall be liable for any settlement of any action, claim or proceeding effected without its written consent, provided, however, that the indemnifying party shall not unreasonably withhold, delay or condition its consent. No indemnifying party shall, without the consent of the Indemnified Party or Indemnified Person, consent to entry of any judgment or enter into any settlement or other compromise which does not include as an unconditional term thereof the giving by the claimant or plaintiff to such Indemnified Party or Indemnified Person of a release from all liability in respect to such claim or litigation. Following indemnification as provided for hereunder, the indemnifying party shall be subrogated to all rights of the Indemnified Party or Indemnified Person with respect to all third parties, firms or corporations relating to the matter for which indemnification has been made. The failure to deliver written notice to the indemnifying party within a reasonable time of the commencement of any such action shall not relieve such indemnifying party of any liability to the Indemnified Person or Indemnified Party under this Section 6, except to the extent that the indemnifying party is prejudiced in its ability to defend such action.

d. The indemnification required by this Section 6 shall be made by periodic payments of the amount thereof during the course of the investigation or defense, as and when bills are received or Indemnified Damages are incurred. Any Person receiving a payment pursuant to this Section 6 which person is later determined to not be entitled to such payment shall return such payment to the person making it.

e. The indemnity agreements contained herein shall be in addition to (i) any cause of action or similar right of the Indemnified Party or Indemnified Person against the indemnifying party or others, and (ii) any liabilities the indemnifying party may be subject to pursuant to the law.

**7. Contribution.**

To the extent any indemnification by an indemnifying party is prohibited or limited by law, the indemnifying party agrees to make the maximum contribution with respect to any amounts for which it would otherwise be liable under Section 6 to the fullest extent permitted by law; provided, however, that: (i) no seller of Registrable Securities guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any seller of Registrable Securities who was not guilty of fraudulent misrepresentation; and (ii) contribution by any seller of Registrable Securities shall be limited in amount to the net amount of proceeds received by such seller from the sale of such Registrable Securities.

**8. Assignment of Registration Rights.**

The Company shall not assign this Agreement or any rights or obligations hereunder without the prior written consent of the Investor; provided, however, that any transaction, whether by merger, reorganization, restructuring, consolidation, financing or otherwise, whereby the Company remains the surviving entity immediately after such transaction shall not be deemed an assignment. The Investor may not assign its rights under this Agreement without the prior written consent of the Company, other than to an affiliate of the Investor controlled by Jonathan Cope or Josh Scheinfeld, in which case the assignee must agree in writing to be bound by the terms and conditions of this Agreement.

**9. Amendment of Registration Rights.**

No provision of this Agreement may be amended or waived by the parties from and after the date that is one Business Day immediately preceding the initial filing of the Initial Prospectus Supplement with the SEC. Subject to the immediately preceding sentence, no provision of this Agreement may be (i) amended other than by a written instrument signed by both parties hereto or (ii) waived other than in a written instrument signed by the party against whom enforcement of such waiver is sought. Failure of any party to exercise any right or remedy under this Agreement or otherwise, or delay by a party in exercising such right or remedy, shall not operate as a waiver thereof.

**10. Miscellaneous.**

(a) Notices. Any notices, consents or other communications required or permitted to be given under the terms of this Agreement must be in writing and will be deemed to have been delivered: (i) upon receipt, when delivered personally; (ii) upon receipt, when sent by facsimile (provided confirmation of transmission is mechanically or electronically generated and kept on file by the sending party); (iii) upon receipt, when sent by electronic message (provided the recipient responds to the message and confirmation of both electronic messages are kept on file by the sending party); or (iv) one (1) Business Day after timely deposit with a nationally recognized overnight delivery service, in each case properly addressed to the party to receive the same. The addresses and facsimile numbers for such communications shall be:

If to the Company:

T2 Biosystems, Inc.  
101 Hartwell Avenue  
Lexington, MA 02421  
Telephone: 781- 761-4646  
E-mail: mgibbs@t2biosystems.com  
Attention: Michael Gibbs

With a copy (which shall not constitute notice) to:

Latham & Watkins LLP  
200 Clarendon Street, 27<sup>th</sup> Floor  
Boston, MA  
Telephone: +1.781.434.6608  
E-mail: Evan.Smith @lw.com  
Attention: Evan Smith

If to the Investor:

Lincoln Park Capital Fund, LLC  
440 North Wells, Suite 410  
Chicago, IL 60654  
Telephone: 312.822.9300  
Facsimile: 312.822.9301  
E-mail: jscheinfeld@lpcfunds.com/jcope@lpcfunds.com  
Attention: Josh Scheinfeld/Jonathan Cope

With a copy (which shall not constitute notice) to:

K&L Gates, LLP  
200 South Biscayne Boulevard  
Suite 3900  
Miami, Florida 33131  
Telephone: 305.539.3300  
Facsimile: 305.358.7095  
E-mail: clayton.parker@klgates.com  
Attention: Clayton E. Parker, Esq.

or at such other address, e-mail address and/or facsimile number and/or to the attention of such other person as the recipient party has specified by written notice given to each other party at least one (1) Business Day prior to the effectiveness of such change. Written confirmation of receipt (A) given by the recipient of such notice, consent or other communication, (B) mechanically or electronically generated by the sender's facsimile machine containing the time, date, and recipient facsimile number, (C) electronically generated by the sender's electronic mail containing the time, date and recipient email address or (D) provided by a nationally recognized overnight delivery service, shall be rebuttable evidence of receipt in accordance with clause (i), (ii), (iii) or (iv) above, respectively. Any party to this Agreement may give any notice or other communication hereunder using any other means (including messenger service, ordinary mail or electronic mail), but no such notice or other communication shall be deemed to have been duly given unless it actually is received by the party for whom it is intended.

(b) No Waiver. No failure or delay in the exercise of any power, right or privilege hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any such power, right or privilege preclude other or further exercise thereof or of any other right, power or privilege.

(c) Governing Law. All questions concerning the construction, validity, enforcement and interpretation of this Agreement shall be governed by the internal laws of the State of Illinois, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of Illinois or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of Illinois. Each party hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in the County of Cook, in the State of Illinois for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof to such party at the address for such notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law. If any provision of this Agreement shall be invalid or unenforceable in any jurisdiction, such invalidity or unenforceability shall not affect the validity or enforceability of the remainder of this Agreement in that jurisdiction or the validity or enforceability of any provision of this Agreement in any other jurisdiction. **EACH PARTY HEREBY IRREVOCABLY WAIVES ANY RIGHT IT MAY HAVE, AND AGREES NOT TO REQUEST, A JURY TRIAL FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION HEREWITH OR ARISING OUT OF THIS AGREEMENT OR ANY TRANSACTION CONTEMPLATED HEREBY.**

(d) Integration. This Agreement, the Purchase Agreement and the other Transaction Documents constitute the entire understanding among the parties hereto with respect to the subject matter hereof and thereof. There are no restrictions, promises, warranties or undertakings, other than those set forth or referred to herein and therein. This Agreement, the Purchase Agreement and the other Transaction Documents supersede all other prior oral or written agreements between the Investor, the Company, their affiliates and persons acting on their behalf with respect to the subject matter hereof and thereof.



(e) No Third Party Benefits. Subject to the requirements of Section 8, this Agreement shall inure to the benefit of and be binding upon the permitted successors and assigns of each of the parties hereto.

(f) Headings. The headings in this Agreement are for convenience of reference and shall not form part of, or affect the interpretation of, this Agreement.

(g) Counterparts. This Agreement may be executed in two or more identical counterparts, all of which shall be considered one and the same agreement and shall become effective when counterparts have been signed by each party and delivered to the other party; provided that a facsimile or pdf (or other electronic reproduction of a) signature shall be considered due execution and shall be binding upon the signatory thereto with the same force and effect as if the signature were an original, not a facsimile or pdf (or other electronic reproduction of a) signature.

(h) Each party shall do and perform, or cause to be done and performed, all such further acts and things, and shall execute and deliver all such other agreements, certificates, instruments and documents as the other party may reasonably request in order to carry out the intent and accomplish the purposes of this Agreement and the consummation of the transactions contemplated hereby.

(i) The language used in this Agreement will be deemed to be the language chosen by the parties to express their mutual intent and no rules of strict construction will be applied against any party.

(j) This Agreement is intended for the benefit of the parties hereto and their respective permitted successors and assigns, and is not for the benefit of, nor may any provision hereof be enforced by, any other Person.

\* \* \* \* \*

IN WITNESS WHEREOF, the parties have caused this Registration Rights Agreement to be duly executed as of day and year first above written.

**THE COMPANY:**

**T2 BIOSYSTEMS, INC.**

By: /s/ John McDonough

Name: John McDonough

Title: CEO

**INVESTOR:**

**LINCOLN PARK CAPITAL FUND, LLC**

**BY: LINCOLN PARK CAPITAL, LLC**

**BY: ALEX NOAH INVESTORS, INC.**

By: /s/ Jonathan Cope

Name: Jonathan Cope

Title: President

**EXHIBIT A**

**Information About The Investor Furnished To The Company By The Investor  
Expressly For Use In Connection With The Registration Statement and Prospectus**

[see attached]

LATHAM & WATKINS<sup>LLP</sup>

53rd at Third  
 885 Third Avenue  
 New York, New York 10022-4834  
 Tel: +1.212.906.1200 Fax: +1.212.751.4864  
 www.lw.com

## FIRM / AFFILIATE OFFICES

Beijing	Moscow
Boston	Munich
Brussels	New York
Century City	Orange County
Chicago	Paris
Dubai	Riyadh
Düsseldorf	San Diego
Frankfurt	San Francisco
Hamburg	Seoul
Hong Kong	Shanghai
Houston	Silicon Valley
London	Singapore
Los Angeles	Tokyo
Madrid	Washington, D.C.
Milan	

July 30, 2019

T2 Biosystems, Inc.  
 101 Hartwell Ave.  
 Lexington, MA 02421

File No. 057345-0001

Re: Registration Statement No. 333-227847; Shares of Common Stock, par value \$.001 per share, having an aggregate offering price of up to \$30,000,000.

Ladies and Gentlemen:

We have acted as special counsel to T2 Biosystems, Inc., a Delaware corporation (the "**Company**"), in connection with the proposed issuance of shares of common stock, par value \$0.001 per share (the "**Common Stock**"), with an aggregate offering price of up to \$30,000,000 (the "**Shares**"). The Shares are included in a registration statement on Form S-3 under the Securities Act of 1933, as amended (the "**Act**"), initially filed with the Securities and Exchange Commission (the "**Commission**") on October 15, 2018 (Registration No. 333-227847) (as amended, the "**Registration Statement**"), and are being offered pursuant to a base prospectus dated October 24, 2018 (the "**Base Prospectus**") and a prospectus supplement dated July 30, 2019 filed with the Commission on July 30, 2019 pursuant to Rule 424(b) under the Act (the "**Prospectus Supplement**," and together with the Base Prospectus, the "**Prospectus**"). The Shares are being sold pursuant to an Equity Distribution Agreement dated July 30, 2019 by and between Canaccord Genuity LLC and the Company (the "**Sales Agreement**").

This opinion is being furnished in connection with the requirements of Item 601(b)(5) of Regulation S-K under the Act, and no opinion is expressed herein as to any matter pertaining to the contents of the Registration Statement or related Prospectus, other than as expressly stated herein with respect to the issue of the Shares.

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

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

This opinion is for your benefit in connection with the Registration Statement and may be relied upon by you and by persons entitled to rely upon it pursuant to the applicable provisions of the Act. We consent to your filing this opinion as an exhibit to the Company's Current Report on Form 8-K dated July 30, 2019 and to the reference to our firm in the Prospectus under the heading "Legal Matters." In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Act or the rules and regulations of the Commission thereunder.

Very truly yours,

/s/ Latham & Watkins LLP

## LATHAM &amp; WATKINS LLP

53rd at Third  
 885 Third Avenue  
 New York, New York 10022-4834  
 Tel: +1.212.906.1200 Fax: +1.212.751.4864  
 www.lw.com

July 30, 2019

T2 Biosystems, Inc.  
 101 Hartwell Ave.  
 Lexington, MA 02421

## FIRM / AFFILIATE OFFICES

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Boston	Munich
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Düsseldorf	San Diego
Frankfurt	San Francisco
Hamburg	Seoul
Hong Kong	Shanghai
Houston	Silicon Valley
London	Singapore
Los Angeles	Tokyo
Madrid	Washington, D.C.
Milan	

File No. 057345-0001

Re: Registration Statement No. 333-227847; Shares of Common Stock, par value \$.001 per share, having an aggregate offering price of up to \$30,000,000 and an additional 413,349 Shares of Common Stock.

Ladies and Gentlemen:

We have acted as special counsel to T2 Biosystems, Inc., a Delaware corporation (the “**Company**”), in connection with the proposed issuance of shares of common stock, par value \$0.001 per share (the “**Common Stock**”), with an aggregate offering price of up to \$30,000,000 (the “**LPC Shares**”) and an additional 413,349 shares of Common Stock (the “**Commitment Shares**,” and together with the LPC Shares, the “**Shares**”) being issued to Lincoln Park Capital Fund, LLC (“**LPC**”) pursuant to the Sales Agreement (as defined below). The Shares are included in a registration statement on Form S-3 under the Securities Act of 1933, as amended (the “**Act**”), initially filed with the Securities and Exchange Commission (the “**Commission**”) on October 15, 2018 (Registration No. 333-227847) (as amended, the “**Registration Statement**”), and are being offered pursuant to a base prospectus dated October 24, 2018 (the “**Base Prospectus**”) and a prospectus supplement dated July 30, 2019 filed with the Commission on July 30, 2019 pursuant to Rule 424(b) under the Act (the “**Prospectus Supplement**,” and together with the Base Prospectus, the “**Prospectus**”). The LPC Shares are being sold and the Commitment Shares are being issued pursuant to a Purchase Agreement dated July 29, 2019 by and between LPC and the Company (the “**Sales Agreement**”).

This opinion is being furnished in connection with the requirements of Item 601(b)(5) of Regulation S-K under the Act, and no opinion is expressed herein as to any matter pertaining to the contents of the Registration Statement or related Prospectus, other than as expressly stated herein with respect to the issue of the Shares.

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

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

This opinion is for your benefit in connection with the Registration Statement and may be relied upon by you and by persons entitled to rely upon it pursuant to the applicable provisions of the Act. We consent to your filing this opinion as an exhibit to the Company's Current Report on Form 8-K dated July 30, 2019 and to the reference to our firm in the Prospectus under the heading "Legal Matters." In giving such consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Act or the rules and regulations of the Commission thereunder.

Very truly yours,

/s/ Latham & Watkins LLP

## T2 BIOSYSTEMS, INC.

\$30,000,000

## EQUITY DISTRIBUTION AGREEMENT

July 30, 2019

Canaccord Genuity LLC  
99 High Street, Suite 1200  
Boston, Massachusetts 02110

Ladies and Gentlemen:

T2 Biosystems, Inc., a Delaware corporation (the “Company”), confirms its agreement (this “Agreement”) with Canaccord Genuity LLC (“Canaccord”), as of the date first written above, as follows:

1. Issuance and Sale of Shares. The Company agrees that, from time to time during the term of this Agreement, on the terms and subject to the conditions set forth herein, it will issue and sell through Canaccord, acting as sales agent, shares of common stock, \$0.001 par value per share (the “Common Shares”), of the Company (the “Shares”) having an aggregate offering price of up to \$30,000,000. The Shares will be sold on the terms set forth herein at such times and in such amounts as the Company and Canaccord shall agree from time to time. The issuance and sale of the Placement Shares (as defined below) through Canaccord will be effected pursuant to the Registration Statement (as defined in Section 6(a)) filed by the Company and declared effective by the United States Securities and Exchange Commission (the “Commission”).

2. Placements.

- (a) Placement Notice. Each time that the Company wishes to issue and sell Shares hereunder (each, a “Placement”), it will notify Canaccord by e-mail notice (or other method mutually agreed to in writing by the parties) containing the parameters within which it desires to sell the Shares, which shall at a minimum include the number of Shares (“Placement Shares”) to be issued, the time period during which sales are requested to be made, any limitation on the number of Shares that may be sold in any one Trading Day (as defined in Section 3) and any minimum price below which sales may not be made (a “Placement Notice”), a form of which shall be mutually agreed upon by the Company and Canaccord. The Placement Notice shall originate from any of the individuals (each an “Authorized Representative”) from the Company set forth on Schedule 1 (with a copy to each of the other individuals from the Company listed on such schedule), and shall be addressed to each of the individuals from Canaccord set forth on Schedule 1 attached hereto, as such Schedule 1 may be amended from time to time. The Placement Notice shall be effective upon confirmation by Canaccord unless and until (i) Canaccord declines to accept the terms contained therein for



any reason, in its sole discretion, in accordance with the notice requirements set forth in Section 4, (ii) the entire amount of the Placement Shares have been sold, (iii) the Company suspends or terminates the Placement Notice in accordance with the notice requirements set forth in Section 4, (iv) the Company issues a subsequent Placement Notice with parameters superseding those on the earlier dated Placement Notice, or (v) this Agreement has been terminated under the provisions of Section 12.

- (i) Placement Fee. The amount of compensation to be paid by the Company to Canaccord with respect to each Placement (in addition to any expense reimbursement pursuant to Section 7(h)(ii)) shall be equal to 3.0% of gross proceeds from each Placement.
- (ii) No Obligation. It is expressly acknowledged and agreed that neither the Company nor Canaccord will have any obligation whatsoever with respect to a Placement or any Placement Shares unless and until the Company delivers a Placement Notice to Canaccord, and then only upon the terms specified therein and herein. It is also expressly acknowledged that Canaccord will be under no obligation to purchase Shares on a principal basis. Unless otherwise provided herein, in the event of a conflict between the terms of this Agreement and the terms of a Placement Notice, the terms of the Placement Notice control.

3. Sale of Placement Shares by Canaccord. Subject to the terms and conditions of this Agreement, upon the Company's issuance of a Placement Notice, and unless the sale of the Placement Shares described therein has been declined, suspended, or otherwise terminated in accordance with the terms of this Agreement, Canaccord will use its commercially reasonable efforts consistent with its normal trading and sales practices to sell on behalf of the Company and as agent, such Placement Shares up to the amount specified, and otherwise in accordance with the terms of such Placement Notice. The Company acknowledges that Canaccord will conduct the sale of Placement Shares in compliance with applicable law, rules and regulations including, without limitation, Regulation M under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and The Nasdaq Global Market and that such compliance may include a delay in commencement of sales efforts after receipt of a Placement Notice. Canaccord will provide written confirmation to the Company, as provided in Section 13, no later than the opening of the Trading Day (as defined below) next following the Trading Day on which they have made sales of Placement Shares hereunder setting forth the number of Placement Shares sold on such day, the compensation payable by the Company to Canaccord with respect to such sales, and the Net Proceeds (as defined below) payable to the Company. Notwithstanding anything to the contrary in this Agreement, Canaccord agrees that, without the prior written consent of the Company, Canaccord shall not sell any Placement Shares by any method other than a method permitted by law and deemed to be an "at the market" offering under Rule 415(a)(4) of the Securities Act of 1933, as amended (the "Securities Act"), including without limitation sales made directly on The Nasdaq Global Market or on any other existing trading market for the Common Shares, or in negotiated transactions at market prices prevailing at the time of sale or at prices related to such prevailing market prices. Notwithstanding anything to the contrary set forth in this Agreement or a Placement Notice, the Company acknowledges and agrees that (i) there can be no assurance

that Canaccord will be successful in selling any Placement Shares or as to the price at which any Placement Shares are sold, if at all, and (ii) Canaccord will incur no liability or obligation to the Company or any other person or entity if they do not sell Placement Shares for any reason other than a failure by Canaccord to use its commercially reasonable efforts consistent with its normal trading and sales practices to sell on behalf of the Company and as agent such Placement Shares as provided under this Section 3. For the purposes hereof, "Trading Day" means any day on which The Nasdaq Global Market is open for trading.

#### 4. Suspension of Sales.

- (a) The Company or Canaccord may, upon notice to the other party in writing, by telephone (confirmed immediately by verifiable facsimile transmission or e-mail) or by e-mail notice (or other method mutually agreed to in writing by the parties), suspend any sale of Placement Shares; provided, however, that such suspension shall not affect or impair either party's obligations with respect to any Placement Shares sold hereunder prior to the receipt of such notice. The Company agrees that no such notice shall be effective against Canaccord unless it is made to one of the individuals named on Schedule 1 hereto, as such Schedule may be amended from time to time.
- (b) Notwithstanding any other provision of this Agreement, during any period in which the Company is in possession of material non-public information, the Company and Canaccord (provided Canaccord has been given prior written notice of such by the Company, which notice Canaccord agrees to treat confidentially) agree that no sale of Placement Shares will take place.

#### 5. Settlement.

- (a) Settlement of Placement Shares. Unless otherwise specified in the applicable Placement Notice, settlement for sales of Placement Shares will occur on the second (2nd) Business Day (or such earlier day as is agreed by the parties to be industry practice for regular-way trading) following the date on which such sales are made (each a "Settlement Date"). The amount of proceeds to be delivered to the Company on a Settlement Date against the receipt of the Placement Shares sold ("Net Proceeds") will be equal to the aggregate sales price at which such Placement Shares were sold, after deduction for (i) the commission or other compensation for such sales payable by the Company to Canaccord, as the case may be, pursuant to Section 2 hereof, (ii) any other amounts due and payable by the Company to Canaccord hereunder pursuant to Section 7(h) hereof, and (iii) any transaction fees imposed by any governmental or self-regulatory organization in respect of such sales.
- (b) Delivery of Shares. On each Settlement Date, the Company will, or will cause its transfer agent to, electronically transfer the Placement Shares being sold by crediting Canaccord's accounts or its designee's account at The Depository Trust Company through its Deposit Withdrawal Agent Commission System or by such other means of delivery as may be mutually agreed upon by the parties hereto

and, upon receipt of such Placement Shares, which in all cases shall be freely tradeable, transferable, registered shares in good deliverable form, Canaccord will, on each Settlement Date, deliver the related Net Proceeds in same day funds delivered to an account designated by the Company prior to the Settlement Date. If the Company defaults in its obligation to deliver Placement Shares on a Settlement Date, the Company agrees that in addition to and in no way limiting the rights and obligations set forth in Section 10 hereto, it will (i) hold Canaccord harmless against any loss, claim, damage, or expense (including reasonable legal fees and expenses), as incurred, arising out of or in connection with such default by the Company and (ii) pay to Canaccord any commission, discount, or other compensation to which it would otherwise have been entitled absent such default; provided, however, that without limiting Section 10 herein, the Company shall not be obligated to pay Canaccord any commission, discount or other compensation on any Placement Shares that it is not possible to settle due to: (i) a suspension or material limitation in trading in securities generally on The Nasdaq Global Market; or (ii) a material disruption in securities settlement or clearance services in the United States.

6. Representations and Warranties of the Company. The Company represents and warrants to, and agrees with, Canaccord that:

- (a) The Common Shares are registered pursuant to Section 12(b) of the Exchange Act, and the Company has filed all reports, schedules, forms, statements and other documents required to be filed by it with the Commission (the "Commission Documents") since the Company has been subject to the requirements of Section 12 of the Exchange Act, and all of such filings required to be filed within the last 12 months have been made on a timely basis. The Common Shares are currently listed on The Nasdaq Global Market under the trading symbol "TTOO". The Company and the transactions contemplated hereby meet the requirements for use of Form S-3 under the Securities Act and the rules and regulations thereunder or the interpretations thereof by the Commission ("Rules and Regulations"), including but not limited to the transaction requirements for an offering made by the issuer set forth in General Instruction I.B.1 to Form S-3. The Company has prepared and filed with the Commission a registration statement on Form S-3 (File No. 333-227847) with respect to the Shares to be offered and sold by the Company pursuant to this Agreement. The Company may file one or more additional registration statements from time to time that will contain a base prospectus and related prospectus or prospectus supplement, if applicable, with respect to the Shares. Such registration statement(s), at any given time, including the amendments thereto at such time, the exhibits and any schedules thereto at such time, the documents incorporated by reference therein pursuant to Item 12 of Form S-3 under the Securities Act at such time and the documents otherwise deemed to be a part thereof or included therein by the rules and regulations under the Securities Act, is herein called the "Registration Statement." The Registration Statement, including the base prospectus contained therein (the "Base Prospectus") was prepared by the Company in conformity with the requirements

of the Securities Act and all applicable Rules and Regulations. One or more prospectus supplements relating to the Placement Shares (the "Prospectus Supplements," and together with the Base Prospectus and any amendment thereto and all documents incorporated therein by reference, the "Prospectus") have been or will be prepared by the Company in conformity with the requirements of the Securities Act and all applicable Rules and Regulations and have been or will be filed with the Commission in the manner and time frame required by the Securities Act and the Rules and Regulations. Any amendment or supplement to the Registration Statement or Prospectus required by this Agreement will be so prepared and filed by the Company and, as applicable, the Company will use commercially reasonable efforts to cause it to become effective as soon as reasonably practicable. No stop order suspending the effectiveness of the Registration Statement has been issued, and no proceeding for that purpose has been instituted or, to the knowledge of the Company, threatened by the Commission. No order preventing or suspending the use of the Base Prospectus, the Prospectus Supplement, the Prospectus or any Issuer Free Writing Prospectus has been issued by the Commission. Copies of all filings made by the Company under the Securities Act and all Commission Documents that were filed with the Commission have either been delivered to Canaccord or made available to Canaccord on the Commission's Electronic Data Gathering, Analysis, and Retrieval system ("EDGAR"). Any reference herein to the Registration Statement, the Prospectus, or any amendment or supplement thereto shall be deemed to refer to and include the documents incorporated (or deemed to be incorporated) by reference therein pursuant to Item 12 of Form S-3 under the Securities Act, and any reference herein to the terms "amend," "amendment" or "supplement" with respect to the Registration Statement or Prospectus shall be deemed to refer to and include the filing after the execution hereof of any document with the Commission deemed to be incorporated by reference therein. For the purposes of this Agreement, the "Applicable Time" means, with respect to any Shares, the time of sale of such Shares pursuant to this Agreement;

- (b) Each part of the Registration Statement, when such part became or becomes effective, at any deemed effective date pursuant to Rule 430B(f)(2) on the date of filing thereof with the Commission and at each Applicable Time and Settlement Date, and the Prospectus, on the date of filing thereof with the Commission and at each Applicable Time and Settlement Date, conformed or will conform in all material respects with the requirements of the Securities Act and the Rules and Regulations; each part of the Registration Statement, when such part became or becomes effective, did not or will not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading; and the Prospectus, on the date of filing thereof with the Commission, and the Prospectus and the applicable Issuer Free Writing Prospectus(es) issued at or prior to such Applicable Time, taken together (collectively, and with respect to any Shares, together with the public offering price of such Shares, the "Disclosure Package") and at each Applicable Time and Settlement Date, did not or will not include an untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in light of the circumstances under which they were made, not misleading; except that the foregoing shall not apply to the Agent Information (as defined below);

- (c) The documents incorporated by reference in the Registration Statement or the Prospectus, or any amendment or supplement thereto, when they became effective under the Securities Act or were filed with the Commission under the Exchange Act, as the case may be, conformed in all material respects with the requirements of the Securities Act or the Exchange Act, as applicable, and the rules and regulations of the Commission thereunder, and none of such documents contained an 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 not misleading; and any further documents so filed and incorporated by reference in the Registration Statement or the Prospectus or any further amendment or supplement thereto, when such documents become effective or are filed with the Commission, as the case may be, will conform to the requirements of the Securities Act or the Exchange Act, as applicable, and the rules and regulations of the Commission thereunder and will not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading; provided however, that this representation and warranty shall not apply to the Agent Information;
- (d) The Registration Statement conforms, and the Prospectus and any further amendments or supplements to the Registration Statement and the Prospectus will conform, in all material respects to the requirements of the Securities Act and the Rules and Regulations and do not and will not, as of the applicable effective date as to each part of the Registration Statement and as of the applicable filing date as to the Prospectus and any amendment or supplement thereto, contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading; provided, however, that this representation and warranty shall not apply to any statements or omissions made in reliance upon and in conformity with information furnished in writing to the Company by Canaccord expressly for use therein;
- (e) Neither the Company nor any of its subsidiaries has sustained since the date of the latest audited financial statements included in the Prospectus Supplements any material loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree, otherwise than as set forth or contemplated in the Registration Statement and the Prospectus Supplements; and, since the respective dates as of which information is given in the Registration Statement and the Prospectus Supplements, (i) there has not been any change in the capital stock or material change in the long-term debt of the Company or any of its subsidiaries (other than as a result of the exercise of any outstanding stock options or warrants, the award of stock options in the ordinary course of business pursuant to the Company's equity incentive plans that are described in the Prospectus Supplements, or the repurchase of shares of capital stock (subject to

appropriate adjustment for stock splits, stock dividends, combinations and the like following the date of this Agreement) in connection with any early exercise of stock options by option holders from employees terminating their service to the Company), (ii) neither the Company nor any of its subsidiaries has incurred any liability or obligation, direct or contingent, other than liabilities and obligations which were incurred in the ordinary course of business, (iii) neither the Company nor any of its subsidiaries has declared or paid any dividends on its capital stock, or (iv) there has not been any material adverse change, or any development involving a prospective material adverse change, in or affecting the business, financial position, stockholders' equity (deficit) or results of operations of the Company and its subsidiaries (a "Material Adverse Effect"), otherwise than as set forth or contemplated in the Prospectus Supplements;

- (f) The Company and its subsidiaries have good and marketable title to all tangible personal property owned by them, free and clear of all liens, encumbrances and defects except such as are described in the Prospectus Supplements or such as do not materially affect the value of such property and do not interfere with the use made and proposed to be made of such property by the Company and its subsidiaries. The Company and its subsidiaries do not own any real property, and any real property and buildings held under lease by the Company and its subsidiaries are held under valid, subsisting and enforceable leases (subject to the effects of (A) bankruptcy, insolvency, fraudulent conveyance, fraudulent transfer, reorganization, moratorium or other similar laws relating to or affecting the rights of creditors generally; (B) the application of general principles of equity (including, without limitation, concepts of materiality, reasonableness, good faith and fair dealing, regardless of whether enforcement is considered in proceedings at law or in equity); and (C) applicable law and public policy with respect to rights to indemnity and contribution), except where the invalidity or unenforceability of any such lease would not materially interfere with the Company's and its subsidiaries' ability to conduct their business and except where the failure to have such leasehold title could not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect;
- (g) The Company (i) has been duly incorporated and is validly existing as a corporation in good standing under the laws of the state of Delaware, (ii) has power and authority (corporate and other) to own its properties and conduct its business as described in the Prospectus Supplements, and (iii) has been duly qualified as a foreign corporation for the transaction of business and is in good standing under the laws of each other jurisdiction in which it owns or leases properties or conducts any business so as to require such qualification, except, in the cases of (ii) and (iii), where the failure to have such power to authority or to be so qualified or in good standing would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect;
- (h) The Company has an authorized capitalization as set forth in the Prospectus Supplements and all of the issued shares of capital stock of the Company have been duly authorized and validly issued and are fully paid and non-assessable and conform to the description of the Common Shares or the preferred stock of the Company, as applicable, contained in the Disclosure Package and Prospectus;

- (i) The Shares to be issued and sold by the Company to Canaccord have been duly authorized and, when issued and delivered against payment therefor as provided herein, will be validly issued and fully paid and non-assessable and will conform to the description of the Common Shares contained in the Disclosure Package and the Prospectus; and the issuance of the Shares is not subject to any preemptive, rights of first refusal or similar rights pursuant to the General Corporation Law of the State of Delaware or the Company's Certificate of Incorporation or Bylaws or any agreement or other instrument to which the Company is a party, except for such rights that have been complied with or effectively waived prior to the date hereof; and neither the stockholders of the Company, nor any other person or entity have any preemptive rights or rights of first refusal with respect to the Placement Shares or other rights to purchase or receive any of the Placement Shares or any other securities or assets of the Company, and no person has the right, contractual or otherwise, to cause the Company to issue to it, or register pursuant to the Securities Act, shares or other securities or assets of the Company upon the issuance or sale of the Placement Shares, in any such case that has not been previously waived;
- (j) The issue and sale of the Shares and the compliance by the Company with this Agreement and the consummation of the transactions herein contemplated will not (A) conflict with or result in a breach or violation of any of the terms or provisions of, or constitute a default under, any indenture, mortgage, deed of trust, loan agreement, lease or other agreement or instrument to which the Company or any of its subsidiaries is a party or by which the Company or any of its subsidiaries is bound or to which any of the property or assets of the Company or any of its subsidiaries is subject, (B) result in any violation of the provisions of the Certificate of Incorporation or By-laws of the Company or (C) result in any violation of any statute or any order, rule or regulation of any Governmental Authority (as defined below), except, in the case of (A) and (C), as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect; and no consent, approval, authorization, order, registration or qualification of or with any such Governmental Authority is required for the issue and sale of the Shares or the consummation by the Company of the transactions contemplated by this Agreement, except for (i) the registration under the Securities Act of the Shares, (ii) the approval by FINRA of the underwriting terms and arrangements, (iii) to the Company's knowledge, the approval for listing the Shares on The Nasdaq Global Market, and (iv) such consents, approvals, authorizations, orders, registrations or qualifications as may be required under state securities or Blue Sky laws in connection with the purchase and distribution of the Shares by Canaccord, except where the failure to obtain any such consents, approvals, authorizations, orders, registrations or qualifications would not impair, in any material respect, the ability of the Company to issue and sell the Shares or to consummate the transactions contemplated by this Agreement. For purpose of this Agreement, "Governmental

Authority” shall mean (i) any federal, provincial, state, local, municipal, national or international government or governmental authority, regulatory or administrative agency, governmental commission, department, board, bureau, agency or instrumentality, court or tribunal; (ii) any self-regulatory organization; or (iii) any political subdivision of any of the foregoing, in each case of clauses (i), (ii) and (iii) having jurisdiction over the Company or any of its subsidiaries or any of their properties;

- (k) The Company is not in (A) violation of its Certificate of Incorporation, Bylaws or similar organizational documents or in violation of any other statute or order, rule or regulation of any Governmental Authority, or (B) in default in the performance or observance of any material obligation, agreement, covenant or condition contained in any indenture, mortgage, deed of trust, loan agreement, lease or other agreement or instrument to which it is a party or by which it or any of its properties may be bound, except in the case of (B), such defaults as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect;
- (l) The statements set forth in the Prospectus Supplements and the Prospectus under the caption “Description of Capital Stock,” insofar as they purport to constitute a summary of the terms of the Common Shares, are accurate and complete;
- (m) Other than as set forth in the Prospectus Supplements, there are no legal or governmental proceedings pending to which the Company or any of its subsidiaries is a party or of which any property of the Company or any of its subsidiaries is the subject which, if determined adversely to the Company or any of its subsidiaries, would individually or in the aggregate have a Material Adverse Effect; and, to the best of the Company’s knowledge, no such proceedings are threatened or contemplated by governmental authorities or threatened by others;
- (n) From the time of the initial confidential submission of a registration statement relating to the Common Shares to the Commission through the date hereof, the Company has been and is an “emerging growth company” as defined in Section 2(a)(19) of the Securities Act (an “Emerging Growth Company”);
- (o) The Company is not and, after giving effect to the offering and sale of the Shares and the application of the proceeds thereof as described in the Disclosure Package, will not be an “investment company,” as such term is defined in the Investment Company Act of 1940, as amended (the “Investment Company Act”);
- (p) At the earliest time after the filing of the Registration Statement that the Company or another offering participant made a bona fide offer (within the meaning of Rule 164(h)(2) under the Securities Act) of the Shares, the Company was not and is not an “ineligible issuer,” as defined under Rule 405 under the Securities Act;



- (q) BDO USA, LLP, which has certified certain financial statements of the Company, is an independent registered public accountant as required by the Securities Act and the Rules and Regulations;
- (r) The Company maintains a system of internal control over financial reporting (as such term is defined in Rule 13a-15(f) under the Exchange Act) that complies with the requirements of the Exchange Act and has been designed by the Company's principal executive officer and principal financial officer, or under their supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles and that (i) transactions are executed in accordance with management's general or specific authorization; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with generally accepted accounting principles and to maintain accountability for assets; (iii) access to assets is permitted only in accordance with management's general or specific 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's internal control over financial reporting is effective and the Company is not aware of any material weaknesses in its internal control over financial reporting;
- (s) Since the date of the latest audited financial statements included in the Prospectus Supplements, there has been no change in the Company's internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting;
- (t) The Company maintains disclosure controls and procedures (as such term is defined in Rule 13a-15(e) under the Exchange Act) that comply with the requirements of the Exchange Act; such disclosure controls and procedures have been designed to ensure that material information relating to the Company and its subsidiaries is made known to the Company's principal executive officer and principal financial officer by others within those entities; and such disclosure controls and procedures are effective;
- (u) Except as disclosed in the Prospectus Supplements, the Company owns its patents and patent applications, copyrights, trademarks, trademark registrations, service marks, service mark registrations, trade names, service names and know-how (including trade secrets and other unpatented and/or unpatentable proprietary or confidential information, systems or procedures) necessary for, or used in the conduct, or the proposed conduct, of the business of the Company in the manner described in the Prospectus Supplements (collectively, the "Enabling Intellectual Property"); the Company also has valid, binding and enforceable licenses to specific patents and patent applications necessary for, or used in the conduct, or the proposed conduct, of the business of the Company in the manner described in the Prospectus Supplements ("Licensed Intellectual Property"); to

the knowledge of the Company, the patents, trademarks and copyrights held or licensed by the Company included within the Enabling Intellectual Property and Licensed Intellectual Property are valid, enforceable and subsisting; except as disclosed in the Prospectus Supplements, (i) the Company is not obligated to pay a material royalty, grant a license, or provide other material consideration to any third party in connection with the Enabling Intellectual Property or Licensed Intellectual Property, (ii) other than notices occasionally received in the ordinary course of business from third parties claiming infringement or inviting the party to take licenses under third-party patents, the Company has not received written notice of any claim of infringement, misappropriation or conflict with any asserted rights of others with respect to any of the Company's products, proposed products, processes or Enabling Intellectual Property, (iii) neither the commercial development nor sale of any of the products, proposed products or processes of the Company referred to in the Prospectus Supplements do, or will, to the knowledge of the Company, in the conduct of its business in the manner and to the extent described in the Prospectus Supplements, infringe any right or valid patent claim of any third party, except as would not reasonably be expected to have a Material Adverse Effect, (iv) none of the Enabling Intellectual Property or, to the knowledge of the Company, Licensed Intellectual Property has been adjudged 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 enforceability of such Enabling Intellectual Property or Licensed Intellectual Property, and (v) to the Company's knowledge, no third party has any ownership right in or to any Enabling Intellectual Property, other than any co-owner of any patent constituting Enabling Intellectual Property who is listed on the records of the U.S. Patent and Trademark Office (the "USPTO") and any co-owner of any patent application constituting Enabling Intellectual Property who is named in such patent application, and to the Company's knowledge, no third party has any ownership right in or to any Licensed Intellectual Property in any field of use that is exclusively licensed to the Company, other than any licensor to the Company of such Licensed Intellectual Property;

- (v) All patents and patent applications owned by or licensed to the Company or under which the Company has rights have, to the knowledge of the Company, been duly and properly filed and maintained; to the knowledge of the Company, the parties prosecuting such applications have complied with their duty of candor and disclosure to the USPTO in connection with such applications; and the Company is not aware of any facts required to be disclosed to the USPTO that were not disclosed to the USPTO and which would preclude the grant of a patent in connection with any such application or could form the basis of a finding of invalidity with respect to any patents that have issued with respect to such applications;

- (w) The clinical studies conducted by or, to the Company's knowledge, on behalf of or sponsored by the Company were, and if still pending are being, conducted in all material respects in accordance with applicable local, state and federal laws, rules and regulations, including, but not limited to, the Federal Food, Drug and Cosmetic Act and its applicable implementing regulations, and the Company has operated and currently is in compliance in all respects with all applicable rules and regulations of the U.S. Food and Drug Administration, the United States Department of Health and Human Services, the Centers for Medicare and Medicaid Services or any other Governmental Authority, except where the failure to so comply would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect; except as disclosed in the Prospectus Supplements, the Company has not received any notice from a Governmental Authority requiring the termination or suspension of any studies conducted by or, to the Company's knowledge, on behalf of or sponsored by the Company;
- (x) The Company has full right, power and authority to execute and deliver this Agreement and to perform its obligations hereunder; all action required to be taken for the due and proper authorization, execution and delivery by it of this Agreement and the consummation by it of the transactions contemplated hereby has been duly and validly taken; and this Agreement has been duly executed and delivered by the Company;
- (y) The financial statements, including the notes thereto, included in the Registration Statement, the Prospectus Supplements and the Prospectus fairly present in all material respects the financial position at the dates indicated therein and the cash flows and results of operations for the periods indicated therein of the Company; except as otherwise stated in the Registration Statement, the Prospectus Supplements and the Prospectus, such financial statements have been prepared in conformity with GAAP applied on a consistent basis throughout the periods involved. The interactive data in eXtensible Business Reporting Language included or incorporated by reference in the Registration Statement, the Prospectus Supplements and the Prospectus fairly presents the information called for in all material respects and has been prepared in accordance with the Commission's rules and guidelines applicable thereto;
- (z) There are no off-balance sheet arrangements (as defined in Regulation S-K Item 303(a)(4)(ii)) that may have a material current or future effect on the Company's financial condition, changes in financial condition, results of operations, liquidity, capital expenditures or capital resources;
- (aa) The Company has not sold or issued any Common Shares during the six-month period preceding the date of the Prospectus, including any sales pursuant to Regulation D of the Securities Act, other than shares issued pursuant to employee benefit plans, stock option plans or other employee compensation plans or pursuant to outstanding options, rights or warrants;
- (bb) There are no contracts, agreements or understandings between the Company and any person that would give rise to a valid claim against the Company or Canaccord for a brokerage commission, finder's fee or other like payment in connection with this offering;

- (cc) Except as described in the Prospectus Supplements and the Prospectus, there are no contracts, agreements or understandings between the Company and any person granting such person the right to require the Company to file a registration statement under the Securities Act with respect to any securities of the Company owned or to be owned by such person or to require the Company to include such securities in the securities registered pursuant to the Registration Statement or in any securities being registered pursuant to any other registration statement filed by the Company under the Securities Act, except for such rights that have been effectively waived;
- (dd) None of the Company, its subsidiaries or, to the knowledge of the Company, any director, officer, agent, employee, affiliate or other person acting on behalf of the Company or its subsidiaries is aware of or has taken any action, directly or indirectly, that would result in a violation by such persons of the Foreign Corrupt Practices Act of 1977, as amended, and the rules and regulations thereunder (the “FCPA”), including, without limitation, making use of the mails or any means or instrumentality of interstate commerce corruptly in furtherance of an offer, payment, promise to pay or authorization of the payment of any money, or other property, gift, promise to give, or authorization of the giving of anything of value to any “foreign official” (as such term is defined in the FCPA) or any foreign political party or official thereof or any candidate for foreign political office, in contravention of the FCPA and the Company and its subsidiaries have and, to the knowledge of the Company, its affiliates have conducted their businesses in compliance with the FCPA and have instituted and maintain policies and procedures designed to ensure, and which are reasonably expected to continue to ensure, continued compliance therewith;
- (ee) The operations of the Company and its subsidiaries are and have been conducted at all times in compliance with applicable financial recordkeeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the money laundering statutes of all jurisdictions, the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any Governmental Authority (collectively, the “Money Laundering Laws”); and no action, suit or proceeding by or before any Governmental Authority with respect to the Money Laundering Laws is pending or, to the knowledge of the Company, threatened;
- (ff) None of the Company, its subsidiaries or, to the knowledge of the Company, any director, officer, agent, employee, affiliate or representative of the Company or its subsidiaries is an individual or entity (“Person”) currently the subject or target of any sanctions administered or enforced by the United States Government, including, without limitation, the U.S. Department of the Treasury’s Office of Foreign Assets Control, the United Nations Security Council, the European Union, Her Majesty’s Treasury, or other relevant sanctions authority

(collectively, "Sanctions"), nor are the Company or its subsidiaries located, organized or resident in a country or territory that is the subject of Sanctions; and the Company will not directly or indirectly use the proceeds of the sale of the Securities, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partners or other Person, to fund any activities of or business with any Person, or in any country or territory, that, at the time of such funding, is the subject of Sanctions or in any other manner that will result in a violation by any Person (including any Person participating in the transaction, whether as agent, advisor, investor or otherwise) of Sanctions;

- (gg) The Company will not, directly or indirectly, use the proceeds of the offering, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other Person: to fund or facilitate any activities or business of or with any Person or in any country or territory that, at the time of such funding or facilitation, is the subject of Sanctions; or in any other manner that will result in a violation of Sanctions by any Person (including any Person participating in the offering, whether as agent, advisor, investor or otherwise);
- (hh) For the past five years, the Company has not knowingly engaged in, are not now knowingly engaged in, and will not engage in, any dealings or transactions with any Person, or in any country or territory, that at the time of the dealing or transaction is or was the subject of Sanctions;
- (ii) The Company has not and, to its knowledge, no one acting on its behalf has, (i) taken and will not take, directly or indirectly, any action which is designed to or which has constituted or which would reasonably be expected to cause or result in stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Shares, (ii) sold, bid for, purchased, or paid anyone any compensation for soliciting purchases of, the Shares, or (iii) paid or agreed to pay to any person any compensation for soliciting another to purchase any other securities of the Company other than as contemplated in this Agreement; provided, however, that the Company makes no such representation or warranty with respect to the actions of Canaccord or affiliate or agent of Canaccord acting on behalf of Canaccord;
- (jj) (A) The Company is not in violation of any applicable statute, law, rule, regulation, ordinance, code, rule of common law or order of or with any Governmental Authority, relating to the use, management, disposal or release of hazardous or toxic substances or wastes or relating to pollution or the protection of the environment or human health or relating to exposure to hazardous or toxic substances or wastes (collectively, "Environmental Laws"), which violation would reasonably be expected to result in a material liability of the Company, (B) the Company has not received any written claim, written request for information or written notice of liability or investigation arising under, relating to or based upon any Environmental Laws, (C) the Company is not aware of any pending or threatened notice, claim, proceeding or investigation which might lead to material liability under Environmental Laws, (D) the Company does not

anticipate incurring material capital expenditures relating to compliance with Environmental Laws (including, without limitation, any capital or operating expenditures required for clean-up, investigation or closure of properties or compliance with Environmental Laws or any permit, license, approval, any related constraints on operating activities and any potential liabilities to third parties) and (E) the Company has not been named as a “potentially responsible party” under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended;

- (kk) The Company has filed all material foreign, federal, state and local tax returns required to be filed by them through the date hereof or have duly requested extensions thereof, and have paid all taxes shown as due thereon except those which do not individually or in the aggregate, have a Material Adverse Effect, and all such tax returns are true and correct in all material respects; no deficiencies for taxes of the Company have been assessed by a tax authority and no deficiencies for taxes of the Company have, to the Company’s knowledge, been proposed by a tax authority;
- (ll) The Company is insured by insurers of recognized financial responsibility against such losses and risks and in such amounts as are, in the Company’s reasonable judgment, commercially reasonable for the conduct of its business; the Company is in compliance with the terms of such policies and instruments, except as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect; there are no material claims by the Company under any such policy or instrument as to which any insurance company is denying liability or defending under a reservation of rights clause; and the Company has no reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage from similar insurers as may be necessary to continue its business;
- (mm) There are no relationships, direct or indirect, or related-party transactions involving the Company or any other person required to be described in the Registration Statement, Prospectus Supplements and the Prospectus which have not been described in such documents and the Disclosure Package as required;
- (nn) Except as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect, (i) no labor dispute with or disturbance by the employees of the Company exists or, to the Company’s knowledge, is threatened, and (ii) the Company has not received written notice of any existing, threatened or imminent labor disturbance by the employees of any of its principal suppliers, manufacturers or contractors;
- (oo) The statistical and market-related data included in the Prospectus Supplements and the Prospectus are based on or derived from sources that the Company believes are reliable and accurate in all material respects;

- (pp) Except as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect (i) each “employee benefit plan” (within the meaning of Section 3(3) of the Employee Retirement Income Security Act of 1974, as amended, including the regulations and published interpretations thereunder (“ERISA”)) for which the Company has any liability (each a “Plan”) is in compliance with all presently applicable statutes, rules and regulations, including ERISA and the Internal Revenue Code of 1986, as amended (the “Code”); (ii) with respect to each Plan subject to Title IV of ERISA (a) no “reportable event” (as defined in Section 4043 of ERISA) has occurred for which the Company has or reasonably expects to have any liability and (b) the Company has not incurred and does not reasonably expect to incur liability under Title IV of ERISA (other than for contributions to the Plan or premiums payable to the Pension Benefit Guaranty Corporation, in each case in the ordinary course); and (iii) each Plan that is intended to be qualified under Section 401(a) of the Code is so qualified and nothing has occurred, whether by action or by failure to act, which would cause the loss of such qualification;
- (qq) The Company and its subsidiaries’ information technology assets and equipment, computers, systems, networks, hardware, software, websites, applications, and databases (collectively, “IT Systems”) are adequate for, and operate and perform in all material respects as required in connection with the operation of the business of the Company and the subsidiaries as currently conducted, free and clear of all material bugs, errors, defects, Trojan horses, time bombs, malware and other corruptants, except where such inadequacy in, or failure to operate or perform, would not, individually or in the aggregate, have a Material Adverse Effect. The Company and its subsidiaries have implemented and maintained commercially reasonable controls, policies, procedures, and safeguards to maintain and protect their material confidential information and the integrity, continuous operation, redundancy and security of all IT Systems and data (including all personal, personally identifiable, sensitive, confidential or regulated data (“Personal Data”)) used in connection with their businesses, and there have been no breaches, violations, outages or unauthorized uses of or accesses to same, except for those that have been remedied without material cost or liability or the duty to notify any other person or as would not, individually or in the aggregate, have a Material Adverse Effect, nor any material incidents under internal review or investigations relating to the same. The Company and its subsidiaries are presently in compliance with all applicable laws or statutes and all judgments, orders, rules and regulations of any court or arbitrator or governmental or regulatory authority having jurisdiction over the Company and its subsidiaries or any of their properties or assets, internal policies and contractual obligations relating to the privacy and security of IT Systems and Personal Data and to the protection of such IT Systems and Personal Data from unauthorized use, access, misappropriation or modification, except where such non-compliance or failure to protect would not, individually or in the aggregate, result in a Material Adverse Effect;

- (rr) The Company has no subsidiaries other than its wholly-owned subsidiary, T2 Biosystems Securities Corporation;
- (ss) The Company acknowledges and agrees that Canaccord has informed the Company that Canaccord may, to the extent permitted under the Securities Act and the Exchange Act, purchase and sell Common Shares for Canaccord's own account and for the account of its clients at the same time as sales of Placement Shares occur pursuant to this Agreement; and
- (tt) Neither the Company nor any related entities (i) is required to register as a "broker" or "dealer" in accordance with the provisions of the Exchange Act or (ii) directly or indirectly through one or more intermediaries, controls or is a "person associated with a FINRA member" or "associated person of a FINRA member" (within the meaning of Article I of the Bylaws of the FINRA).

7. Covenants of the Company. The Company covenants and agrees with Canaccord that:

- (a) Registration Statement Amendments. After the date of this Agreement and during the period in which a prospectus relating to the Placement Shares is required to be delivered by Canaccord under the Securities Act (including in circumstances where such requirement may be satisfied pursuant to Rule 172 or Rule 173(a) under the Securities Act), (i) the Company will notify Canaccord promptly of the time when any subsequent amendment to the Registration Statement has been filed with the Commission and has become effective (each, a "Registration Statement Amendment Date") or any subsequent supplement to the Prospectus has been filed and of any request by the Commission for any amendment or supplement to the Registration Statement or Prospectus or for additional information; (ii) the Company will file promptly all other material required to be filed by it with the Commission pursuant to Rule 433(d) under the Securities Act; (iii) the Company will prepare and file with the Commission, promptly upon Canaccord's request, any amendments or supplements to the Registration Statement or Prospectus that, in Canaccord's reasonable opinion, may be necessary or advisable in connection with the distribution of the Placement Shares by Canaccord (provided, however, that the failure of Canaccord to make such request shall not relieve the Company of any obligation or liability hereunder, or affect Canaccord's right to rely on the representations and warranties made by the Company in this Agreement); and (iv) the Company will submit to Canaccord a copy of any amendment or supplement to the Registration Statement or Prospectus a reasonable period of time before the filing thereof and will afford Canaccord a reasonable opportunity to comment on any such proposed filing prior to such proposed filing; and the Company will cause each amendment or supplement to the Prospectus to be filed with the Commission as required pursuant to the applicable paragraph of Rule 424(b) of the Rules and Regulations or, in the case of any document to be incorporated therein by reference, to be filed with the Commission as required pursuant to the Exchange Act, within the time period prescribed. Following the expiration of the Company's registration statement on Form S-3 (File No. 333-227847), the Company agrees to use its reasonable efforts to prepare and file a new registration statement on Form S-3 (the "New Registration Statement").



- (b) Notice of Commission Stop Orders. The Company will advise Canaccord, promptly after it receives notice thereof, of the issuance by the Commission of any stop order or of any order preventing or suspending the use of the Prospectus or other prospectus in respect of the Shares, of any notice of objection of the Commission to the use of the form of the Registration Statement under the Securities Act, of the suspension of the qualification of the Shares for offering or sale in any jurisdiction, of the initiation or, to the extent the Company has actual knowledge thereof, threatening of any proceeding for any such purpose, or of any request by the Commission for the amending or supplementing of the form of the Registration Statement or the Prospectus or for additional information; and, in the event of the issuance of any such stop order or of any such order preventing or suspending the use of the Prospectus in respect of the Shares or suspending any such qualification, to promptly use its commercially reasonable efforts to obtain the withdrawal of such order; and in the event of any such issuance of a notice of objection, promptly to take such reasonable steps as may be necessary to permit offers and sales of the Placement Shares by Canaccord, which may include, without limitation, amending the Registration Statement or filing a new registration statement, at the Company's expense (references herein to the Registration Statement shall include any such amendment or new registration statement).
- (c) Delivery of Prospectus; Subsequent Changes. Within the time during which a prospectus relating to the Shares is required to be delivered by Canaccord under the Securities Act (including in circumstances where such requirement may be satisfied pursuant to Rule 172 or Rule 173(a) under the Securities Act), the Company will comply with all requirements imposed upon it by the Securities Act and by the Rules and Regulations, as from time to time in force, and will file on or before their respective due dates all reports required to be filed by it with the Commission pursuant to Sections 13(a), 13(c), 15(d), if applicable, or any other provision of or under the Exchange Act. If during such period any event occurs as a result of which the Prospectus as then amended or supplemented would include an untrue statement of material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances then existing, not misleading, or if during such period it is necessary to amend or supplement the Registration Statement or Prospectus to comply with the Securities Act, the Company will immediately notify Canaccord to suspend the offering of Shares during such period and the Company will promptly amend or supplement the Registration Statement or Prospectus (at the expense of the Company) so as to correct such statement or omission or effect such compliance.
- (d) The Nasdaq Global Market Filings. In connection with the offering and sale of the Placement Shares, the Company will file with The Nasdaq Global Market all documents and notices, and make all certifications, required by The Nasdaq Global Market of companies that have securities that are listed on The Nasdaq Global Market.

- (e) Listing of Placement Shares. The Company will use commercially reasonable efforts to cause the Placement Shares to be listed on The Nasdaq Global Market and to qualify the Placement Shares for sale under the securities laws of such jurisdictions as Canaccord designates and to continue such qualifications in effect so long as required for the distribution of the Placement Shares; provided that the Company shall not be required in connection therewith to qualify as a foreign corporation or to file a general consent to service of process in any jurisdiction.
- (f) Delivery of Registration Statement and Prospectus. The Company will furnish to Canaccord and its counsel (at the expense of the Company) copies of the Registration Statement, the Prospectus (including all documents incorporated by reference therein) and all amendments and supplements to the Registration Statement or Prospectus that are filed with the Commission during the period in which a prospectus relating to the Shares is required to be delivered under the Securities Act (including all documents filed with the Commission during such period that are deemed to be incorporated by reference therein), in each case as soon as reasonably practicable and in such quantities as Canaccord may from time to time reasonably request and, at Canaccord's request, will also furnish copies of the Prospectus to each exchange or market on which sales of Placement Shares may be made.
- (g) Earnings Statement. The Company will make generally available to its security holders as soon as reasonably practicable, but in any event not later than 15 months after the end of the Company's current fiscal quarter, an earnings statement covering a 12-month period that satisfies the provisions of Section 11(a) of the Securities Act and Rule 158 of the Rules and Regulations.
- (h) Expenses.
  - (i) The Company, whether or not the transactions contemplated hereunder are consummated or this Agreement is terminated, will pay or cause to be paid all expenses incident to the performance of its obligations hereunder, including but not limited to (i) the preparation, printing and filing of the Registration Statement and each amendment and supplement thereto, of each Prospectus and of each amendment and supplement thereto and each Issuer Free Writing Prospectus (as defined in Section 8 of this Agreement), (ii) the preparation, issuance and delivery of the Placement Shares, (iii) all fees and disbursements of the Company's counsel, accountants and other advisors, (iv) the qualification of the Placement Shares under securities laws in accordance with the provisions of Section 7(e) of this Agreement, including filing fees in connection therewith, (v) the printing and delivery to Canaccord of copies of the Prospectus and any amendments or supplements thereto, and of this Agreement, (vi) the fees and expenses incurred in connection with the listing or qualification of the Placement Shares for trading on The Nasdaq Global Market, and (vii) any filing fees related to the Commission and FINRA.

- (ii) Notwithstanding the foregoing, the Company shall reimburse Canaccord for all of its reasonable and documented expenses, (i) up to a maximum reimbursement of \$50,000, arising out of this Agreement, including with respect to an Representation Date (including travel and related expenses, the costs of document preparation, production and distribution, third party research and database services and the reasonable and documented fees and disbursements of counsel to Canaccord) within ten (10) days of the presentation by Canaccord to the Company of a reasonably detailed statement therefor and (ii) up to a maximum of \$5,000 in connection with each Representation Date (as defined below) on which the Company is required to provide a certificate pursuant to Section 4(o).
- (i) Use of Proceeds. The Company will use the net proceeds as described in the Prospectus.
- (j) Other Sales. Without the prior written consent of Canaccord (which consent shall not be unreasonably withheld, conditioned or delayed), the Company will not (A) directly or indirectly, offer to sell, sell, announce the intention to sell, contract to sell, pledge, lend, grant or sell any option, right or warrant to sell or any contract to purchase, purchase any contract or option to sell or otherwise transfer or dispose of any Common Shares (other than the Shares offered pursuant to the provisions of this Agreement) or securities convertible into or exchangeable for Common Shares, warrants or any rights to purchase or acquire, Common Shares or file any registration statement under the Securities Act with respect to any of the foregoing (other than a registration statement on Form S-8), or (B) enter into any swap or other agreement or any transaction that transfers in whole or in part, directly or indirectly, any of the economic consequence of ownership of the Common Shares, or any securities convertible into or exchangeable or exercisable for or repayable with Common Shares, whether any such swap or transaction described in clause (A) or (B) above is to be settled by delivery of Common Shares or such other securities, in cash or otherwise, during the period beginning on the fifth (5th) Business Day immediately prior to the date on which any Placement Notice is delivered by the Company hereunder and ending on the fifth (5th) Business Day immediately following the final Settlement Date with respect to Placement Shares sold pursuant to such Placement Notice. The foregoing sentence shall not apply to (i) Common Shares, options to purchase Common Shares or Common Shares issuable upon the exercise of options, restricted share awards, restricted share unit awards, Common Shares issuable upon vesting of restricted share unit awards, or other equity awards or Common Shares issuable upon exercise or vesting of equity awards, pursuant to any employee or director (x) equity award or benefits plan or otherwise approved by the Company's Board of Directors, (y) share ownership

or share purchase plan or (z) dividend reinvestment plan (but not shares subject to a waiver to exceed plan limits in its dividend reinvestment plan) of the Company whether now in effect or hereafter implemented, (ii) Common Shares issuable upon conversion of securities or the exercise of warrants, options or other rights in effect or outstanding on the date hereof and (iii) Common Shares sold pursuant to the Company's Equity Line of Credit with Lincoln Park Capital, LLC, provided that no such sale shall occur on the same day as any Placement Notice.

- (k) Change of Circumstances. The Company will, at any time a Placement Notice is outstanding, advise Canaccord immediately after it shall have received notice or obtained knowledge thereof, of any information or fact that would alter or affect any opinion, certificate, letter or other document provided to Canaccord in connection with such Placement Notice; and without the prior written consent of Canaccord (which consent shall not be unreasonably withheld), the Company will not directly or indirectly in any other "at the market" or continuous equity transaction offer to sell, sell, contract to sell, grant any option to sell or otherwise dispose of any Common Shares (other than the Placement Shares offered pursuant to the provisions of this Agreement) or securities convertible into or exchangeable for Common Shares, warrants or any rights to purchase or acquire, Common Shares prior to the later of the termination of this Agreement and the tenth (10th) day immediately following the final Settlement Date with respect to Placement Shares sold pursuant to such Placement Notice; provided, however, that such restrictions will not be applicable to the Company's issuance or sale of (i) Common Shares, options to purchase Common Shares or Common Shares issuable upon the exercise of options, restricted share awards, restricted share unit awards, Common Shares issuable upon vesting of restricted share unit awards, or other equity awards or Common Shares issuable upon exercise or vesting of equity awards, pursuant to any employee or director (x) equity award or benefits plan or otherwise approved by the Company's Board of Directors, (y) share ownership or share purchase plan or (z) dividend reinvestment plan (but not shares subject to a waiver to exceed plan limits in its dividend reinvestment plan) of the Company whether now in effect or hereafter implemented, and (ii) Common Shares issuable upon conversion of securities or the exercise of warrants, options or other rights in effect or outstanding on the date hereof.
- (l) Due Diligence Cooperation. The Company will cooperate with any reasonable due diligence review conducted by Canaccord or its agents, including, without limitation, providing information and making available documents and the Company's senior corporate officers, as Canaccord may reasonably request; provided, however, that the Company shall be required to make available senior corporate officers only (i) by telephone or at the Company's principal offices and (ii) during the Company's ordinary business hours.

- (m) Affirmation of Representations, Warranties, Covenants and Other Agreements. Upon commencement of the offering of the Placement Shares under this Agreement (and upon the recommencement of the offering of the Placement Shares under this Agreement following any termination of a suspension of sales hereunder), and at each Applicable Time, the Company shall be deemed to have affirmed each representation, warranty, covenant and other agreement contained in this Agreement.
- (n) Required Filings Relating to Placement of Placement Shares. In each Annual Report on Form 10-K or Quarterly Report on Form 10-Q filed by the Company in respect of any quarter in which sales of Placement Shares were made by Canaccord under this Agreement (each date on which any such document is filed, and any date on which an amendment to any such document is filed, a “Company Periodic Report Date”), the Company shall set forth with regard to such quarter the number of Shares sold through the Canaccord under this Agreement, the Net Proceeds received by the Company and the compensation paid by the Company to Canaccord with respect to sales of Placement Shares pursuant to this Agreement.
- (o) Representation Dates; Certificate. During the term of this Agreement, on or prior to the date of the first Placement Notice given hereunder, promptly upon each request of Canaccord, and, following the first Placement Notice, each time the Company (i) files the Prospectus relating to the Placement Shares or amends or supplements (other than a prospectus supplement relating solely to an offering of securities other than the Placement Shares) the Registration Statement or the Prospectus relating to the Placement Shares by means of a post-effective amendment, sticker, or supplement but not by means of incorporation of document(s) by reference to the Registration Statement or the Prospectus relating to the Placement Shares; (ii) files an annual report on Form 10-K under the Exchange Act; (iii) files its quarterly reports on Form 10-Q under the Exchange Act; or (iv) files a report on Form 8-K containing amended financial information that is material to the Company (other than an earnings release, to “furnish” information pursuant to Items 2.02 or 7.01 of Form 8-K or to provide disclosure pursuant to Item 8.01 of Form 8-K relating to the reclassifications of certain properties as discontinued operations in accordance with Statement of Financial Accounting Standards No. 144) under the Exchange Act (each date of filing of one or more of the documents referred to in clauses (i) through (iv) shall be a “Representation Date”); the Company shall furnish Canaccord (but in the case of clause (iv) above only if Canaccord reasonably determines that the financial information contained in such Form 8-K is material) with a certificate, in the form attached hereto as Exhibit A. The requirement to provide a certificate under this Section 7(q) shall be waived for any Representation Date occurring at a time at which no Placement Notice is pending, which waiver shall continue until the earlier to occur of the date the Company delivers a Placement Notice hereunder (which for such calendar quarter shall be considered a Representation Date) and the next occurring Representation Date following the delivery of such Placement Notice; provided, however, that such waiver shall not apply for any Representation Date on which the Company files its annual report on Form 10-K.

Notwithstanding the foregoing, if the Company subsequently decides to sell Placement Shares following a Representation Date when the Company relied on such waiver and did not provide Canaccord with a certificate under this Section 7(g), then before the Company delivers the Placement Notice or Canaccord sells any Placement Shares, the Company shall provide Canaccord with a certificate, in the form attached hereto as Exhibit A, dated the date of the Placement Notice.

- (p) Legal Opinions. On or prior to the date of the first Placement Notice and as promptly as reasonably practicable following each Representation Date with respect to which the Company is obligated to deliver a certificate in the form attached hereto as Exhibit A for which no waiver is applicable, the Company will furnish or cause to be furnished to Canaccord the written opinion letter and negative assurance of Latham & Watkins LLP, counsel to the Company, dated the date the opinion or letter is required to be delivered, as the case may be, in a form and substance reasonably satisfactory to Canaccord and its counsel, or, in lieu of such opinion and negative assurance, counsel last furnishing such opinion and negative assurance to Canaccord shall furnish Canaccord with a letter substantially to the effect that Canaccord may rely on such last opinion and negative assurance to the same extent as though each were dated the date of such letter authorizing reliance (except that statements in such last opinion and negative assurance shall be deemed to relate to the Registration Statement and the Prospectus as amended and supplemented to the time of delivery of such letter authorizing reliance).
- (q) Comfort Letters. On or prior to the date of the first Placement Notice and as promptly as reasonably practicable following each Representation Date with respect to which the Company is obligated to deliver a certificate in the form attached hereto as Exhibit A for which no waiver is applicable, the Company shall cause BDO USA, LLP to furnish Canaccord a letter dated the date of this Agreement or the date of such commencement or recommencement or the date of such Representation Date (but in the case of clauses (i) and (iv) of Section 7(g) above, only if Canaccord reasonably determines that the information contained in such filings with the Commission contains a material change in the financial disclosure of the Company), as the case may be (the “Comfort Letters”), in form and substance satisfactory to Canaccord, (i) confirming that they are registered independent public accountants within the meaning of the Securities Act and are in compliance with the applicable requirements relating to the qualification of accountants under Rule 2-01 of Regulation S-X of the Commission, (ii) stating, as of such date, the conclusions and findings of the firm with respect to the financial information and other matters included in or incorporated by reference in the Registration Statement as ordinarily covered by accountants’ “comfort letters” to the underwriters in connection with registered public offerings (the first such letter, the “Initial Comfort Letter”) and (iii) updating the Initial Comfort Letter with any information which would have been included in the Initial Comfort Letter had it been given on such date and modified as necessary to relate to the Registration Statement and the Prospectus, as amended and supplemented to the date of such letters.

- (r) Market Activities. The Company will not, directly or indirectly (without giving effect to the activities of Canaccord), (i) take 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 or (ii) sell, bid for, or purchase the Shares, or pay anyone any compensation for soliciting purchases of the Shares other than Canaccord.
- (s) Insurance. The Company shall maintain, or cause to be maintained, insurance in such amounts and covering such risks as is reasonable and customary for companies engaged in similar businesses in similar industries.
- (t) Compliance with Laws. The Company shall comply with all applicable federal, state and local or foreign law, rule, regulation, ordinance, order or decree, except where failure to so comply would not reasonably be expected to have a Material Adverse Effect. Furthermore, the Company shall maintain, or cause to be maintained, all material environmental permits, licenses and other material authorizations required by federal, state and local law in order to conduct its businesses as described in the Prospectus, and the Company shall conduct its businesses, or cause its businesses to be conducted, in substantial compliance with such material permits, licenses and authorizations and with applicable environmental laws, except where the failure to maintain or be in compliance with such permits, licenses and authorizations would not reasonably be expected to have a Material Adverse Effect.
- (u) Investment Company Act. The Company will conduct its affairs in such a manner so as to reasonably ensure that it will not be or become, at any time prior to the termination of this Agreement, an “investment company,” as such term is defined in the Investment Company Act, assuming no change in the Commission’s current interpretation as to entities that are not considered an investment company.
- (v) Securities Act and Exchange Act. The Company will use commercially reasonable efforts to comply with all requirements imposed upon it by the Securities Act and the Exchange Act as from time to time in force, so far as necessary to permit the continuance of sales of, or dealings in, the Shares as contemplated by the provisions hereof and the Prospectus.
- (w) No Offer to Sell. Other than a free writing prospectus (as defined in Rule 405 under the Securities Act) approved in advance by the Company and Canaccord in its capacity as principal or agent hereunder, neither Canaccord nor the Company (including its agents and representatives, other than Canaccord in its capacity as such) will make, use, prepare, authorize, approve or refer to any written communication (as defined in Rule 405 under the Securities Act), required to be filed by it with the Commission, that constitutes an offer to sell or solicitation of an offer to buy Common Shares hereunder.

- (x) Sarbanes-Oxley Act. The Company will use its commercially reasonable efforts to comply with all effective applicable provisions of the Sarbanes-Oxley Act.
- (y) Consent to Canaccord Trading. The Company consents to Canaccord trading in the Common Shares of the Company for Canaccord's own account and for the account of its clients at the same time as sales of Placement Shares occur pursuant to this Agreement.
- (z) Actively Traded Security. If, at the time of execution of this Agreement, the Company's Common Shares is not an "actively traded security" exempted from the requirements of Rule 101 of Regulation M under the Exchange Act by subsection (c)(1) of such rule, the Company shall notify Canaccord at the time the Common Shares become an "actively traded security" under such rule. Furthermore, the Company shall notify Canaccord immediately if the Common Shares, having once qualified for such exemption, cease to so qualify.

8. Additional Representations and Covenants of the Company.

- (a) Issuer Free Writing Prospectuses.
  - (i) The Company represents that it has not made, and covenants that, unless it obtains the prior written consent of Canaccord, it will not make any offer relating to the Shares that would constitute an Issuer Free Writing Prospectus required to be filed by it with the Commission or retained by the Company under Rule 433 of the Securities Act; except as set forth in a Placement Notice, no use of any Issuer Free Writing Prospectus has been consented to by Canaccord. The Company agrees that it will comply with the requirements of Rules 164 and 433 of the Securities Act applicable to any Issuer Free Writing Prospectus, including timely filing with the Commission or retention where required and legending.
  - (ii) The Company agrees that no Issuer Free Writing Prospectus, if any, will include any information that conflicts with the information contained in the Registration Statement, including any document incorporated by reference therein that has not been superseded or modified, or the Prospectus. In addition, no Issuer Free Writing Prospectus, if any, will include an untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in light of the circumstances under which they were made, not misleading; provided however, the foregoing shall not apply to any statements or omissions in any Issuer Free Writing Prospectus made in reliance on information furnished in writing to the Company by Canaccord intended for use therein.



- (iii) The Company agrees that if at any time following issuance of an Issuer Free Writing Prospectus any event occurred or occurs as a result of which such Issuer Free Writing Prospectus would conflict with the information in the Registration Statement, including any document incorporated by reference therein that has not been superseded or modified, or the Prospectus or would include an untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in light of the circumstances under which they were made, not misleading, the Company will give prompt notice thereof to Canaccord and, if requested by Canaccord, will prepare and furnish without charge to Canaccord an Issuer Free Writing Prospectus or other document which will correct such conflict, statement or omission; provided, however, the foregoing shall not apply to any statements or omissions in any Issuer Free Writing Prospectus made in reliance on information furnished in writing to the Company by Canaccord intended for use therein.
- (b) Non-Issuer Free Writing Prospectus. The Company consents to the use by Canaccord of a free writing prospectus that (a) is not an “Issuer Free Writing Prospectus” as defined in Rule 433 under the Securities Act, and (b) contains only information describing the preliminary terms of the Shares or their offering, or information permitted under Rule 134 under the Securities Act; provided that Canaccord covenants with the Company not to take any action that would result in the Company being required to file with the Commission under Rule 433(d) under the Securities Act a free writing prospectus prepared by or on behalf of Canaccord that otherwise would not be required to be filed by the Company thereunder, but for the action of Canaccord and the Company shall have consented to the form and substance of such free writing prospectus prior to its use by Canaccord.
- (c) Distribution of Offering Materials. The Company has not distributed and will not distribute, during the term of this Agreement, any offering materials in connection with the offering and sale of the Placement Shares other than the Registration Statement, Prospectus or any Issuer Free Writing Prospectus reviewed and consented to by Canaccord and included in a Placement Notice (as described in clause (a) (i) above).

9. Conditions to Canaccord’s Obligations. The obligations of Canaccord hereunder with respect to a Placement will be subject to the continuing accuracy and completeness of the representations and warranties made by the Company herein and in the applicable Placement Notices, to the due performance by the Company of its obligations hereunder, to the completion by Canaccord of a due diligence review satisfactory to Canaccord in its reasonable judgment, and to the continuing satisfaction (or waiver by Canaccord in its sole discretion) of the following additional conditions:

- (a) Registration Statement Effective. The Registration Statement shall have become effective and shall be available for the sale of (i) all Placement Shares issued pursuant to all prior Placements and not yet sold by Canaccord and (ii) all Placement Shares contemplated to be issued by the Placement Notice relating to such Placement.

- (b) No Material Notices. None of the following events shall have occurred and be continuing: (i) receipt by the Company of any request for additional information from the Commission or any other federal or state or foreign or other governmental, administrative or self-regulatory authority during the period of effectiveness of the Registration Statement, the response to which might reasonably require any amendments or supplements to the Registration Statement or the Prospectus; (ii) the issuance by the Commission or any other federal or state or foreign or other governmental authority of any stop order suspending the effectiveness of the Registration Statement or the initiation of any proceedings for that purpose; (iii) receipt by the Company of any notification with respect to the suspension of the qualification or exemption from qualification of any of the Shares for sale in any jurisdiction or the initiation or threatening of any proceeding for such purpose; (iv) the occurrence of any event that makes any statement made in the Registration Statement or the Prospectus or any document incorporated or deemed to be incorporated therein by reference untrue in any material respect or that requires the making of any changes in the Registration Statement, related prospectus or documents so that, in the case of the Registration Statement, it will not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading, and in the case of the Prospectus, it will not contain any untrue statement of a material fact or omit to state any 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; and (v) the Company's reasonable determination that a post-effective amendment to the Registration Statement would be appropriate.
- (c) No Misstatement or Material Omission. Canaccord shall not have advised the Company that the Registration Statement or Prospectus, or any amendment or supplement thereto, contains an untrue statement of fact that in Canaccord's opinion is material, or omits to state a fact that in Canaccord's opinion is material and is required to be stated therein or is necessary to make the statements therein not misleading.
- (d) Material Changes. Except as contemplated and appropriately disclosed in the Prospectus, or disclosed in the Company's reports filed with the Commission, in each case at the time the applicable Placement Notice is delivered, there shall not have been any material change, on a consolidated basis, in the authorized capital shares of the Company, or any Material Adverse Effect, or any development that may reasonably be expected to cause a Material Adverse Effect, or a downgrading in or withdrawal of the rating assigned to any of the Company's securities by any rating organization or a public announcement by any rating organization that it has under surveillance or review its rating of any of the Company's securities, the effect of which, in the sole judgment of Canaccord (without relieving the Company of any obligation or liability it may otherwise have), is so material as to make it impracticable or inadvisable to proceed with the offering of the Placement Shares on the terms and in the manner contemplated in the Prospectus.

- (e) Certificate. Canaccord shall have received the certificate required to be delivered pursuant to Section 7(o) on or before the date on which delivery of such certificate is required pursuant to Section 7(o).
- (f) Legal Opinions. Canaccord shall have received the opinion and letter of counsel to the Company required to be delivered pursuant Section 7(p) on or before the date on which such delivery of such opinion and letter are required pursuant to Section 7(p). In addition, Canaccord shall have received a negative assurance letter of Cooley LLP, counsel to Canaccord, on such dates and with respect to such matters as Canaccord may reasonably request.
- (g) Comfort Letters. Canaccord shall have received the Comfort Letters required to be delivered pursuant Section 7(q) on or before the date on which such delivery of such letters are required pursuant to Section 7(q).
- (h) Approval for Listing; No Suspension. The Placement Shares shall have either been (i) approved for listing, subject to notice of issuance, on The Nasdaq Global Market, or (ii) the Company shall have filed an application for listing of the Placement Shares on The Nasdaq Global Market at or prior to the issuance of the Placement Notice and Nasdaq shall not have raised any objection thereto. Trading in the Common Shares shall not have been suspended on The Nasdaq Global Market.
- (i) Other Materials. On each date on which the Company is required to deliver a certificate pursuant to Section 7(o), the Company shall have furnished to Canaccord such appropriate further information, certificates, opinions and documents as Canaccord may reasonably request. All such opinions, certificates, letters and other documents will be in compliance with the provisions hereof. The Company will furnish Canaccord with such conformed copies of such opinions, certificates, letters and other documents as Canaccord shall reasonably request.
- (j) Securities Act Filings Made. All filings with the Commission required by Rule 424 under the Securities Act to have been filed prior to the issuance of any Placement Notice hereunder shall have been made within the applicable time period prescribed for such filing by Rule 424.
- (k) No Termination Event. There shall not have occurred any event that would permit Canaccord to terminate this Agreement pursuant to Section 12(a).

10. Indemnification and Contribution.

- (a) Company Indemnification. The Company will indemnify and hold harmless Canaccord and each person, if any, who controls Canaccord against any losses, claims, damages or liabilities, joint or several, to which Canaccord or controlling person may become subject, under the Securities Act or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon an untrue statement or alleged untrue statement of a

material fact contained in the Registration Statement, the Prospectus, or any Issuer Free Writing Prospectus or any “issuer information” filed or required to be filed pursuant to Rule 433(d) under the Securities Act, or any amendment or supplement to the Registration Statement, the Prospectus, or arise out of or are based upon the omission or alleged omission to state in the Registration Statement, the Prospectus, the Disclosure Package, or any Issuer Free Writing Prospectus or any “issuer information” filed or required to be filed pursuant to Rule 433(d) under the Securities Act, or any amendment or supplement to the Registration Statement, or the Prospectus, a material fact required to be stated in it or necessary to make the statements in it not misleading, and will reimburse Canaccord for any reasonable and documented legal expenses of counsel for Canaccord and one set of local counsel in each applicable jurisdiction for Canaccord, and for other expenses reasonably incurred by Canaccord in connection with investigating or defending any such action or claim as such expenses are incurred; provided, however, that the Company shall not be liable in any such case to the extent that any such loss, claim, damage or liability arises out of or is based upon an untrue statement or alleged untrue statement or omission or alleged omission made in the Registration Statement, the Prospectus or the Disclosure Package, or any such amendment or supplement thereto, in reliance upon and in conformity with written information furnished to the Company by and through Canaccord expressly for use therein, it being understood and agreed that the only such information furnished by Canaccord to the Company consists of the information set forth in the last two paragraphs under the caption “Plan of Distribution” in the Prospectus (herein referred to as the “Agent Information”).

- (b) Canaccord Indemnification. Canaccord will indemnify and hold harmless the Company, its directors, its officers who signed the Registration Statement and each person, if any, who controls the Company within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act, against any losses, claims, damages or liabilities to which the Company may become subject, under the Securities Act or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon an untrue statement or alleged untrue statement of a material fact contained in the Registration Statement (or any amendments thereto), the Prospectus (or any amendment or supplement thereto), any Issuer Free Writing Prospectus or any non-Issuer Free Writing Prospectus used pursuant to Section 8(b), or arise out of or are based upon the omission or alleged omission to state therein a material fact, in the case of the Registration Statement or any amendment thereto, required to be stated therein or necessary to make the statements therein not misleading and, in the case of the Prospectus or any supplement thereto, the Issuer Free Writing Prospectus or any non-Issuer Free Writing Prospectus, necessary to make the statements therein, in light of the circumstances in which they were made, not misleading, in each case to the extent, but only to the extent, that such untrue statement or alleged untrue statement or omission or alleged omission was made in the Registration Statement (or any amendments thereto), the Prospectus (or any amendment or supplement thereto), the Disclosure

Package, any Issuer Free Writing Prospectus, or any non-Issuer Free Writing Prospectus in reliance upon and in conformity with written information furnished to the Company by and through Canaccord expressly for use therein, it being understood and agreed that the only such information furnished by Canaccord to the Company consists of the Agent Information; and will reimburse the Company for any legal or other expenses reasonably incurred by the Company in connection with investigating or defending any such action or claim as such expenses are incurred.

- (c) Procedure. Promptly after receipt by an indemnified party under subsection (a) or (b) above of notice of the commencement of any action, such indemnified party shall, if a claim in respect thereof is to be made against the indemnifying party under such subsection, promptly notify such indemnifying party in writing of the institution of such action and such indemnifying party shall assume the defense of such action, including the employment of counsel reasonably satisfactory to such indemnified party and payment of all fees and expenses; provided, however, that the failure to so notify such indemnifying party shall not relieve such indemnifying party from any liability which such indemnifying party may have to any indemnified party or otherwise. (The indemnified party or parties shall have the right to employ its or their own counsel in any such case, but the fees and expenses of such counsel shall be at the expense of such indemnified party or parties unless the employment of such counsel shall have been authorized in writing by the indemnifying party in connection with the defense of such action or the indemnifying party shall not have, within a reasonable period of time in light of the circumstances, employed counsel to defend such action or such indemnified party or parties shall have reasonably concluded that there may be defenses available to it or them which are different from, additional to or in conflict with those available to such indemnifying party (in which case such indemnifying party shall not have the right to direct the defense of such action on behalf of the indemnified party or parties), in any of which events such fees and expenses shall be borne by such indemnifying party and paid as incurred (it being understood, however, that such indemnifying party shall not be liable to the expenses of more than one separate counsel (in addition to any local counsel) in any one action or series of related actions in the same jurisdiction representing the indemnified parties who are parties to such action). No indemnifying party shall, without the written consent of the indemnified party, effect the settlement or compromise of, or consent to the entry of any judgment with respect to, any pending or threatened action or claim in respect of which indemnification or contribution may be sought hereunder (whether or not the indemnified party is an actual or potential party to such action or claim) unless such settlement, compromise or judgment (i) includes an unconditional release of the indemnified party from all liability arising out of such action or claim and (ii) does not include a statement as to or an admission of fault, culpability or a failure to act, by or on behalf of any indemnified party. No indemnifying party shall be liable for any settlement of any action or claim affected without its written consent, which consent shall not be unreasonably withheld.

(d) **Contribution.** If the indemnification provided for in this Section 10 is unavailable to or insufficient to hold harmless an indemnified party under subsection (a) or (b) above in respect of any losses, claims, damages or liabilities (or actions in respect thereof) referred to therein, then each indemnifying party shall contribute to the amount paid or payable by such indemnified party as a result of such losses, claims, damages or liabilities (or actions in respect thereof) in such proportion as is appropriate to reflect the relative benefits received by the Company on the one hand and Canaccord on the other from the offering of the Placement Shares. If, however, the allocation provided by the immediately preceding sentence is not permitted by applicable law or if the indemnified party failed to give the notice required under subsection (c) above, then each indemnifying party shall contribute to such amount paid or payable by such indemnified party in such proportion as is appropriate to reflect not only such relative benefits but also the relative fault of the Company on the one hand and Canaccord on the other in connection with the statements or omissions which resulted in such losses, claims, damages or liabilities (or actions in respect thereof), as well as any other relevant equitable considerations. The relative benefits received by the Company on the one hand and Canaccord on the other shall be deemed to be in the same proportion as the total net proceeds from the offering (before deducting expenses) received by the Company, bear to the total underwriting discounts, commissions and other fees received by Canaccord. The relative fault shall be determined by reference to, among other things, whether the untrue or alleged 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 Canaccord on the other and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission. The Company and Canaccord agree that it would not be just and equitable if contributions pursuant to this subsection (d) were determined by pro rata allocation or by any other method of allocation which does not take account of the equitable considerations referred to above in this subsection (d). The amount paid or payable by an indemnified party as a result of the losses, claims, damages or liabilities (or actions in respect thereof) referred to above in this subsection (d) shall be deemed to include any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim. Notwithstanding the provisions of this subsection (d), Canaccord shall not be required to contribute any amount in excess of the amount by which the total price at which the Placement Shares distributed to the public by it were offered to the public exceeds the amount of any damages which Canaccord has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation.

- (e) Obligations. The obligations of the Company under this Section 10 shall be in addition to any liability which the Company may otherwise have and shall extend, upon the same terms and conditions, to each person, if any, who controls Canaccord within the meaning of the Securities Act; and the obligations of Canaccord under this Section 10 shall be in addition to any liability which Canaccord may otherwise have and shall extend, upon the same terms and conditions, to each officer and director of the Company and to each person, if any, who controls the Company within the meaning of the Securities Act.

11. Representations and Agreements to Survive Delivery. All representations and warranties of the Company herein or in certificates delivered pursuant hereto shall remain operative and in full force and effect regardless of (i) any investigation made by or on behalf of Canaccord, any controlling persons, or the Company (or any of their respective officers, directors or controlling persons), (ii) delivery and acceptance of the Placement Shares and payment therefor or (iii) any termination of this Agreement.

12. Termination.

- (a) Canaccord shall have the right to terminate this Agreement at any time by giving notice as hereinafter specified if (i) any Material Adverse Effect has occurred, or any development that is reasonably expected to cause a Material Adverse Effect has occurred or any other event has occurred which, in the sole judgment of Canaccord, may materially impair Canaccord's ability to proceed with the offering to sell the Shares, (ii) the Company shall have failed, refused or been unable, at or prior to any Settlement Date, to perform any material agreement on its part to be performed hereunder, (iii) any other condition of Canaccord's obligations hereunder is not fulfilled, or (iv) any suspension or limitation of trading in the Common Shares of the Company on The Nasdaq Global Market shall have occurred. Any such termination shall be without liability of any party to any other party except that the provisions of Section 7(h) (Expenses), Section 10 (Indemnification), Section 11 (Survival of Representations), Section 12(f) (Termination), Section 17 (Applicable Law; Consent to Jurisdiction) and Section 18 (Waiver of Jury Trial) hereof shall remain in full force and effect notwithstanding such termination. If Canaccord elects to terminate this Agreement as provided in this Section 12(a), Canaccord shall provide the required notice as specified in Section 13 (Notices).
- (b) The Company shall have the right to terminate this Agreement in its sole discretion at any time by giving ten (10) days' notice as hereinafter specified. Any such termination shall be without liability of any party to any other party except that the provisions of Section 7(h), Section 10, Section 11, Section 12(f), Section 17 and Section 18 hereof shall remain in full force and effect notwithstanding such termination.
- (c) In addition to, and without limiting Canaccord's rights under Section 12(a), Canaccord shall have the right to terminate this Agreement in its sole discretion at any time after the date of this Agreement by giving ten (10) days' notice as hereinafter specified. Any such termination shall be without liability of any party to any other party except that the provisions of Section 7(h), Section 10, Section 11, Section 12(f), Section 17 and Section 18 hereof shall remain in full force and effect notwithstanding such termination.

- (d) This Agreement shall remain in full force and effect unless terminated pursuant to Sections 12(a), 12(b) or 12(c) above or otherwise by mutual agreement of the parties; provided that any such termination by mutual agreement shall in all cases be deemed to provide that Section 7(h), Section 10, Section 11, Section 12(f), Section 17 and Section 18 shall remain in full force and effect.
- (e) Any termination of this Agreement shall be effective on the date specified in such notice of termination; provided that such termination shall not be effective until the close of business on the date of receipt of such notice by Canaccord or the Company, as the case may be. If such termination shall occur prior to the Settlement Date for any sale of Placement Shares, such Placement Shares shall settle in accordance with the provisions of this Agreement.
- (f) In the event that the Company terminates this Agreement, as permitted under Section 12(b), the Company shall be under no continuing obligation pursuant to this Agreement to utilize the services of Canaccord in connection with any sale of securities of the Company or to pay any compensation to Canaccord other than compensation with respect to sales of Placement Shares subscribed on or before the termination date and the Company shall be free to engage other placement agents and underwriters from and after the termination date with no continuing obligation to Canaccord.

13. Notices. All notices or other communications required or permitted to be given by any party to any other party pursuant to the terms of this Agreement shall be in writing and if sent to Canaccord, shall be delivered to:

Canaccord Genuity LLC  
99 High Street, Suite 1200  
Boston, Massachusetts 02110  
Attention: ECM, General Counsel  
E-mail: [jpardi@canaccordgenuity.com](mailto:jpardi@canaccordgenuity.com); [aviles@canaccordgenuity.com](mailto:aviles@canaccordgenuity.com)

With a copy to:

Cooley LLP  
55 Hudson Yards  
New York, New York 10036  
Attention: Daniel I. Goldberg  
Email: [dgoldberg@cooley.com](mailto:dgoldberg@cooley.com)



or if sent to the Company, shall be delivered to:

T2 Biosystems, Inc.  
101 Hartwell Ave.  
Lexington, MA 02421  
Attention: Chief Executive Officer  
Email: jmcdonough@t2biosystems.com  
With a copy to:

Latham & Watkins LLP  
John Hancock Tower  
200 Clarendon Street  
Boston, Massachusetts 02116  
Attention: Johan V. Brigham  
Email: johan.brigham@lw.com

Each party to this Agreement may change such address for notices by sending to the other party to this Agreement written notice of a new address for such purpose. Each such notice or other communication shall be deemed given (i) when delivered personally or by verifiable facsimile transmission (with an original to follow) on or before 4:30 p.m., eastern time, on a Business Day or, if such day is not a Business Day, on the next succeeding Business Day, (ii) on the next Business Day after timely delivery to a nationally-recognized overnight courier, (iii) on the Business Day actually received if deposited in the U.S. mail (certified or registered mail, return receipt requested, postage prepaid), and (iv) if sent by email, on the Business Day on which receipt is confirmed by the individual to whom the notice is sent, other than via auto-reply. For purposes of this Agreement, "Business Day" shall mean any day other than a day on which banks are permitted or required to be closed in New York City.

14. Successors and Assigns. This Agreement shall inure to the benefit of and be binding upon the Company and Canaccord and their respective successors and the affiliates, controlling persons, officers and directors referred to in Section 10 hereof. References to any of either of the parties contained in this Agreement shall be deemed to include the successors and permitted assigns of such party. Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and permitted assigns any rights, remedies, obligations or liabilities under or by reason of this Agreement, except as expressly provided in this Agreement. Neither party may assign its rights or obligations under this Agreement without the prior written consent of the other party, provided, however, that Canaccord may assign its rights and obligations hereunder to an affiliate of Canaccord without obtaining the Company's consent.

15. Adjustments for Share Splits. The parties acknowledge and agree that all share-related numbers contained in this Agreement shall be adjusted to take into account any share split, share dividend or similar event effected with respect to the Shares.

16. Entire Agreement; Amendment; Severability. This Agreement (including all schedules and exhibits attached hereto and Placement Notices issued pursuant hereto) constitutes the entire agreement and supersedes all other prior and contemporaneous agreements and undertakings, both written and oral, among the parties hereto with regard to the subject matter hereof. Neither this Agreement nor any term hereof may be amended except pursuant to a written instrument executed by the Company and Canaccord. In the event that any one or more of the provisions contained herein, or the application thereof in any circumstance, is held invalid, illegal or unenforceable, the validity, legality and enforceability of any such provision in every other respect and of the remaining provisions contained herein shall not be affected or impaired thereby.

17. Applicable Law; Consent to Jurisdiction. This Agreement shall be governed by, and construed in accordance with, the internal laws of the State of New York without regard to the principles of conflicts of laws. Each party hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in the City of New York, borough of Manhattan, for the adjudication of any dispute hereunder or in connection with any transaction contemplated hereby, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof (certified or registered mail, return receipt requested) to such party at the address in effect for notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law.

18. Waiver of Jury Trial. The Company and Canaccord hereby irrevocably waive any right either may have to a trial by jury in respect of any claim based upon or arising out of this agreement or any transaction contemplated hereby.

19. Absence of Fiduciary Duties. The parties acknowledge that they are sophisticated in business and financial matters and that each of them is solely responsible for making its own independent investigation and analysis of the transactions contemplated by this Agreement. They further acknowledge that Canaccord has not been engaged by the Company to provide, and has not provided, financial advisory services in connection with the terms of the offering and sale of the Shares nor has Canaccord assumed at any time a fiduciary relationship to the Company in connection with such offering and sale. The parties also acknowledge that the provisions of this Agreement fairly allocate the risks of the transactions contemplated hereby among them in light of their respective knowledge of the Company and their respective abilities to investigate its affairs and business in order to assure that full and adequate disclosure has been made in the Registration Statement and the Prospectus (and any amendments and supplements thereto). The Company hereby waives, to the fullest extent permitted by law, any claims it may have against Canaccord for breach of fiduciary duty or alleged breach of fiduciary duty and agrees Canaccord shall have no liability (whether direct or indirect) to the Company in respect of such a fiduciary duty claim or to any person asserting a fiduciary duty claim on behalf of or in right of the Company, including shareholders, employees or creditors of Company.

20. Persons Entitled to Benefit of Agreement. This Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective successors and the officers and directors and any controlling persons referred to in Section 10 hereof. Nothing in this Agreement is intended or shall be construed to give any other person any legal or equitable right, remedy or claim under or in respect of this Agreement or any provision contained herein. No purchaser of Shares shall be deemed to be a successor merely by reason of such purchase.

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

22. 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.

23. Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Delivery of an executed Agreement by one party to the other may be made by facsimile or email transmission.

**[Remainder of page intentionally left blank.]**

If the foregoing accurately reflects your understanding and agreement with respect to the matters described herein please indicate your agreement by countersigning this Agreement in the space provided below.

Very truly yours,

**T2 BIOSYSTEMS, INC.**

By: /s/ John McDonough

Name: John McDonough

Title: CEO

ACCEPTED

as of the date first-above written:

**CANACCORD GENUITY LLC**

By: /s/ Jennifer Pardi

Name: Jennifer Pardi

Title: Sr. Managing Director

*[Signature page to Equity Distribution Agreement]*

[see attached]

**OFFICER'S CERTIFICATE**

[see attached]

**PURCHASE AGREEMENT**

**THIS PURCHASE AGREEMENT** (the “Agreement”), dated as of July 29, 2019 (the “Execution Date”), is entered into by and between **T2 BIOSYSTEMS, INC.**, a Delaware corporation (the “Company”), and **LINCOLN PARK CAPITAL FUND, LLC**, an Illinois limited liability company (the “Investor”). Capitalized terms used herein and not otherwise defined herein are defined in Section 1 hereof.

**WHEREAS:**

Subject to the terms and conditions set forth in this Agreement, the Company wishes to sell to the Investor, and the Investor wishes to buy from the Company, up to Thirty Million Dollars (\$30,000,000.00) of the Company’s common stock, par value \$0.001 per share (the “Common Stock”). The shares of Common Stock to be purchased hereunder are referred to herein as the “Purchase Shares”.

**NOW THEREFORE**, in consideration of the mutual covenants contained in this Agreement, and for other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the Company and the Investor hereby agree as follows:

**1. CERTAIN DEFINITIONS.**

For purposes of this Agreement, the following terms shall have the following meanings:

(a) “Accelerated Purchase Date” means, with respect to any Accelerated Purchase (as defined below) made pursuant to Section 2(b) hereof, the Business Day immediately following the applicable Purchase Date with respect to the corresponding Regular Purchase referred to in clause (i) of the second sentence of Section 2(a) hereof.

(b) “Accelerated Purchase Minimum Price Threshold” means, with respect to any Accelerated Purchase made pursuant to Section 2(b) hereof, any minimum per share price threshold set forth in the applicable Accelerated Purchase Notice.

(c) “Accelerated Purchase Notice” means, with respect to an Accelerated Purchase made pursuant to Section 2(b) hereof, an irrevocable written notice from the Company to the Investor directing the Investor to purchase the applicable Accelerated Purchase Share Amount at the Accelerated Purchase Price on the Accelerated Purchase Date for such Accelerated Purchase in accordance with this Agreement, and specifying any Accelerated Purchase Minimum Price Threshold determined by the Company.

(d) “Accelerated Purchase Price” means, with respect to an Accelerated Purchase made pursuant to Section 2(b) hereof, the lower of (i) ninety-five percent (95%) of the VWAP for the period beginning at 9:30:01 a.m., Eastern time, on the applicable Accelerated Purchase Date, or such other time publicly announced by Principal Market as the official open (or commencement) of trading on the Principal Market on such applicable Accelerated Purchase Date (the “Accelerated Purchase Commencement Time”), and ending at the earliest of (A) 4:00:00 p.m., Eastern time, on such applicable Accelerated Purchase Date, or such other time publicly announced by Principal Market as the official close of trading on the Principal Market on such applicable Accelerated Purchase Date, (B) such time, from and after the Accelerated Purchase Commencement Time for such Accelerated Purchase, that the total number (or volume) of shares of Common Stock traded on the Principal Market has exceeded the applicable Accelerated Purchase Share Volume Maximum, and (C) such time, from and after the Accelerated Purchase Commencement Time for such Accelerated Purchase, that the Sale Price has fallen below the applicable Accelerated Purchase

Minimum Price Threshold (such earliest of (i)(A), (i)(B) and (i)(C) above, the “Accelerated Purchase Termination Time”), and (ii) the Closing Sale Price of the Common Stock on such applicable Accelerated Purchase Date (to be appropriately adjusted for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction).

(e) “Accelerated Purchase Share Amount” means, with respect to an Accelerated Purchase made pursuant to Section 2(b) hereof, the number of Purchase Shares directed by the Company to be purchased by the Investor in an Accelerated Purchase Notice, which number of Purchase Shares shall not exceed the lesser of (i) 300% of the number of Purchase Shares directed by the Company to be purchased by the Investor pursuant to the corresponding Regular Purchase Notice for the corresponding Regular Purchase referred to in clause (i) of the second sentence of Section 2(b) hereof (subject to the Purchase Share limitations contained in Section 2(b) hereof) and (ii) an amount equal to (A) the Accelerated Purchase Share Percentage multiplied by (B) the total number (or volume) of shares of Common Stock traded on the Principal Market during the period on the applicable Accelerated Purchase Date beginning at the Accelerated Purchase Commencement Time for such Accelerated Purchase and ending at the Accelerated Purchase Termination Time for such Accelerated Purchase.

(f) “Accelerated Purchase Share Percentage” means, with respect to an Accelerated Purchase made pursuant to Section 2(b) hereof, thirty percent (30%).

(g) “Accelerated Purchase Share Volume Maximum” means, with respect to an Accelerated Purchase made pursuant to Section 2(b) hereof, a number of shares of Common Stock equal to (i) the applicable Accelerated Purchase Share Amount to be purchased by the Investor pursuant to the applicable Accelerated Purchase Notice for such Accelerated Purchase, divided by (ii) the Accelerated Purchase Share Percentage (to be appropriately adjusted for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction).

(h) “Additional Accelerated Purchase Date” means, with respect to an Additional Accelerated Purchase made pursuant to Section 2(c) hereof, the Business Day (i) that is the Accelerated Purchase Date with respect to the corresponding Accelerated Purchase referred to in Section 2(b) hereof and (ii) on which the Investor receives, prior to 1:00 p.m., Eastern time, on such Business Day, a valid Additional Accelerated Purchase Notice for such Additional Accelerated Purchase in accordance with this Agreement.

(i) “Additional Accelerated Purchase Minimum Price Threshold” means, with respect to an Additional Accelerated Purchase made pursuant to Section 2(c) hereof, any minimum per share price threshold set forth in the applicable Additional Accelerated Purchase Notice.

(j) “Additional Accelerated Purchase Notice” means, with respect to an Additional Accelerated Purchase made pursuant to Section 2(c) hereof, an irrevocable written notice from the Company to the Investor directing the Investor to purchase the applicable Additional Accelerated Purchase Share Amount at the Additional Accelerated Purchase Price for such Additional Accelerated Purchase in accordance with this Agreement, and specifying any Accelerated Purchase Minimum Price Threshold determined by the Company.

(k) “Additional Accelerated Purchase Price” means, with respect to an Additional Accelerated Purchase made pursuant to Section 2(b) hereof, the lower of (i) ninety-five percent (95%) of the VWAP for the period on the applicable Additional Accelerated Purchase Date, beginning at the latest of (A) the applicable Accelerated Purchase Termination Time with respect to the corresponding Accelerated Purchase referred to in Section 2(b) hereof on such Additional Accelerated Purchase Date, (B) the applicable Additional Accelerated Purchase Termination Time with respect to the most recently completed prior



Additional Accelerated Purchase on such Additional Accelerated Purchase Date, as applicable, and (C) the time at which all Purchase Shares subject to all prior Accelerated Purchases and Additional Accelerated Purchases (as applicable), including, without limitation, those that have been effected on the same Business Day as the applicable Additional Accelerated Purchase Date with respect to which the applicable Additional Accelerated Purchase relates, have theretofore been received by the Investor as DWAC Shares in accordance with this Agreement (such latest of (i)(A), (i)(B) and (i)(C) above, the “Additional Accelerated Purchase Commencement Time”), and ending at the earliest of (X) 4:00 p.m., Eastern time, on such Additional Accelerated Purchase Date, or such other time publicly announced by Principal Market as the official close of trading on the Principal Market on such Additional Accelerated Purchase Date, (Y) such time, from and after the Additional Accelerated Purchase Commencement Time for such Additional Accelerated Purchase, that total number (or volume) of shares of Common Stock traded on the Principal Market has exceeded the applicable Additional Accelerated Purchase Share Volume Maximum, and (Z) such time, from and after the Additional Accelerated Purchase Commencement Time for such Additional Accelerated Purchase, that the Sale Price has fallen below the applicable Additional Accelerated Purchase Minimum Price Threshold (if any) (such earliest of (i)(X), (i)(Y) and (i)(Z) above, the “Additional Accelerated Purchase Termination Time”), and (ii) the Closing Sale Price of the Common Stock on such Additional Accelerated Purchase Date (to be appropriately adjusted for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction).

(l) “Additional Accelerated Purchase Share Amount” means, with respect to an Additional Accelerated Purchase made pursuant to Section 2(c) hereof, the number of Purchase Shares directed by the Company to be purchased by the Investor on an Additional Accelerated Purchase Notice, which number of Purchase Shares shall not exceed the lesser of (i) 300% of the number of Purchase Shares directed by the Company to be purchased by the Investor pursuant to the corresponding Regular Purchase Notice for the corresponding Regular Purchase referred to in Section 2(c) hereof (subject to the Purchase Share limitations contained in Section 2(a) hereof) and (ii) an amount equal to (A) the Additional Accelerated Purchase Share Percentage multiplied by (B) the total number (or volume) of shares of Common Stock traded on the Principal Market during the period on the applicable Additional Accelerated Purchase Date beginning at the Additional Accelerated Purchase Commencement Time for such Additional Accelerated Purchase and ending at the Additional Accelerated Purchase Termination Time for such Additional Accelerated Purchase.

(m) “Additional Accelerated Purchase Share Percentage” means, with respect to an Additional Accelerated Purchase made pursuant to Section 2(c) hereof, thirty percent (30%).

(n) “Additional Accelerated Purchase Share Volume Maximum” means, with respect to an Additional Accelerated Purchase made pursuant to Section 2(c) hereof, a number of shares of Common Stock equal to (i) the applicable Additional Accelerated Purchase Share Amount properly directed by the Company to be purchased by the Investor in the applicable Additional Accelerated Purchase Notice for such Additional Accelerated Purchase, divided by (ii) the Additional Accelerated Purchase Share Percentage (to be appropriately adjusted for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction)

(o) “Alternate Adjusted Regular Purchase Share Limit” means, with respect to a Regular Purchase made pursuant to Section 2(a) hereof, the maximum number of Purchase Shares which, taking into account the applicable per share Purchase Price therefor calculated in accordance with this Agreement, would enable the Company to deliver to the Investor, on the applicable Purchase Date for such Regular Purchase, a Regular Purchase Notice for a Purchase Amount equal to, or as closely approximating without exceeding, One Hundred Fifty Thousand Dollars (\$150,000).

(p) “Available Amount” means, initially, Thirty Million Dollars (\$30,000,000) in the aggregate, which amount shall be reduced by the Purchase Amount each time the Investor purchases Purchase Shares pursuant to Section 2 hereof.

(q) "Average Price" means a price per Purchase Share (rounded to the nearest tenth of a cent) equal to the quotient obtained by dividing (i) the aggregate gross purchase price paid by the Investor for all Purchase Shares purchased pursuant to this Agreement, by (ii) the aggregate number of Purchase Shares issued pursuant to this Agreement.

(r) "Bankruptcy Law" means Title 11, U.S. Code, or any similar federal or state law for the relief of debtors.

(s) "Base Prospectus" means the Company's final base prospectus, dated October 24, 2018, a preliminary form of which is included in the Registration Statement, including the documents incorporated by reference therein.

(t) "Business Day" means any day on which the Principal Market is open for trading, including any day on which the Principal Market is open for trading for a period of time less than the customary time.

(u) "Common Stock Equivalents" means any securities of the Company or its Subsidiaries which entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, rights, options, warrants or other instrument that is at any time convertible into or exercisable or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock.

(v) "Closing Sale Price" means, for any security as of any date, the last closing sale price for such security on the Principal Market as reported by the Principal Market.

(w) "Commencement" means the satisfaction of the conditions set forth in Sections 7 and 8 hereof.

(x) "Commencement Date" means the date on which the satisfaction of the conditions set forth in Sections 7 and 8 hereof has taken place.

(y) "Confidential Information" means any information disclosed by either party to the other party, either directly or indirectly, in writing, orally or by inspection of tangible objects (including, without limitation, documents, prototypes, samples, plant and equipment), which is designated as "Confidential," "Proprietary" or some similar designation. Information communicated orally shall be considered Confidential Information if such information is confirmed in writing as being Confidential Information within ten (10) Business Days after the initial disclosure. Confidential Information may also include information disclosed to a disclosing party by third parties. Confidential Information shall not, however, include any information which (i) was publicly known and made generally available in the public domain prior to the time of disclosure by the disclosing party; (ii) becomes publicly known and made generally available after disclosure by the disclosing party to the receiving party through no action or inaction of the receiving party; (iii) is already in the possession of the receiving party without confidential restriction at the time of disclosure by the disclosing party as shown by the receiving party's files and records immediately prior to the time of disclosure; (iv) is obtained by the receiving party from a third party without a breach of such third party's obligations of confidentiality; (v) is independently developed by the receiving party without use of or reference to the disclosing party's Confidential Information, as shown by documents and other competent evidence in the receiving party's possession; or (vi) is required by law to be disclosed by the receiving party, provided that the receiving party gives the disclosing party prompt written notice of such requirement prior to such disclosure and assistance in obtaining an order protecting the information from public disclosure.

- (z) “Custodian” means any receiver, trustee, assignee, liquidator or similar official under any Bankruptcy Law.
- (aa) “DTC” means The Depository Trust Company, or any successor performing substantially the same function for the Company.
- (bb) “DWAC Shares” means shares of Common Stock that are (i) issued in electronic form, (ii) freely tradable and transferable and without restriction on resale and (iii) timely credited by the Company, once a DWAC notice is received, to the Investor’s or its designee’s specified Deposit/Withdrawal at Custodian (DWAC) account with DTC under its Fast Automated Securities Transfer (FAST) Program, or any similar program hereafter adopted by DTC performing substantially the same function.
- (cc) “Exchange Act” means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.
- (dd) “Fully Adjusted Regular Purchase Share Limit” means, with respect to any reorganization, recapitalization, non-cash dividend, stock split or other similar transaction from and after the date of this Agreement, the Regular Purchase Share Limit (as defined in Section 2(a) hereof) in effect on the applicable date of determination, after giving effect to the full proportionate adjustment thereto made pursuant to Section 2(a) hereof for or in respect of such reorganization, recapitalization, non-cash dividend, stock split or other similar transaction.
- (ee) “Initial Prospectus Supplement” means the prospectus supplement of the Company relating to the Securities, including the accompanying Base Prospectus, to be prepared and filed by the Company with the SEC pursuant to Rule 424(b) under the Securities Act and in accordance with Section 5(a) hereof, together with all documents and information incorporated therein by reference.
- (ff) “Material Adverse Effect” means any material adverse effect on (i) the enforceability of any Transaction Document, (ii) the results of operations, assets, business or financial condition of the Company and its Subsidiaries, taken as a whole, other than any material adverse effect that resulted exclusively from (A) any change in the United States or foreign economies or securities or financial markets in general that does not have a disproportionate effect on the Company and its Subsidiaries, taken as a whole, (B) any change that generally affects the industry in which the Company and its Subsidiaries operate that does not have a disproportionate effect on the Company and its Subsidiaries, taken as a whole, (C) any change arising in connection with earthquakes, hostilities, acts of war, sabotage or terrorism or military actions or any escalation or material worsening of any such hostilities, acts of war, sabotage or terrorism or military actions existing as of the date hereof, (D) any action taken by the Investor, its affiliates or its or their successors and assigns with respect to the transactions contemplated by this Agreement, (E) the effect of any change in applicable laws or accounting rules that does not have a disproportionate effect on the Company and its Subsidiaries, taken as a whole, or (F) any change resulting from compliance with terms of this Agreement or the consummation of the transactions contemplated by this Agreement, or (iii) the Company’s ability to perform in any material respect on a timely basis its obligations under any Transaction Document to be performed as of the date of determination.
- (gg) “Maturity Date” means the first day of the month immediately following the thirty-six (36) month anniversary of the Commencement Date.
- (hh) “PEA Period” means the period commencing at 9:30 a.m., Eastern time, on the fifth (5<sup>th</sup>) Business Day immediately prior to the filing of any post-effective amendment to the Registration Statement (as defined herein) or New Registration Statement (as such term is defined in the Registration Rights Agreement), and ending at 9:30 a.m., Eastern time, on the Business Day immediately following, the effective date of any post-effective amendment to the Registration Statement (as defined herein) or New Registration Statement (as such term is defined in the Registration Rights Agreement).

(ii) “Person” means an individual or entity including but not limited to any limited liability company, a partnership, a joint venture, a corporation, a trust, an unincorporated organization and a government or any department or agency thereof.

(jj) “Principal Market” means The Nasdaq Global Market (or any nationally recognized successor thereto); provided, however, that in the event the Company’s Common Stock is ever listed or traded on the Nasdaq Capital Market, The Nasdaq Global Select Market, the New York Stock Exchange, the NYSE American, or the NYSE Arca, the OTC Bulletin Board, or the OTCQX or OTCQB operated by the OTC Markets Group, Inc. (or any nationally recognized successor to any of the foregoing), then the “Principal Market” shall mean such other market or exchange on which the Company’s Common Stock is then listed or traded.

(kk) “Prospectus” means the Base Prospectus, as supplemented by any Prospectus Supplement (including the Initial Prospectus Supplement), including the documents and information incorporated by reference therein.

(ll) “Prospectus Supplement” means any prospectus supplement to the Base Prospectus (including the Initial Prospectus Supplement) filed with the SEC pursuant to Rule 424(b) under the Securities Act in connection with the transactions contemplated by this Agreement, including the documents and information incorporated by reference therein.

(mm) “Purchase Amount” means, with respect to any Regular Purchase, any Accelerated Purchase or any Additional Accelerated Purchase made hereunder, as applicable, the portion of the Available Amount to be purchased by the Investor pursuant to Section 2 hereof.

(nn) “Purchase Date” means, with respect to a Regular Purchase made pursuant to Section 2(a) hereof, the Business Day on which the Investor receives, after 4:00 p.m., Eastern time, but prior to 5:00 p.m., Eastern time, on such Business Day, a valid Regular Purchase Notice for such Regular Purchase in accordance with this Agreement.

(oo) “Purchase Price” means, with respect to any Regular Purchase made pursuant to Section 2(a) hereof, the lower of: (i) the lowest Sale Price on the applicable Purchase Date for such Regular Purchase and (ii) the arithmetic average of the three (3) lowest Closing Sale Prices for the Common Stock during the ten (10) consecutive Business Days prior to the Purchase Date for such Regular Purchase (in each case, to be appropriately adjusted for any reorganization, recapitalization, non-cash dividend, stock split or other similar transaction that occurs on or after the date of this Agreement).

(pp) “Registration Rights Agreement” means that certain Registration Rights Agreement, of even date herewith between the Company and the Investor.

(qq) “Registration Statement” has the meaning set forth in the Registration Rights Agreement.

(rr) “Regular Purchase Notice” means, with respect to any Regular Purchase pursuant to Section 2(a) hereof, an irrevocable written notice from the Company to the Investor directing the Investor to buy such applicable amount of Purchase Shares at the applicable Purchase Price as specified by the Company therein on the applicable Purchase Date for such Regular Purchase.

(ss) "Sale Price" means any trade price for the shares of Common Stock on the Principal Market as reported by the Principal Market.

(tt) "SEC" means the U.S. Securities and Exchange Commission.

(uu) "Securities" means, collectively, the Purchase Shares and the Commitment Shares (as defined below).

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

(ww) "Subsidiary" means any Person the Company wholly owns or controls, or in which the Company, directly or indirectly, owns a majority of the voting stock or similar voting interest, in each case that would be disclosable pursuant to Item 601(b)(21) of Regulation S-K promulgated under the Securities Act.

(xx) "Transaction Documents" means, collectively, this Agreement and the schedules and exhibits hereto, the Registration Rights Agreement and the schedules and exhibits thereto, and each of the other agreements, documents, certificates and instruments entered into or furnished by the parties hereto in connection with the transactions contemplated hereby and thereby.

(yy) "Transfer Agent" means American Stock Transfer & Trust Company, or such other Person who is then serving as the transfer agent for the Company in respect of the Common Stock.

(zz) "VWAP" means in respect of an Accelerated Purchase Date and an Additional Accelerated Purchase Date, as applicable, the volume weighted average price of the Common Stock on the Principal Market, as reported on the Principal Market or by another reputable source such as Bloomberg, L.P.

## **2. PURCHASE OF COMMON STOCK.**

Subject to the terms and conditions set forth in this Agreement, the Company has the right, but not the obligation, to sell to the Investor, in the Company's sole and absolute discretion, and the Investor has the obligation to purchase from the Company, Purchase Shares as follows:

(a) Commencement of Regular Sales of Common Stock. Beginning one (1) Business Day following the Commencement Date and thereafter, the Company shall have the right, but not the obligation, to direct the Investor, by its delivery to the Investor of a Regular Purchase Notice from time to time, to purchase up to Two Hundred Thousand (200,000) Purchase Shares, subject to adjustment as set forth below in this Section 2(a) (such maximum number of Purchase Shares, as may be adjusted from time to time, the "Regular Purchase Share Limit"), at the Purchase Price on the Purchase Date (each such purchase a "Regular Purchase"); provided, however, that the Regular Purchase Share Limit shall be increased to: (i) Two Hundred Fifty Thousand (250,000) Purchase Shares, if the Closing Sale Price of the Common Stock on the applicable Purchase Date is not below \$2.00; and (ii) Three Hundred Thousand (300,000) Purchase Shares, if the Closing Sale Price of the Common Stock on the applicable Purchase Date is not below \$3.00 (all of which share and dollar amounts shall be appropriately proportionately adjusted for any reorganization, recapitalization, non-cash dividend, stock split or other similar transaction; provided that if, after giving effect to the full proportionate adjustment to the Regular Purchase Share Limit therefor, the Fully Adjusted Regular Purchase Share Limit then in effect would preclude the Company from delivering to the Investor a Regular Purchase Notice hereunder for a Purchase Amount (calculated by multiplying (X)

the number of Purchase Shares equal to the Fully Adjusted Regular Purchase Share Limit, by (Y) the Purchase Price per Purchase Share covered by such Regular Purchase Notice on the applicable Purchase Date therefor) equal to or greater than One Hundred Fifty Thousand Dollars (\$150,000), the Regular Purchase Share Limit for such Regular Purchase Notice shall not be fully adjusted to equal the applicable Fully Adjusted Regular Purchase Share Limit, but rather the Regular Purchase Share Limit for such Regular Purchase Notice shall be adjusted to equal the applicable Alternate Adjusted Regular Purchase Share Limit as of the applicable Purchase Date for such Regular Purchase Notice); and provided, further, however, that the Investor's committed obligation under any single Regular Purchase, other than any Regular Purchase with respect to which an Alternate Adjusted Regular Purchase Share Limit shall apply, shall not exceed Two Million and Dollars (\$2,000,000) and provided, further, however, that the parties may mutually agree to increase the Regular Purchase Share Limit. If the Company delivers any Regular Purchase Notice for a Purchase Amount in excess of the limitations contained in the immediately preceding sentence, such Regular Purchase Notice shall be void *ab initio* to the extent of the amount by which the number of Purchase Shares set forth in such Regular Purchase Notice exceeds the number of Purchase Shares which the Company is permitted to include in such Regular Purchase Notice in accordance herewith, and the Investor shall have no obligation to purchase such excess Purchase Shares in respect of such Regular Purchase Notice; provided, however, that the Investor shall remain obligated to purchase the number of Purchase Shares which the Company is permitted to include in such Regular Purchase Notice. The Company may deliver multiple Regular Purchase Notices to the Investor in a day as often as every Business Day, so long as the Company has not failed to deliver Purchase Shares for all prior Regular Purchases, Accelerated Purchases and Additional Accelerated Purchases, including, without limitation, those that have been effected on the same Business Day as the applicable Purchase Date, as DWAC Shares in accordance with this Agreement. Notwithstanding the foregoing, the Company shall not deliver a Regular Purchase Notice to the Investor during the PEA Period.

(b) Accelerated Purchases. Subject to the terms and conditions of this Agreement, from and after the Commencement Date, in addition to purchases of Purchase Shares as described in Section 2(a) above, the Company shall also have the right, but not the obligation, to direct the Investor, by its delivery to the Investor of an Accelerated Purchase Notice from time to time in accordance with this Agreement, to purchase the applicable Accelerated Purchase Share Amount at the Accelerated Purchase Price on the Accelerated Purchase Date therefor in accordance with this Agreement (each such purchase, an "Accelerated Purchase"). The Company may deliver an Accelerated Purchase Notice to the Investor only on a Purchase Date on which the Company also properly submitted a Regular Purchase Notice providing for a Regular Purchase of a number of Purchase Shares not less than the Regular Purchase Share Limit then in effect on such Purchase Date in accordance with this Agreement (including, without limitation, giving effect to any automatic increase to the Regular Purchase Share Limit as a result of the Closing Sale Price of the Common Stock exceeding certain thresholds set forth in Section 2(b) above on such Purchase Date and any other adjustments to the Regular Purchase Share Limit, in each case pursuant to Section 2(b) above) and the Closing Sale Price is not below \$1.25 (to be appropriately adjusted for any reorganization, recapitalization, non-cash dividend, stock split or other similar transaction and, effective upon the consummation of any such reorganization, recapitalization, non-cash dividend, stock split or other similar transaction, the Closing Sale Price is not below the lower of (i) the adjusted price and (ii) \$0.75). If the Company delivers any Accelerated Purchase Notice directing the Investor to purchase an amount of Purchase Shares that exceeds the Accelerated Purchase Share Amount that the Company is then permitted to include in such Accelerated Purchase Notice, such Accelerated Purchase Notice shall be void *ab initio* to the extent of the amount by which the number of Purchase Shares set forth in such Accelerated Purchase Notice exceeds the Accelerated Purchase Share Amount that the Company is then permitted to include in such Accelerated Purchase Notice (which shall be confirmed in an Accelerated Purchase Confirmation), and the Investor shall have no obligation to purchase such excess Purchase Shares in respect of such Accelerated Purchase Notice; provided, however, that the Investor shall remain obligated to purchase the Accelerated Purchase Share Amount which the Company is permitted to include in such Accelerated

Purchase Notice; and provided, further, however, that the parties may mutually agree to increase the Accelerated Purchase Share Amount applicable to any Accelerated Purchase, and all of the Purchase Shares subject to such increased Accelerated Purchase shall be purchased by the Investor at the Accelerated Purchase Price for such increased Accelerated Purchase in accordance with this Agreement. Within one (1) Business Day after completion of each Accelerated Purchase Date for an Accelerated Purchase, the Investor will provide to the Company a written confirmation of such Accelerated Purchase setting forth the applicable Accelerated Purchase Share Amount and Accelerated Purchase Price for such Accelerated Purchase (each, an “Accelerated Purchase Confirmation”). Notwithstanding the foregoing, the Company shall not deliver any Accelerated Purchase Notices during the PEA Period.

(c) Additional Accelerated Purchases. Subject to the terms and conditions of this Agreement, beginning one (1) Business Day following the Commencement Date and thereafter, in addition to purchases of Purchase Shares as described in Section 2(a) and Section 2(b) above, the Company shall also have the right, but not the obligation, to direct the Investor, by its timely delivery to the Investor of an Additional Accelerated Purchase Notice on an Additional Accelerated Purchase Date in accordance with this Agreement, to purchase the applicable Additional Accelerated Purchase Share Amount at the applicable Additional Accelerated Purchase Price therefor in accordance with this Agreement (each such purchase, an “Additional Accelerated Purchase”). The Company may deliver multiple Additional Accelerated Purchase Notices to the Investor on an Additional Accelerated Purchase Date; provided, however, that the Company may deliver an Additional Accelerated Purchase Notice to the Investor only (i) on a Business Day that is also the Accelerated Purchase Date for an Accelerated Purchase with respect to which the Company properly submitted to the Investor an Accelerated Purchase Notice in accordance with this Agreement on the applicable Purchase Date for a Regular Purchase of a number of Purchase Shares not less than the Regular Purchase Share Limit then in effect in accordance with this Agreement (including, without limitation, giving effect to any automatic increase to the Regular Purchase Share Limit as a result of the Closing Sale Price of the Common Stock exceeding certain thresholds set forth in Section 2(b) above on such Purchase Date and any other adjustments to the Regular Purchase Share Limit, in each case pursuant to Section 2(b) above), and (iii) if all Purchase Shares subject to all prior Regular Purchases, Accelerated Purchases and Additional Accelerated Purchases, including, without limitation, those that have been effected on the same Business Day as the applicable Additional Accelerated Purchase Date with respect to which the applicable Additional Accelerated Purchase relates, have theretofore been received by the Investor as DWAC Shares in accordance with this Agreement. If the Company delivers any Additional Accelerated Purchase Notice directing the Investor to purchase an amount of Purchase Shares that exceeds the Additional Accelerated Purchase Share Amount that the Company is then permitted to include in such Additional Accelerated Purchase Notice in accordance with the terms of this Agreement, such Additional Accelerated Purchase Notice shall be void *ab initio* to the extent of the amount by which the number of Purchase Shares set forth in such Additional Accelerated Purchase Notice exceeds the Additional Accelerated Purchase Share Amount that the Company is then permitted to include in such Additional Accelerated Purchase Notice in accordance with the terms of this Agreement (which shall be confirmed in an Additional Accelerated Purchase Confirmation (defined below)), and the Investor shall have no obligation to purchase such excess Purchase Shares in respect of such Additional Accelerated Purchase Notice; provided, however, that the Investor shall remain obligated to purchase the Additional Accelerated Purchase Share Amount which the Company is permitted to include in such Additional Accelerated Purchase Notice; and provided, further, however, that the parties may mutually agree to increase the Additional Accelerated Purchase Share Amount applicable to any Additional Accelerated Purchase, and all of the Purchase Shares subject to such increased Additional Accelerated Purchase shall be purchased by the Investor at the Additional Accelerated Purchase Price for such increased Additional Accelerated Purchase in accordance with this Agreement. Within one (1) Business Day after completion of each Additional Accelerated Purchase Date, the Investor will provide to the Company a written confirmation of each Additional Accelerated Purchase on such Additional Accelerated Purchase Date setting forth the applicable Additional Accelerated Purchase Share Amount and Additional Accelerated Purchase Price for each such Additional Accelerated Purchase on such Additional Accelerated Purchase Date (each, an “Additional Accelerated Purchase Confirmation”).

(d) Payment for Purchase Shares. For each Regular Purchase, the Investor shall pay to the Company an amount equal to the Purchase Amount with respect to such Regular Purchase as full payment for such Purchase Shares via wire transfer of immediately available funds on the same Business Day that the Investor receives such Purchase Shares, if such Purchase Shares are received by the Investor before 1:00 p.m., Eastern time, or, if such Purchase Shares are received by the Investor after 1:00 p.m., Eastern time, the next Business Day. For each Accelerated Purchase and each Additional Accelerated Purchase, the Investor shall pay to the Company an amount equal to the Purchase Amount with respect to such Accelerated Purchase and Additional Accelerated Purchase, respectively, as full payment for such Purchase Shares via wire transfer of immediately available funds on the second Business Day following the date that the Investor receives such Purchase Shares. If the Company or the Transfer Agent shall fail for any reason or for no reason to electronically transfer any Purchase Shares as DWAC Shares submitted by the Investor or its agent in respect of any Regular Purchase, Accelerated Purchase or Additional Accelerated Purchase (as applicable) within two (2) Business Days following the receipt by the Company of the Purchase Price, Accelerated Purchase Price or Additional Accelerated Purchase Price, respectively, therefor in compliance with this Section 2(d), and if on or after such two (2) Business Days the Investor purchases (in an open market transaction or otherwise) shares of Common Stock to deliver in satisfaction of a sale by the Investor of such Purchase Shares that the Investor anticipated receiving from the Company in respect of such Regular Purchase, Accelerated Purchase or Additional Accelerated Purchase (as applicable), then the Company shall, within two (2) Business Days after the Investor's request, either (i) pay cash to the Investor in an amount equal to the Investor's total purchase price (including customary brokerage commissions, if any) for the shares of Common Stock so purchased (the "Cover Price"), at which point the Company's obligation to deliver such Purchase Shares as DWAC Shares shall terminate, or (ii) promptly honor its obligation to deliver to the Investor such Purchase Shares as DWAC Shares and pay cash to the Investor in an amount equal to the excess (if any) of the Cover Price over the total Purchase Amount paid by the Investor pursuant to this Agreement for all of the Purchase Shares to be purchased by the Investor in connection with such purchases. The Company shall not issue any fraction of a share of Common Stock upon any Regular Purchase, Accelerated Purchase or Additional Accelerated Purchase. If the issuance would result in the issuance of a fraction of a share of Common Stock, the Company shall round such fraction of a share of Common Stock down to the nearest whole share. All payments made under this Agreement shall be made in lawful money of the United States of America or wire transfer of immediately available funds to such account as the Company may from time to time designate by written notice in accordance with the provisions of this Agreement. Whenever any amount expressed to be due by the terms of this Agreement is due on any day that is not a Business Day, the same shall instead be due on the next succeeding day that is a Business Day.

(e) Purchase Price Floor. The Company may not deliver a Regular Purchase Notice to the Investor, and the Investor and the Company shall not effect any Regular Purchase under this Agreement, on any Purchase Date that the Closing Sale Price is less than the Floor Price. "Floor Price" means \$1.00, which shall be appropriately adjusted for any reorganization, recapitalization, non-cash dividend, stock split or other similar transaction, and effective upon the consummation of any such reorganization, recapitalization, non-cash dividend, stock split or other similar transaction, the Floor Price shall mean the lower of (i) the adjusted price and (ii) \$0.50.



(f) Compliance with Rules of Principal Market.

(i) Exchange Cap. Subject to Section 2(f)(ii) below, the Company shall not issue or sell any shares of Common Stock pursuant to this Agreement, and the Investor shall not purchase or acquire any shares of Common Stock pursuant to this Agreement, to the extent that after giving effect thereto, the aggregate number of shares of Common Stock that would be issued pursuant to this Agreement and the transactions contemplated hereby would exceed 8,902,661 shares of Common Stock, representing 19.99% of the shares of Common Stock outstanding on the date of this Agreement (which number of shares shall be reduced, on a share-for-share basis, by the number of shares of Common Stock issued or issuable pursuant to any transaction or series of transactions that may be aggregated with the transactions contemplated by this Agreement under applicable rules of the Nasdaq Global Market or any other Principal Market on which the Common Stock may be listed or quoted) (the "Exchange Cap"), unless and until the Company elects to solicit stockholder approval of the issuance of Common Stock as contemplated by this Agreement and the stockholders of the Company have in fact approved such issuance in accordance with the applicable rules and regulations of the Nasdaq Global Market, any other Principal Market on which the Common Stock may be listed or quoted, and the Company's Certificate of Incorporation, as amended (the "Certificate of Incorporation"), and the Company's Amended and Restated Bylaws, as amended (the "Bylaws"). For the avoidance of doubt, the Company may, but shall be under no obligation to, request its stockholders to approve the issuance of Common Stock as contemplated by this Agreement; provided, that if stockholder approval is not obtained in accordance with this Section 2(f)(i), the Exchange Cap shall be applicable for all purposes of this Agreement and the transactions contemplated hereby at all times during the term of this Agreement (except as set forth in Section 2(f)(ii) below).

(ii) At-Market Transaction. Notwithstanding Section 2(f)(i) above and subject to the prior approval of the Nasdaq Global Market or any other Principal Market on which the Common Stock may be listed or quoted (to the extent required), the Exchange Cap shall not be applicable for any purposes of this Agreement and the transactions contemplated hereby, solely to the extent that (and only for so long as) the Average Price shall equal or exceed the Base Price and in accordance with any other applicable rules of the Nasdaq Global Market or any other Principal Market on which the Common Stock may be listed or quoted (it being hereby acknowledged and agreed that the Exchange Cap shall be applicable for all purposes of this Agreement and the transactions contemplated hereby at all other times during the term of this Agreement, unless the stockholder approval referred to in Section 2(f)(i) is obtained). "Base Price" means a price per Purchase Share equal to the sum of (i) the Signing Market Price and (ii) \$0.0706 (subject to adjustment for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction that occurs on or after the date of this Agreement). "Signing Market Price" means \$1.4500, representing the lower of (i) the closing price of the Common Stock on the Nasdaq Global Market immediately preceding the date of this Agreement or (ii) the average of the closing price of the Common Stock on the Nasdaq Global Market for the five Business Days immediately preceding the signing of this Agreement.

(iii) General. The Company shall not issue any Securities pursuant to this Agreement if such issuance would reasonably be expected to result in (A) a violation of the Securities Act or (B) a breach of the rules and regulations of the Principal Market. Furthermore, the Company agrees that it shall not issue any Securities pursuant to this Agreement if, at the time of such issuance (Y) the effectiveness of the Registration Statement registering the Securities has lapsed for any reason (including, without limitation, the issuance of a stop order or similar order) or (Z) the Registration Statement is unavailable for the sale by the Company to the Investor (or the resale by the Investor, as the case may be) of any or all of the Securities to be issued to the Investor under the Transaction Documents. The provisions of this Section 2(f) shall be implemented in a manner otherwise than in strict conformity with the terms hereof only if necessary to ensure compliance with the Securities Act and the rules and regulations of the Principal Market.

(g) **Beneficial Ownership Limitation.** Notwithstanding anything to the contrary contained in this Agreement, the Company shall not issue or sell, and the Investor shall not purchase or acquire, any Common Stock under this Agreement which, when aggregated with all other shares of Common Stock then beneficially owned by the Investor and its affiliates (as calculated pursuant to Section 13(d) of the Exchange Act and Rule 13d-3 promulgated thereunder) would result in the beneficial ownership by the Investor and its affiliates of more than 9.99% of the then issued and outstanding Common Stock (the “**Beneficial Ownership Limitation**”). Upon the written or oral request of the Investor, the Company shall promptly (but not later than 24 hours) confirm orally or in writing to the Investor the amount of Common Stock then outstanding. The Investor and the Company shall each cooperate in good faith in the determinations required hereby and the application hereof. The Investor’s written certification to the Company of the applicability of the Beneficial Ownership Limitation, and the resulting effect thereof hereunder at any time, shall be conclusive with respect to the applicability thereof and such result absent manifest error.

### **3. INVESTOR’S REPRESENTATIONS AND WARRANTIES.**

The Investor represents and warrants to the Company that as of the Execution Date and as of the Commencement Date:

(a) **Organization, Authority.** Investor is an entity duly organized, validly existing and in good standing under the laws of the jurisdiction of its organization, with the requisite power and authority to enter into and to consummate the transactions contemplated by this Agreement and otherwise to carry out its obligations hereunder and thereunder.

(b) **Accredited Investor Status.** The Investor is an “accredited investor” as that term is defined in Rule 501(a)(3) of Regulation D promulgated under the Securities Act.

(c) **Information.** The Investor understands that its investment in the Securities involves a high degree of risk. The Investor (i) is able to bear the economic risk of an investment in the Securities including a total loss thereof, (ii) has such knowledge and experience in financial and business matters that it is capable of evaluating the merits and risks of the proposed investment in the Securities and (iii) has had an opportunity to ask questions of and receive answers from the officers of the Company concerning the financial condition and business of the Company and others matters related to an investment in the Securities. Neither such inquiries nor any other due diligence investigations conducted by the Investor or its representatives shall modify, amend or affect the Investor’s right to rely on the Company’s representations and warranties contained in Section 4 below. The Investor has sought such accounting, legal and tax advice as it has considered necessary to make an informed investment decision with respect to its acquisition of the Securities.

(d) **No Governmental Review.** The Investor understands that no federal, state or any other government or governmental agency has passed on or made any recommendation or endorsement of the Securities or the fairness or suitability of an investment in the Securities nor have such authorities passed upon or endorsed the merits of the offering of the Securities and acknowledges that the Company has made no representation of the foregoing.

(e) **Validity; Enforcement.** This Agreement has been duly and validly authorized, executed and delivered on behalf of the Investor and is a valid and binding agreement of the Investor enforceable against the Investor in accordance with its terms, subject as to enforceability to general principles of equity and to applicable bankruptcy, insolvency, reorganization, moratorium, liquidation and other similar laws relating to, or affecting generally, the enforcement of applicable creditors’ rights and remedies.

(f) **Residency.** The Investor’s principal place of business is in the State of Illinois.

(g) **No Short Selling.** The Investor represents and warrants to the Company that at no time prior to the date of this Agreement has any of the Investor, its agents, representatives or affiliates engaged in or effected, in any manner whatsoever, directly or indirectly, any (i) “short sale” (as such term is defined in Rule 200 of Regulation SHO of the Exchange Act) of the Common Stock or (ii) hedging transaction, which establishes a net short position with respect to the Common Stock.

#### 4. REPRESENTATIONS AND WARRANTIES OF THE COMPANY.

The Company represents and warrants to the Investor that as of the Execution Date and as of the Commencement Date:

(a) **Organization and Qualification.** The Company and each of its Subsidiaries is an entity duly incorporated or otherwise organized, validly existing and in good standing under the laws of the jurisdiction of its incorporation or organization, with the requisite corporate power and authority to own and use its properties and assets and to carry on its business as currently conducted. Neither the Company nor any of its Subsidiaries is in violation or default of any of the provisions of its respective certificate or articles of incorporation, bylaws or other organizational or charter documents. Each of the Company and its Subsidiaries is duly qualified to conduct business and is in good standing as a foreign corporation or other entity in each jurisdiction in which the nature of the business conducted or property owned by it makes such qualification necessary, except where the failure to be so qualified or in good standing, as the case may be, could not have or reasonably be expected to result in a Material Adverse Effect and no proceeding has been instituted in any such jurisdiction revoking, limiting or curtailing or seeking to revoke, limit or curtail such power and authority or qualification.

(b) **Authorization; Enforcement; Validity.** (i) The Company has the requisite corporate power and authority to enter into and perform its obligations under this Agreement and each of the other Transaction Documents to which it is a party, and to issue the Securities in accordance with the terms hereof and thereof, (ii) the execution and delivery of the Transaction Documents by the Company to which it is a party and the consummation by it of the transactions contemplated hereby and thereby, including without limitation, the issuance of the Commitment Shares and the reservation for issuance and the issuance of the Purchase Shares issuable under this Agreement, have been duly authorized by the Company’s Board of Directors and no further consent or authorization is required by the Company, its Board of Directors or its shareholders, (iii) this Agreement has been, and each other Transaction Document shall be on the Commencement Date, duly executed and delivered by the Company and (iv) this Agreement constitutes, and each other Transaction Document upon its execution on behalf of the Company, shall constitute, the valid and binding obligations of the Company enforceable against the Company in accordance with their terms, except as such enforceability may be limited by general principles of equity or applicable bankruptcy, insolvency, reorganization, moratorium, liquidation or similar laws relating to, or affecting generally, the enforcement of creditors’ rights and remedies. The Board of Directors of the Company has passed all applicable resolutions (the “**Resolutions**”) to authorize this Agreement and the transactions contemplated hereby. The Resolutions are valid, in full force and effect and have not been modified or supplemented in any respect. The Company has delivered to the Investor a certified copy of the Resolutions passed by the Board of Directors of the Company. Except as set forth in this Agreement, no other approvals or consents of the Company’s Board of Directors, any authorized committee thereof, and/or shareholders is necessary under applicable laws, and the Certificate of Incorporation and Bylaws of the Company, to authorize the execution and delivery of this Agreement or any of the transactions contemplated hereby, including, but not limited to, the issuance of the Commitment Shares and the issuance of the Purchase Shares.

(c) Capitalization. As of the date hereof, the authorized capital stock of the Company is set forth in the Company's Quarterly Report on Form 10-Q filed on May 10, 2019 for the quarter ended March 31, 2019. Except as disclosed in the SEC Documents (as defined below) or on Schedule 4(c), (i) no shares of the Company's capital stock are subject to preemptive rights or any other similar rights or any liens or encumbrances suffered or permitted by the Company, (ii) there are no outstanding debt securities, (iii) there are no outstanding options, warrants, scrip, rights to subscribe to, calls or commitments of any character whatsoever relating to, or securities or rights convertible into, any shares of capital stock of the Company or any of its Subsidiaries, or contracts, commitments, understandings or arrangements by which the Company or any of its Subsidiaries is or may become bound to issue additional shares of capital stock of the Company or any of its Subsidiaries or options, warrants, scrip, rights to subscribe to, calls or commitments of any character whatsoever relating to, or securities or rights convertible into, any shares of capital stock of the Company or any of its Subsidiaries, (iv) there are no agreements or arrangements under which the Company or any of its Subsidiaries is obligated to register the sale of any of their securities under the Securities Act, (v) there are no outstanding securities or instruments of the Company or any of its Subsidiaries which contain any redemption or similar provisions, and there are no contracts, commitments, understandings or arrangements by which the Company or any of its Subsidiaries is or may become bound to redeem a security of the Company or any of its Subsidiaries, (vi) there are no securities or instruments containing anti-dilution or similar provisions that will be triggered by the issuance of the Securities as described in this Agreement and (vii) the Company does not have any stock appreciation rights or "phantom stock" plans or agreements or any similar plan or agreement. The Company has furnished to the Investor true and correct copies of (A) the Company's certificate of incorporation, as amended and as in effect on the date hereof (the "Certificate of Incorporation"), (B) the Company's Bylaws, as amended and as in effect on the date hereof (the "Bylaws"), and (C) summaries of the material terms of all securities convertible into or exercisable for Common Stock, if any, and copies of any documents containing the material rights of the holders thereof in respect thereto, which in the case of these clauses (A), (B) and (C), are not disclosed in any SEC Document or filed as an exhibit thereto.

(d) Issuance of Securities. Upon issuance and payment therefor in accordance with the terms and conditions of this Agreement, the Purchase Shares shall be validly issued, fully paid and nonassessable and free from all taxes, liens, charges, restrictions, rights of first refusal and preemptive rights with respect to the issue thereof, with the holders being entitled to all rights accorded to a holder of Common Stock. Upon issuance in accordance with the terms and conditions of this Agreement, the Commitment Shares shall be validly issued, fully paid and nonassessable and free from all taxes, liens, charges, restrictions, rights of first refusal and preemptive rights with respect to the issue thereof, with the holders being entitled to all rights accorded to a holder of Common Stock. 20,689,655 shares of Common Stock (the "Reserve Amount") have been duly authorized and reserved for issuance upon purchase under this Agreement as Purchase Shares.

(e) No Conflicts. The execution, delivery and performance of the Transaction Documents by the Company and the consummation by the Company of the transactions contemplated hereby and thereby (including, without limitation, the reservation for issuance and issuance of the Purchase Shares and the Commitment Shares) will not (i) result in a violation of the Certificate of Incorporation, any Certificate of Designations, Preferences and Rights of any outstanding series of preferred stock of the Company or the Bylaws or (ii) conflict with, or constitute a default (or an event which with notice or lapse of time or both would become a default) under, or give to others any rights of termination, amendment, acceleration or cancellation of, any agreement, indenture or instrument to which the Company or any of its Subsidiaries is a party, or result in a violation of any law, rule, regulation, order, judgment or decree (including federal and state securities laws and regulations and the rules and regulations of the Principal Market applicable to the Company or any of its Subsidiaries) or by which any property or asset of the Company or any of its Subsidiaries is bound or affected, except in the case of conflicts, defaults, terminations, amendments, accelerations, cancellations and violations under clause (ii), which could not reasonably be expected to result in a Material Adverse Effect. Neither the Company nor its Subsidiaries is in violation of any term of or in default under its Certificate of Incorporation, any Certificate of Designation, Preferences and Rights

of any outstanding series of preferred stock of the Company or Bylaws or their organizational charter or bylaws, respectively. Neither the Company nor any of its Subsidiaries is in violation of any term of or is in default under any material contract, agreement, mortgage, indebtedness, indenture, instrument, judgment, decree or order or any statute, rule or regulation applicable to the Company or its Subsidiaries, except for possible conflicts, defaults, terminations or amendments that could not reasonably be expected to have a Material Adverse Effect. The business of the Company and its Subsidiaries is not being conducted, and shall not be conducted, in violation of any law, ordinance or regulation of any governmental entity, except for possible violations, the sanctions for which either individually or in the aggregate could not reasonably be expected to have a Material Adverse Effect. Except as specifically contemplated by this Agreement and as required under the Securities Act or applicable state securities laws and the rules and regulations of the Principal Market, the Company is not required to obtain any consent, authorization or order of, or make any filing or registration with, any court or governmental agency or any regulatory or self-regulatory agency in order for it to execute, deliver or perform any of its obligations under or contemplated by the Transaction Documents in accordance with the terms hereof or thereof. Except as set forth elsewhere in this Agreement, all consents, authorizations, orders, filings and registrations which the Company is required to obtain pursuant to the preceding sentence shall be obtained or effected on or prior to the Commencement Date. Except as disclosed in the SEC Documents (as defined below), since one year prior to the date hereof, the Company has not received nor delivered any notices or correspondence from or to the Principal Market, other than notices with respect to listing of additional shares of Common Stock and other routine correspondence. Except as disclosed in the SEC Documents, the Principal Market has not commenced any delisting proceedings against the Company.

(f) SEC Documents; Financial Statements. The Company is, and has been during the 12-month period immediately preceding the date of this Agreement, required to file reports, schedules, forms, statements and other documents with the SEC pursuant to Section 13 or 15(d) of the Exchange Act. The Company has filed all reports, schedules, forms, statements and other documents required to be filed by the Company with the SEC under the Exchange Act, including pursuant to Section 13(a) or 15(d) thereof, and under the Securities Act, in each case during the 12-month period immediately preceding the date of this Agreement (the foregoing materials, including the exhibits thereto and documents incorporated by reference therein, together with each Prospectus, being collectively referred to herein as the “SEC Documents”) on a timely basis or has received a valid extension of such time of filing and has filed any such SEC Documents prior to the expiration of any such extension. As of their respective dates, the SEC Documents complied in all material respects with the requirements of the Securities Act and the Exchange Act, as applicable. None of the SEC Documents, when filed, contained any untrue statement of a material fact or omitted to state a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The financial statements of the Company included in the SEC Documents comply in all material respects with applicable accounting requirements and the rules and regulations of the SEC with respect thereto as in effect at the time of filing. Such financial statements have been prepared in accordance with United States generally accepted accounting principles applied on a consistent basis during the periods involved (“GAAP”), except as may be otherwise specified in such financial statements or the notes thereto and except that unaudited financial statements may not contain all footnotes required by GAAP, and fairly present in all material respects the financial position of the Company and its consolidated Subsidiaries as of and for the dates thereof and the results of operations and cash flows for the periods then ended, subject, in the case of unaudited statements, to normal, immaterial, year-end audit adjustments. Except as set forth in the SEC Documents, the Company has received no notices or correspondence from the SEC for the one year preceding the date hereof. The SEC has not commenced any enforcement proceedings against the Company or any of its Subsidiaries.

(g) Absence of Certain Changes. Except as disclosed in the SEC Documents, since December 31, 2018, there has been no material adverse change in the business, properties, operations, financial condition or results of operations of the Company or its Subsidiaries. The Company is not in violation or default of (i) any provision of the Certificate of Incorporation or Bylaws, (ii) the terms of any indenture, contract, lease, mortgage, deed of trust, note agreement, loan agreement or other agreement, obligation, condition, covenant or instrument to which it is a party or bound or to which its property is subject, or (iii) any statute, law, rule, regulation, judgment, order or decree of any court, regulatory body, administrative agency, governmental body, arbitrator or other authority having jurisdiction over the Company or any of its properties, which, in the case of clauses (ii) or (iii), could be reasonably expected to have a Material Adverse Effect. Except as described in the SEC Documents, no dispute between the Company and any third party exists or, to the knowledge of the Company, is threatened or imminent that could reasonably be expected to have a Material Adverse Effect. The Company has not taken any steps, and does not currently expect to take any steps, to seek protection pursuant to any Bankruptcy Law nor does the Company or any of its Subsidiaries have any knowledge or reason to believe that its creditors intend to initiate involuntary bankruptcy or insolvency proceedings. The Company is financially solvent and is generally able to pay its debts as they become due.

(h) Absence of Litigation. There is no action, suit, proceeding, inquiry or investigation before or by any court, public board, government agency, self-regulatory organization or body pending or, to the knowledge of the Company or any of its Subsidiaries, threatened against or affecting the Company, the Common Stock or any of the Company's or its Subsidiaries' officers or directors in their capacities as such, which could reasonably be expected to have a Material Adverse Effect.

(i) Acknowledgment Regarding Investor's Status. The Company acknowledges and agrees that the Investor is acting solely in the capacity of arm's length purchaser with respect to the Transaction Documents and the transactions contemplated hereby and thereby. The Company further acknowledges that the Investor is not acting as a financial advisor or fiduciary of the Company (or in any similar capacity) with respect to the Transaction Documents and the transactions contemplated hereby and thereby and any advice given by the Investor or any of its representatives or agents in connection with the Transaction Documents and the transactions contemplated hereby and thereby is merely incidental to the Investor's purchase of the Securities. The Company further represents to the Investor that the Company's decision to enter into the Transaction Documents has been based solely on the independent evaluation by the Company and its representatives and advisors.

(j) No Aggregated Offering. Neither the Company, nor any of its affiliates, nor any Person acting on its or their behalf has, directly or indirectly, made any offers or sales of any security or solicited any offers to buy any security, under circumstances that would cause this offering of the Securities to be integrated or aggregated with prior offerings by the Company in a manner that would require stockholder approval pursuant to the rules of the Principal Market on which any of the securities of the Company are listed or designated. The issuance and sale of the Securities hereunder does not contravene the rules and regulations of the Principal Market.

(k) Intellectual Property Rights. The Company and its Subsidiaries own or possess adequate rights or licenses to use all material trademarks, trade names, service marks, service mark registrations, service names, patents, patent rights, copyrights, inventions, licenses, approvals, governmental authorizations, trade secrets and rights necessary to conduct their respective businesses as now conducted. None of the Company's material trademarks, trade names, service marks, service mark registrations, service names, patents, patent rights, copyrights, inventions, licenses, approvals, government authorizations, trade secrets or other intellectual property rights have expired or terminated, or, by the terms and conditions thereof, could expire or terminate within two years from the date of this Agreement. The Company and its Subsidiaries do not have any knowledge of any infringement by the Company or its Subsidiaries of any trademark, trade name rights, patents, patent rights, copyrights, licenses, service names, service marks, service mark registrations, trade secret or other similar rights of others, or of any such development of similar or identical trade secrets or technical information by others, and there is no claim, action or

proceeding being made or brought against, or to the Company's knowledge, being threatened against, the Company or its Subsidiaries regarding trademark, trade name, patents, patent rights, invention, copyright, license, service names, service marks, service mark registrations, trade secret or other infringement, which could reasonably be expected to have a Material Adverse Effect.

(l) Environmental Laws. The Company and its Subsidiaries (i) are in compliance with any and all applicable foreign, federal, state and local laws and regulations relating to the protection of human health and safety, the environment or hazardous or toxic substances or wastes, pollutants or contaminants ("Environmental Laws"), (ii) have received all permits, licenses or other approvals required of them under applicable Environmental Laws to conduct their respective businesses and (iii) are in compliance with all terms and conditions of any such permit, license or approval, except where, in each of the three foregoing clauses, the failure to so comply could not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect.

(m) Title. The Company and its Subsidiaries have good and marketable title in fee simple to all real property owned by them and good and marketable title in all personal property owned by them that is material to the business of the Company and its Subsidiaries, in each case free and clear of all liens, encumbrances and defects ("Liens") and, except for Liens as do not materially affect the value of such property and do not materially interfere with the use made and proposed to be made of such property by the Company and its Subsidiaries and Liens for the payment of federal, state or other taxes, the payment of which is neither delinquent nor subject to penalties. Any real property and facilities held under lease by the Company and its Subsidiaries are held by them under valid, subsisting and enforceable leases with which the Company and its Subsidiaries are in compliance with such exceptions as are not material and do not interfere with the use made and proposed to be made of such property and buildings by the Company and its Subsidiaries.

(n) Insurance. The Company and each of its Subsidiaries are insured by insurers of recognized financial responsibility against such losses and risks and in such amounts as management of the Company believes to be prudent and customary in the businesses in which the Company and its Subsidiaries are engaged except to the extent that it would not be reasonably expect to have a Material Adverse Effect.. Neither the Company nor any such Subsidiary has been refused any insurance coverage sought or applied for and neither the Company nor any such Subsidiary has any reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage from similar insurers as may be necessary to continue its business at a cost that would not materially and adversely affect the condition, financial or otherwise, or the earnings, business or operations of the Company and its Subsidiaries, taken as a whole.

(o) Regulatory Permits. The Company and its Subsidiaries possess all material certificates, authorizations and permits issued by the appropriate federal, state, local or foreign regulatory authorities necessary to conduct their respective businesses, and neither the Company nor any such Subsidiary has received any notice of proceedings relating to the revocation or modification of any such certificate, authorization or permit.

(p) Tax Status. The Company and each of its Subsidiaries has made or filed all federal and state income and all other material tax returns, reports and declarations required by any jurisdiction to which it is subject (unless and only to the extent that the Company and each of its Subsidiaries has set aside on its books provisions reasonably adequate for the payment of all unpaid and unreported taxes) and has paid all taxes and other governmental assessments and charges that are material in amount, shown or determined to be due on such returns, reports and declarations, except those being contested in good faith and has set aside on its books provision reasonably adequate for the payment of all taxes for periods subsequent to the periods to which such returns, reports or declarations apply. There are no unpaid taxes in any material amount claimed to be due by the taxing authority of any jurisdiction, and the officers of the Company know of no basis for any such claim.

(q) Transactions With Affiliates. Except as set forth in the SEC Documents, none of the officers or directors of the Company and, to the knowledge of the Company, none of the employees of the Company is presently a party to any transaction with the Company or any Subsidiary (other than for services as employees, officers and directors) that is required to be disclosed and is not disclosed, including any contract, agreement or other arrangement providing for the furnishing of services to or by, providing for rental of real or personal property to or from, or otherwise requiring payments to or from any officer, director or such employee or, to the knowledge of the Company, any entity in which any officer, director, or any such employee has a substantial interest or is an officer, director, trustee or partner, in each case in excess of \$120,000 other than for (i) payment of salary or consulting fees for services rendered, (ii) reimbursement for expenses incurred on behalf of the Company and (iii) other employee benefits, including stock option agreements under any stock option plan of the Company.

(r) Application of Takeover Protections. The Company and its board of directors have taken or will take prior to the Commencement Date all necessary action, if any, in order to render inapplicable any control share acquisition, business combination, poison pill (including any distribution under a rights agreement) or other similar anti-takeover provision under the Certificate of Incorporation, the laws of the state of its incorporation or otherwise which is or could become applicable to the Investor as a result of the transactions contemplated by this Agreement, including, without limitation, the Company's issuance of the Securities and the Investor's ownership of the Securities.

(s) Disclosure. Except with respect to the material terms and conditions of the transactions contemplated by the Transaction Documents that will be timely publicly disclosed by the Company, the Company confirms that neither it nor any other Person acting on its behalf has provided the Investor or its agents or counsel with any information that it believes constitutes or might constitute material, non-public information which is not otherwise disclosed in the Registration Statement or the SEC Documents. The Company understands and confirms that the Investor will rely on the foregoing representation in effecting purchases and sales of securities of the Company. All of the disclosure furnished by or on behalf of the Company to the Investor regarding the Company, its business and the transactions contemplated hereby, including the disclosure schedules to this Agreement, is true and correct and does not contain any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements made therein, in light of the circumstances under which they were made, not misleading. The press releases disseminated by the Company during the twelve (12) months preceding the date of this Agreement taken as a whole do not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made and when made, not misleading. The Company acknowledges and agrees that the Investor neither makes nor has made any representations or warranties with respect to the transactions contemplated hereby other than those specifically set forth in Section 3 hereof.

(t) Foreign Corrupt Practices; Money Laundering Laws; Sanctions. Neither the Company nor any of the Subsidiaries nor, to the knowledge of the Company, any director, officer, agent, employee or affiliate of the Company or any of the Subsidiaries is aware of or has taken any action, directly or indirectly, that would result in a violation by such persons of the Foreign Corrupt Practices Act of 1977, as amended, and the rules and regulations thereunder (the "FCPA"), including, without limitation, making use of the mails or any means or instrumentality of interstate commerce corruptly in furtherance of an offer, payment, promise to pay or authorization of the payment of any money, or other property, gift, promise to give, or authorization of the giving of anything of value to any "foreign official" (as such term is defined in the FCPA) or any foreign political party or official thereof or any candidate for foreign political office, in contravention of the FCPA; and the Company, the Subsidiaries and, to the knowledge of the Company, its



affiliates have conducted their businesses in compliance with the FCPA and have instituted and maintain policies and procedures designed to ensure, and which are reasonably expected to continue to ensure, continued compliance therewith. The operations of the Company and the Subsidiaries are and have been conducted at all times in compliance with applicable financial recordkeeping and reporting requirements and the money laundering statutes and the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any applicable governmental agency, including, without limitation, Title 18 U.S. Code section 1956 and 1957, the Patriot Act, the Bank Secrecy Act, and international anti-money laundering principles or procedures by an intergovernmental group or organization, such as the Financial Action Task Force on Money Laundering, of which the United States is a member and with which designation the United States representative to the group or organization continues to concur, all as amended, and any Executive order, directive or regulation pursuant to the authority of any of the foregoing, or any orders or licenses issued thereunder (collectively, the “Money Laundering Laws”), and no action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company or any of its Subsidiaries with respect to the Money Laundering Laws is pending or, to the best knowledge of the Company, threatened. Neither the Company nor any of its Subsidiaries, nor to the knowledge of the Company any of the directors, officers or employees, agents, affiliates or representatives of the Company or its Subsidiaries, is an individual or entity that is, or is owned or controlled by an individual or entity that is: (i) the subject of any sanctions administered or enforced by the U.S. Department of Treasury’s Office of Foreign Assets Control, the United Nations Security Council, the European Union, Her Majesty’s Treasury, or other relevant sanctions authority (collectively, “Sanctions”), nor (ii) located, organized or resident in a country or territory that is the subject of Sanctions (including, without limitation, Burma/Myanmar, Cuba, Iran, Libya, North Korea, Venezuela, Sudan and Syria). Neither the Company nor any of its Subsidiaries will, directly or indirectly, use the proceeds of the offering, or lend, contribute or otherwise make available such proceeds to any Subsidiary, joint venture partner or other individual or entity: (i) to fund or facilitate any activities or business of or with any individual or entity or in any country or territory that, at the time of such funding or facilitation, is the subject of Sanctions or (ii) in any other manner that will result in a violation of Sanctions by any individual or entity (including any individual or entity participating in the offering, whether as underwriter, advisor, investor or otherwise). For the past five years, neither the Company nor any of its Subsidiaries has knowingly engaged in, and is not now knowingly engaged in, any dealings or transactions with any individual or entity, or in any country or territory, that at the time of the dealing or transaction is or was the subject of Sanctions.

(u) Registration Statement. The Company has prepared and filed the Registration Statement with the SEC in accordance with the Securities Act. The Registration Statement was declared effective by order of the SEC on October 24, 2018. The Registration Statement is effective pursuant to the Securities Act and available for the issuance of the Securities thereunder. No stop order suspending the effectiveness of the Registration Statement has been issued by the U.S. Securities and Exchange Commission (the “Commission”), and no proceeding for that purpose or pursuant to Section 8A of the Securities Act against the Company or related to the offering of the Securities has been initiated or, to the knowledge of the Company, threatened by the Commission. The “Plan of Distribution” section of the Prospectus permits the issuance of the Securities under the terms of this Agreement. At the time the Registration Statement and any amendments thereto became effective, at the date of this Agreement and at each deemed effective date thereof pursuant to Rule 430B(f)(2) of the Securities Act, the Registration Statement and any amendments thereto complied and will comply in all material respects with the requirements of the Securities Act and did not and will not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading; and the Base Prospectus and any Prospectus Supplement thereto, at the time such Base Prospectus or such Prospectus Supplement thereto was issued and on the Commencement Date, complied and will comply in all material respects with the requirements of the Securities Act and did not and 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 light of the

circumstances under which they were made, not misleading; provided that this representation and warranty does not apply to statements in or omissions from any Prospectus Supplement made in reliance upon and in conformity with information relating to the Investor furnished to the Company in writing by or on behalf of the Investor expressly for use therein. The Company meets all of the requirements for the use of a registration statement on Form S-3 pursuant to the Securities Act for the offering and sale of the Securities contemplated by this Agreement in reliance on General Instruction I.B.1. or General Instruction I.B.6. of Form S-3, and the SEC has not notified the Company of any objection to the use of the form of the Registration Statement pursuant to Rule 401(g)(1) of the Securities Act. The Company hereby confirms that the issuance of the Securities to the Investor pursuant to this Agreement would not result in non-compliance with the Securities Act or any of the General Instructions to Form S-3. The Registration Statement, as of its effective date, meets the requirements set forth in Rule 415(a)(1)(x) pursuant to the Securities Act. At the earliest time after the filing of the Registration Statement that the Company or another offering participant made a bona fide offer (within the meaning of Rule 164(h)(2) of the Securities Act) relating to any of the Securities, the Company was, and as of the date of this Agreement the Company is, not an Ineligible Issuer (as defined in Rule 405 of the Securities Act). The Company has not distributed any offering material in connection with the offering and sale of any of the Securities, other than the Registration Statement or any amendment thereto, the Prospectus or any Prospectus Supplement required pursuant to applicable law or the Transaction Documents. The Company has not made and shall not make an offer relating to the Securities that would constitute a “free writing prospectus” as defined in Rule 405 under the Securities Act.

(v) DTC Eligibility. The Company, through the Transfer Agent, currently participates in the DTC Fast Automated Securities Transfer (FAST) Program and the Common Stock can be transferred electronically to third parties via the DTC Fast Automated Securities Transfer (FAST) Program.

(w) Accounting Controls; Sarbanes-Oxley. The Company maintains a system of internal accounting controls sufficient to provide reasonable assurances that (A) transactions are executed in accordance with management’s general or specific authorization; (B) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain accountability for assets; (C) access to assets is permitted only in accordance with management’s general or specific authorization; and (D) the recorded accountability for assets is compared with existing assets at reasonable intervals and appropriate action is taken with respect to any differences. Except as disclosed in the SEC Documents, the Company has concluded that its internal control over financial reporting is effective and none of the Company, its board of directors and audit committee is aware of any “significant deficiencies” or “material weaknesses” (each as defined by the rules adopted by the SEC) in its internal control over financial reporting, or any fraud, whether or not material, that involves management or other employees of the Company and its Subsidiaries who have a significant role in the Company’s internal controls; and since the end of the latest audited fiscal year, there has been no change in the Company’s internal control over financial reporting (whether or not remediated) that has materially affected, or is reasonably likely to materially affect, the Company’s internal control over financial reporting. The Company’s board of directors has, subject to the exceptions, cure periods and the phase in periods specified in the applicable stock exchange rules of the Principal Market (“Exchange Rules”), validly appointed an audit committee to oversee internal accounting controls whose composition satisfies the applicable independence and other requirements of the Exchange Rules and the rules under the Exchange Act, and the Company’s board of directors and/or the audit committee has adopted a charter that satisfies the requirements of the Exchange Rules and the rules under the Exchange Act. Neither the Company’s board of directors nor the audit committee has been informed, nor is any director of the Company or the Company aware, of (A) any significant deficiencies in the design or operation of the Company’s internal controls which could adversely affect the Company’s ability to record, process, summarize and report financial data or any material weakness in the Company’s internal controls; or (B) any fraud, whether or not material, that involves management or

other employees of the Company who have a significant role in the Company's internal controls. No relationship, direct or indirect, exists between or among the Company, on the one hand, and the directors, officers, shareholders, customers or suppliers of the Company, on the other hand, which is required to be described in the Registration Statement and the Prospectuses which is not so described. The Company has not, directly or indirectly, extended or maintained credit, or arranged for the extension of credit, or renewed an extension of credit, in the form of a personal loan to or for any of its directors or executive officers in violation of applicable laws, including Section 402 of the Sarbanes-Oxley Act of 2002 and the rules and regulations promulgated in connection therewith (the "Sarbanes-Oxley Act").

(x) Certain Fees. Except as disclosed on Schedule 4(x), no brokerage or finder's fees or commissions are or will be payable by the Company to any broker, financial advisor or consultant, finder, placement agent, investment banker, bank or other Person with respect to the transactions contemplated by the Transaction Documents. Except as disclosed on Schedule 4(x), the Investor shall have no obligation with respect to any fees or with respect to any claims made by or on behalf of other Persons for fees of a type contemplated in this Section 4(x) that may be due in connection with the transactions contemplated by the Transaction Documents.

(y) Investment Company. The Company is not, and immediately after giving effect to the sale of the Purchase Shares in accordance with this Agreement and the application of the proceeds as described in the Prospectus under the caption "Use of Proceeds," will not be required to be registered as an "investment company" within the meaning of the Investment Company Act of 1940, as amended (the "Investment Company Act").

(z) Listing and Maintenance Requirements. The Common Stock is registered pursuant to Section 12(b) of the Exchange Act, and the Company has taken no action designed to, or which to its knowledge is likely to have the effect of, terminating the registration of the Common Stock pursuant to the Exchange Act nor has the Company received any notification that the SEC is currently contemplating terminating such registration. Except as disclosed in the SEC Documents, the Company has not, in the twelve (12) months preceding the date hereof, received any notice from any Person to the effect that the Company is not in compliance with the listing or maintenance requirements of the Principal Market. Except as disclosed in the SEC Documents, the Company is, and has no reason to believe that it will not in the foreseeable future continue to be, in compliance with all such listing and maintenance requirements.

(aa) Accountants. The Company's accountants are set forth in the SEC Documents and, to the knowledge of the Company, such accountants are an independent registered public accounting firm as required by the Securities Act.

(bb) No Market Manipulation. The Company has not, and to its knowledge no Person acting on its behalf has, (i) taken, directly or indirectly, any action designed to cause or to result in the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of any of the Securities, (ii) sold, bid for, purchased, or, paid any compensation for soliciting purchases of, any of the Securities, or (iii) paid or agreed to pay to any Person any compensation for soliciting another to purchase any other securities of the Company.

(cc) Benefit Plans; Labor Matters. Each benefit and compensation plan, agreement, policy and arrangement that is maintained, administered or contributed to by the Company for current or former employees or directors of, or independent contractors with respect to, the Company has been maintained in compliance with its terms and the requirements of any applicable statutes, orders, rules and regulations and the Company has complied in all material respects with all applicable statutes, orders, rules and regulations in regard to such plans, agreements, policies and arrangements. Each stock option granted under any stock option plan of the Company (each, a "Stock Plan") was granted with a per share exercise price no less than

the market price per common share on the grant date of such option in accordance with the rules of the Principal Market, and no such grant involved any “back-dating,” “forward-dating” or similar practice with respect to the effective date of such grant; each such option (i) was granted in compliance in all material respects with applicable laws and with the applicable Stock Plan(s), (ii) was duly approved by the Board of Directors (or a duly authorized committee thereof) of the Company, and (iii) has been properly accounted for in the Company’s financial statements and disclosed, to the extent required, in the Company’s filings or submissions with the SEC, and the Principal Market. No labor problem or dispute with the employees of the Company exists or is threatened or imminent, and the Company is not aware of any existing or imminent labor disturbance by the employees of any of its principal suppliers or contractors, that could have a Material Adverse Effect.

(dd) Regulatory. Except as described in the SEC Documents, the Company and each of its Subsidiaries: (A) is and at all times has been in material compliance with all applicable U.S. and foreign statutes, rules, regulations, or guidance applicable to Company and its Subsidiaries (“Applicable Laws”), except as could not, individually or in the aggregate, reasonably be expected to result in a Material Adverse Effect; (B) have not received any notice of adverse finding, warning letter, untitled letter or other correspondence or notice from any federal, state, or foreign governmental authority having authority over the Company (“Governmental Authority”) alleging or asserting noncompliance with any Applicable Laws or any licenses, certificates, approvals, clearances, authorizations, permits and supplements or amendments thereto required by any such Applicable Laws (“Authorizations”); (C) possess all material Authorizations and such material Authorizations are valid and in full force and effect and are not in violation of any term of any such material Authorizations; (D) have not received notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from any Governmental Authority or third party alleging that any product operation or activity is in violation of any Applicable Laws or Authorizations and have no knowledge that any such Governmental Authority or third party is considering any such claim, litigation, arbitration, action, suit, investigation or proceeding; (E) have 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 the Company has no knowledge that any such Governmental Authority is considering such action; and (F) have filed, obtained, maintained or submitted all material reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Applicable Laws or material Authorizations and that all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were complete and correct in all material respects on the date filed (or were corrected or supplemented by a subsequent submission). To the Company’s knowledge, all studies, tests and preclinical and clinical trials conducted by or on behalf of the Company were and, if still pending, are, in all material respects, being conducted in accordance with experimental protocols, procedures and controls pursuant to accepted professional scientific standards and all applicable laws, including, without limitation, the United States Federal Food, Drug and Cosmetic Act; the descriptions of the results of such studies, tests and trials contained in the SEC Documents are accurate and complete in all material respects and fairly present the data derived from such studies, tests and trials; the descriptions in the SEC Documents of the results of such clinical trials are consistent in all material respects with such results and to the Company’s knowledge there are no other studies or other clinical trials whose results are materially inconsistent with or otherwise materially call into question the results described or referred to in the SEC Documents; and the Company has not received any notices or correspondence from any Governmental Authority requiring the termination, suspension or material modification of any studies, tests or preclinical or clinical trials conducted by or on behalf of the Company or its Subsidiaries. The Company has concluded that it uses commercially reasonable efforts to review, from time to time, the progress and results of the studies, tests and preclinical and clinical trials and, based upon (i) the information provided to the Company by the third parties conducting such studies, tests, preclinical studies and clinical trials that are described in the SEC Documents and the Company’s review of such information, and (ii) the Company’s actual knowledge, the Company reasonably believes that the descriptions of the results of such studies, tests, preclinical studies and clinical trials are accurate and complete in all material respects.

(ee) Absence of Schedules. In the event that at Closing, the Company does not deliver any disclosure schedule contemplated by this Agreement, the Company hereby acknowledges and agrees that each such undelivered disclosure schedule shall be deemed to read as follows: “Nothing to Disclose”.

## 5. COVENANTS.

(a) Filing of Current Report and Initial Prospectus Supplement. The Company agrees that it shall, within the time required under the Exchange Act, file with the SEC a Current Report on Form 8-K relating to the transactions contemplated by, and describing the material terms and conditions of, the Transaction Documents (the “Current Report”). The Company further agrees that it shall, within the time required under Rule 424(b) under the Securities Act, file with the SEC the Initial Prospectus Supplement pursuant to Rule 424(b) under the Securities Act specifically relating to the transactions contemplated by, and describing the material terms and conditions of, the Transaction Documents, containing information previously omitted at the time of effectiveness of the Registration Statement in reliance on Rule 430B under the Securities Act, and disclosing all information relating to the transactions contemplated hereby required to be disclosed in the Registration Statement and the Prospectus as of the date of the Initial Prospectus Supplement, including, without limitation, information required to be disclosed in the section captioned “Plan of Distribution” in the Prospectus. The Investor acknowledges that it will be identified in the Initial Prospectus Supplement as an underwriter within the meaning of Section 2(a)(11) of the Securities Act. The Company shall permit the Investor to review and comment upon the Current Report and the Initial Prospectus Supplement at least two (2) Business Days prior to their filing with the SEC, the Company shall give due consideration to all such comments. The Investor shall use provide any comments upon the Current Report and the Initial Prospectus Supplement within one (1) Business Day from the date the Investor receives the final pre-filing draft version thereof from the Company. The Investor shall furnish to the Company such information regarding itself, the Securities held by it and the intended method of distribution thereof, including any arrangement between the Investor and any other Person relating to the sale or distribution of the Securities, as shall be reasonably requested by the Company in connection with the preparation and filing of the Current Report and the Initial Prospectus Supplement, and shall otherwise cooperate with the Company as reasonably requested by the Company in connection with the preparation and filing of the Current Report and the Initial Prospectus Supplement with the SEC.

(b) Blue Sky. The Company shall take all such action, if any, as is reasonably necessary in order to obtain an exemption for or to qualify (i) the issuance of the Commitment Shares and the sale of the Purchase Shares to the Investor under this Agreement and (ii) any subsequent resale of all Commitment Shares and all Purchase Shares by the Investor, in each case, under applicable securities or “Blue Sky” laws of the states of the United States in such states as is reasonably requested by the Investor during the Registration Period, and shall provide evidence of any such action so taken to the Investor.

(c) Listing/DTC. The Company shall promptly secure the listing of all of the Purchase Shares and Commitment Shares to be issued to the Investor hereunder on the Principal Market (subject to official notice of issuance) and upon each other national securities exchange or automated quotation system, if any, upon which the Common Stock is then listed, and shall maintain, so long as any shares of Common Stock shall be so listed, such listing of all such Securities from time to time issuable hereunder. The Company shall use reasonable best efforts to maintain the listing of the Common Stock on the Principal Market and shall comply in all respects with the Company’s reporting, filing and other obligations under the bylaws or rules and regulations of the Principal Market. Neither the Company nor any of its Subsidiaries shall take any action that would reasonably be expected to result in the delisting or suspension of the Common Stock on the Principal Market. The Company shall promptly, and in no event later than the following Business Day, provide to the Investor copies of any notices it receives from any Person regarding the continued

eligibility of the Common Stock for listing on the Principal Market; provided, however, that the Company shall not be required to provide the Investor copies of any such notice that the Company reasonably believes constitutes material non-public information and the Company would not be required to publicly disclose such notice in any report or statement filed with the SEC and under the Exchange Act or the Securities Act. The Company shall pay all fees and expenses in connection with satisfying its obligations under this Section 5(c). The Company shall take all action necessary to ensure that its Common Stock can be transferred electronically as DWAC Shares.

(d) Prohibition of Short Sales and Hedging Transactions. The Investor agrees that, beginning on the date of this Agreement and ending on the date of termination of this Agreement as provided in Section 11, the Investor and its agents, representatives and affiliates shall not in any manner whatsoever enter into or effect, directly or indirectly, any (i) "short sale" (as such term is defined in Rule 200 of Regulation SHO of the Exchange Act) of the Common Stock or (ii) hedging transaction, which establishes a net short position with respect to the Common Stock.

(e) Issuance of Commitment Shares. In consideration for the Investor's execution and delivery of this Agreement, the Company shall cause to be issued to the Investor a total of 413,349 shares of Common Stock (the "Commitment Shares") immediately upon the execution of this Agreement and shall deliver on the Execution Date the Irrevocable Transfer Agent Instructions to the Transfer Agent and cause the Commitment Shares to be issued to the Investor, immediately upon the execution of this Agreement, at which time, for the avoidance of doubt, all of the Commitment Shares shall be fully earned, whether or not any other Purchase Shares are purchased by the Investor under this Agreement and irrespective of any subsequent termination of this Agreement.

(f) Due Diligence; Non-Public Information. During the term of this Agreement, the Investor shall have the right, from time to time as the Investor may reasonably deem appropriate, to perform reasonable due diligence on the Company during normal business hours. The Company and its officers and employees shall provide information and reasonably cooperate with the Investor in connection with any reasonable request by the Investor related to the Investor's due diligence of the Company. Each party hereto agrees not to disclose any Confidential Information of the other party to any third party and shall not use the Confidential Information for any purpose other than in connection with, or in furtherance of, the transactions contemplated hereby. Each party hereto acknowledges that the Confidential Information shall remain the property of the disclosing party and agrees that it shall take all reasonable measures to protect the secrecy of any Confidential Information disclosed by the other party. From and after the date of this Agreement, the Company confirms that neither it nor any other Person acting on its behalf shall provide the Investor or its agents or counsel with any information that the Company believes constitutes material, non-public information, unless a simultaneous public announcement thereof is made by the Company in the manner contemplated by Regulation FD under the Exchange Act. In the event of a breach of the foregoing covenant by the Company or any Person acting on its behalf (as determined in the reasonable good faith judgment of the Investor), in addition to any other remedy provided herein or in the other Transaction Documents, the Investor shall have the right to make a public disclosure, in the form of a press release, public advertisement or otherwise, of such material, non-public information without the prior approval by the Company; provided the Investor shall have first provided notice to the Company that it believes it has received information that constitutes material, non-public information, the Company shall have at least 24 hours to publicly disclose such material, non-public information prior to any such disclosure by the Investor, and the Company shall have failed to publicly disclose such material, non-public information within such time period. The Investor shall not have any liability to the Company, any of its Subsidiaries, or any of their respective directors, officers, employees, shareholders or agents, for any such disclosure. The Company understands and confirms that the Investor shall be relying on the foregoing covenants in effecting transactions in securities of the Company.

(g) Purchase Records. The Investor and the Company shall each maintain records showing the remaining Available Amount at any given time and the dates and Purchase Amounts for each Regular Purchase, Accelerated Purchase and Additional Accelerated Purchase or shall use such other method, reasonably satisfactory to the Investor and the Company.

(h) Taxes. The Company shall pay any and all transfer, stamp or similar taxes that may be payable with respect to the issuance and delivery of any Common Stock to the Investor made under this Agreement.

(i) Effective Registration Statement; Current Prospectuses. Without limiting Section 10 of the Registration Rights Agreement, the Company shall use its reasonable best efforts to keep the Registration Statement effective pursuant to Rule 415 promulgated under the Securities Act, and to keep the Registration Statement and the Prospectus current and available for issuances and sales of all of the Securities by the Company to the Investor, at all times until the earlier of (i) the date on which the Investor shall have sold all the Securities and no Available Amount remains under this Agreement and (ii) 180 days following the earlier of (A) the Maturity Date and (B) the date of termination of this Agreement (the "Registration Period"). The Company shall comply with all applicable federal, state and foreign securities laws in connection with the offer, issuance and sale of the Securities contemplated by the Transaction Documents. Without limiting the generality of the foregoing, neither the Company nor any of its officers, directors or affiliates will take, directly or indirectly, any action designed or intended to stabilize or manipulate the price of any security of the Company, or which would reasonably be expected to cause or result in, stabilization or manipulation of the price of any security of the Company.

(j) Compliance with Laws. The Company and each of its Subsidiaries shall maintain, or cause to be maintained, all material permits, licenses and other authorizations required by federal, state and local law in order to conduct their businesses substantially as described in the SEC Documents, and the Company and each of its Subsidiaries shall conduct their businesses, or cause their businesses to be conducted, in substantial compliance with such permits, licenses and authorizations and with applicable laws, except where the failure to maintain or be in compliance with such permits, licenses and authorizations could not reasonably be expected to have a Material Adverse Effect. The Company shall comply with all requirements imposed upon it by the Securities Act and the Exchange Act and applicable U.S. state securities or "Blue Sky" laws as from time to time may be in force in connection with the offer, issuance and sale of the Securities contemplated by the Transaction Documents. Without limiting the generality of the foregoing, neither the Company nor any of its officers, directors or affiliates will take, directly or indirectly, any action designed or intended to stabilize or manipulate the price of any security of the Company, or which would reasonably be expected to cause or result in, stabilization or manipulation of the price of any security of the Company. The Company will conduct its affairs in such a manner so as to reasonably ensure that neither it nor the Subsidiaries will be or become, at any time prior to the termination of this Agreement, an "investment company," as such term is defined in the Investment Company Act, assuming no change in the SEC's current interpretation as to entities that are not considered an investment company. The Company and the Subsidiaries will use their best efforts to comply with all effective applicable provisions of the Sarbanes-Oxley Act and The Dodd-Frank Wall Street Reform and Consumer Protection Act.

(k) Use of Proceeds. The Company will use the net proceeds from the offering contemplated hereby in all material respects as described in the Prospectuses in the section entitled "Use of Proceeds."

(l) Aggregation. From and after the date of this Agreement, neither the Company, nor or any of its affiliates will, and the Company shall use its reasonable best efforts to ensure that no Person acting on their behalf will, directly or indirectly, make any offers or sales of any security or solicit any offers to buy any security, under circumstances that would cause this offering of the Securities by the Company to the Investor to be aggregated with other offerings by the Company in a manner that would require stockholder approval pursuant to the rules of the Principal Market on which any of the securities of the Company are listed or designated, unless stockholder approval is obtained before the closing of such subsequent transaction in accordance with the rules of such Principal Market.

(m) Other Transactions. During the term of this Agreement, the Company shall not enter into, announce or recommend to its shareholders any agreement, plan, arrangement or transaction in or of which the terms thereof would restrict, materially delay, conflict with or impair the ability or right of the Company to perform its obligations under the Transaction Documents, including, without limitation, the obligation of the Company to deliver the Purchase Shares and the Commitment Shares to the Investor in accordance with the terms of the Transaction Documents.

(n) Limitation on Variable Rate Transactions. From and after the date of this Agreement until the Maturity Date, the Company and its Subsidiaries shall be prohibited from effecting or entering into an agreement to effect any issuance by the Company or any of its Subsidiaries of Common Stock or Common Stock Equivalents (or a combination of units thereof) involving a Variable Rate Transaction, other than in connection with an Exempt Issuance (as defined below). The Investor shall be entitled to seek injunctive relief against the Company and its Subsidiaries to preclude any such issuance, which remedy shall be in addition to any right to collect damages, without the necessity of showing economic loss and without any bond or other security being required. “Variable Rate Transaction” means a transaction in which the Company (i) issues or sells any equity or debt securities that are convertible into, exchangeable or exercisable for, or include the right to receive additional shares of Common Stock or Common Stock Equivalents either (A) at a conversion price, exercise price, exchange rate or other price that is based upon and/or varies with the trading prices of or quotations for the Common Stock at any time after the initial issuance of such equity or debt securities (including, without limitation, pursuant to any “cashless exercise” provision), or (B) with a conversion, exercise or exchange price that is subject to being reset at some future date after the initial issuance of such equity or debt security or upon the occurrence of specified or contingent events directly or indirectly related to the business of the Company or the market for the Common Stock (including, without limitation, any “full ratchet” or “weighted average” anti-dilution provisions, but not including any standard anti-dilution protection for any reorganization, recapitalization, non-cash dividend, stock split or other similar transaction), (ii) issues or sells any equity or debt securities, including without limitation, Common Stock or Common Stock Equivalents, either (A) at a price that is subject to being reset at some future date after the initial issuance of such debt or equity security or upon the occurrence of specified or contingent events directly or indirectly related to the business of the Company or the market for the Common Stock (other than standard anti-dilution protection for any reorganization, recapitalization, non-cash dividend, stock split or other similar transaction), or (B) that is subject to or contains any put, call, redemption, buy-back, price-reset or other similar provision or mechanism (including, without limitation, a “Black-Scholes” put or call right) that provides for the issuance of additional equity securities of the Company or the payment of cash by the Company, or (iii) enters into any agreement, including, but not limited to, an “equity line of credit”, “at-the-market offering” that is not an Exempt Issuance or other continuous offering or similar offering of Common Stock or Common Stock Equivalents, whereby the Company may sell Common Stock or Common Stock Equivalents at a future determined price. “Exempt Issuance” means the issuance of (a) Common Stock, options or other equity incentive awards to employees, officers, directors or vendors of the Company pursuant to any equity incentive plan duly adopted for such purpose, by the Board of Directors or a majority of the members of a committee of directors established for such purpose, (b) any Securities issued to the Investor pursuant to this Agreement, (c) shares of Common Stock, Common Stock Equivalents or other securities issued to the Investor pursuant to any other existing or future contract, agreement or arrangement between the Company and the Investor, (d) shares of Common Stock, Common Stock Equivalents or other securities upon the exercise, exchange-or conversion of any shares of Common Stock, Common Stock Equivalents or other securities held by the Investor at any time, (e) any securities issued upon the exercise or exchange of or conversion of any Common Stock Equivalents issued and outstanding on the date of this Agreement,



provided that such securities or Common Stock Equivalents referred to in this clause (e) have not been amended since the date of this Agreement to increase the number of such securities or Common Stock underlying such securities or to decrease the exercise price, exchange price or conversion price of such securities, (f) Common Stock Equivalents that are convertible into, exchangeable or exercisable for, or include the right to receive shares of Common Stock at a conversion price, exercise price, exchange rate or other price (which may be below the then current market price of the Common Stock) that is fixed at the time of initial issuance of such Common Stock Equivalents (subject only to standard anti-dilution protection for any reorganization, recapitalization, non-cash dividend, stock split or other similar transaction), which fixed conversion price, exercise price, exchange rate or other price shall not at any time after the initial issuance of such Common Stock Equivalent be based upon or varying with the trading prices of or quotations for the Common Stock or subject to being reset at some future date, (g) securities issued pursuant to acquisitions, divestitures, licenses, partnerships, collaborations or strategic transactions approved by the Board of Directors or a majority of the members of a committee of directors established for such purpose, which acquisitions, divestitures, licenses, partnerships, collaborations or strategic transactions can have a Variable Rate Transaction component, provided that any such issuance shall only be to a Person (or to the equity holders of a Person) which is, itself or through its subsidiaries, an operating company or an asset in a business synergistic with the business of the Company and shall provide to the Company additional benefits in addition to the investment of funds, but shall not include a transaction in which the Company is issuing securities primarily for the purpose of raising capital or to an entity whose primary business is investing in securities, (h) Common Stock issued pursuant to an "at-the-market offering" by the Company exclusively through a registered broker-dealer acting as agent of the Company pursuant to a written agreement between the Company and such registered broker-dealer or (i) securities (such as warrants) or Common Stock issued in connection with future financings or offerings of the Company, such as but not limited to, registered direct offerings, rights offerings, and confidentially marketed public offerings; provided such transactions do not involve a Variable Rate Transaction.

## **6. TRANSFER AGENT INSTRUCTIONS.**

(a) On the date of this Agreement, the Company shall issue to the Transfer Agent irrevocable instructions, in the form substantially similar to those used by the Investor in substantially similar transactions and in any case agreed to by the Investor, to issue the Securities in accordance with the terms of this Agreement (the "Irrevocable Transfer Agent Instructions"). The Company warrants to the Investor that no instruction other than as set forth in this Section 6 will be given by the Company to the Transfer Agent with respect to the Securities, and the Securities shall otherwise be freely transferable on the books and records of the Company.

(b) On the earlier of (i) the Commencement Date and (ii) such time that the Investor shall request, provided all conditions of Rule 144 under the Securities Act are met, the Company shall, no later than one (1) Business Day following the delivery by the Investor to the Company or the Transfer Agent of one or more legended certificates or book-entry statements representing the Commitment Shares (which certificates or book-entry statements the Investor shall promptly deliver on or prior to the first to occur of the events described in clauses (i) and (ii) of this sentence), as directed by the Investor, issue and deliver (or cause to be issued and delivered) to the Investor, as requested by the Investor, either: (A) a certificate or book-entry statement representing such Commitment Shares that is free from all restrictive and other legends or (B) a number of shares of Common Stock equal to the number of Commitment Shares represented by the certificate(s) or book-entry statement(s) so delivered by the Investor as DWAC Shares. The Company shall take all actions to carry out the intent and accomplish the purposes of the immediately preceding sentence, including, without limitation, delivering all such legal opinions, consents, certificates, resolutions and instructions to the Transfer Agent, and any successor transfer agent of the Company, as may be requested from time to time by the Investor or necessary or desirable to carry out the intent and accomplish the purposes of the immediately preceding sentence. On the Commencement Date, the

Company shall issue to the Transfer Agent, and any subsequent transfer agent, (i) irrevocable instructions in the form substantially similar to those used by the Investor in substantially similar transactions (the “Commencement Irrevocable Transfer Agent Instructions”) and (ii) the notice of effectiveness of the Registration Statement in the form attached as an exhibit to the Registration Rights Agreement (the “Notice of Effectiveness of Registration Statement”), in each case to issue the Commitment Shares and the Purchase Shares in accordance with the terms of this Agreement and the Registration Rights Agreement. All Purchase Shares to be issued from and after Commencement to or for the benefit of the Investor pursuant to this Agreement shall be issued only as DWAC Shares. The Company represents and warrants to the Investor that, while this Agreement is effective, no instruction other than the Commencement Irrevocable Transfer Agent Instructions and the Notice of Effectiveness of Registration Statement referred to in this Section 6(b) will be given by the Company to the Transfer Agent with respect to the Purchase Shares or the Commitment Shares from and after Commencement, and the Purchase Shares and the Commitment Shares covered by the Registration Statement shall otherwise be freely transferable on the books and records of the Company. The Company agrees that if the Company fails to fully comply with the provisions of this Section 6(b) within five (5) Business Days of the Investor providing the deliveries referred to above, the Company shall, at the Investor’s written instruction, purchase such shares of Common Stock containing the Restrictive Legend from the Investor at the greater of the (i) purchase price paid for such Shares of Common Stock (as applicable) and (ii) the Closing Sale Price of the Common Stock on the date of the Investor’s written instruction.

**7. CONDITIONS TO THE COMPANY’S RIGHT TO COMMENCE SALES OF COMMON STOCK.**

The right of the Company hereunder to commence sales of the Purchase Shares on the Commencement Date is subject to the satisfaction or, where legally permissible, the waiver of each of the following conditions:

- (a) The Investor shall have executed each of the Transaction Documents and delivered the same to the Company;
- (b) No stop order with respect to the Registration Statement shall be pending or threatened by the SEC; and
- (c) The representations and warranties of the Investor shall be true and correct in all material respects as of the Execution Date and as of the Commencement Date as though made at that time.

**8. CONDITIONS TO THE INVESTOR’S OBLIGATION TO PURCHASE COMMON STOCK.**

The obligation of the Investor to buy Purchase Shares under this Agreement is subject to the satisfaction or, where legally permissible, the waiver of each of the following conditions on or prior to the Commencement Date and, once such conditions have been initially satisfied, there shall not be any ongoing obligation to satisfy such conditions after the Commencement has occurred:

- (a) The Company shall have executed each of the Transaction Documents and delivered the same to the Investor;
- (b) The Common Stock shall be listed or quoted on the Principal Market and all Securities to be issued by the Company to the Investor pursuant to this Agreement shall have been approved for listing on the Principal Market in accordance with the applicable rules and regulations of the Principal Market, subject only to official notice of issuance;

(c) The Investor shall have received the opinions of the Company's legal counsel dated as of the Commencement Date substantially in the forms agreed to prior to the date of this Agreement by the Company's legal counsel and the Investor's legal counsel;

(d) The representations and warranties of the Company contained in this Agreement shall be true and correct in all material respects (except to the extent that any of such representations and warranties is qualified as to materiality, in which case, any of such representations and warranties shall be true and correct as so qualified) as of the Execution Date and as of the Commencement Date as though made at that time (except for representations and warranties that speak as of a specific date, which shall be true and correct in all material respects as of such date) and the Company shall have performed, satisfied and complied in all material respects with the covenants, agreements and conditions required by the Transaction Documents to be performed, satisfied or complied with by the Company at or prior to the Commencement Date. The Investor shall have received a certificate, executed by the CEO, President or CFO of the Company, dated as of the Commencement Date, to the foregoing effect in the form attached hereto as **Exhibit A**;

(e) The Board of Directors of the Company shall have adopted resolutions in connection with this Agreement and the transactions contemplated hereby which shall be in full force and effect without any amendment or supplement thereto as of the Commencement Date;

(f) As of the Commencement Date, the Company shall have reserved out of its authorized and unissued Common Stock the Reserve Amount, solely for the purpose of effecting purchases of Purchase Shares hereunder;

(g) The Irrevocable Transfer Agent Instructions, the Commencement Irrevocable Transfer Agent Instructions and the Notice of Effectiveness of Registration Statement shall have been delivered to the Company's Transfer Agent (or any successor transfer agent) and acknowledged in writing by the Company and the Company's Transfer Agent (or any successor transfer agent), and the Commitment Shares shall have been issued directly to the Investor electronically as DWAC Shares;

(h) The Company shall have delivered to the Investor a certificate evidencing the incorporation and good standing of the Company in the State of Delaware issued by the Secretary of State of the State of Delaware as of a date within ten (10) Business Days of the Commencement Date;

(i) The Company shall have delivered to the Investor a certified copy of the Certificate of Incorporation as certified by the Secretary of State of the State of Delaware within ten (10) Business Days of the Commencement Date;

(j) The Company shall have delivered to the Investor an secretary's certificate executed by the Secretary of the Company, dated as of the Commencement Date, in the form attached hereto as **Exhibit B**;

(k) The Registration Statement shall continue to be effective and no stop order with respect to the Registration Statement shall be pending or threatened by the SEC. The Company shall have a maximum dollar amount certain of Common Stock registered under the Registration Statement which is sufficient to issue to the Investor not less than (i) the full Available Amount worth of Purchase Shares plus (ii) all of the Commitment Shares. The Current Report and the Initial Prospectus Supplement each shall have been filed with the SEC, as required pursuant to Section 5(a), and copies of the Prospectus shall have been delivered to the Investor in accordance with the terms of the Registration Rights Agreement. The Prospectus shall be current and available for issuances and sales of all of the Securities by the Company to the Investor. Any other Prospectus Supplements required to have been filed by the Company with the SEC under the

Securities Act at or prior to the Commencement Date shall have been filed with the SEC within the applicable time periods prescribed for such filings under the Securities Act. All reports, schedules, registrations, forms, statements, information and other documents required to have been filed by the Company with the SEC at or prior to the Commencement Date pursuant to the reporting requirements of the Exchange Act shall have been filed with the SEC within the applicable time periods prescribed for such filings under the Exchange Act;

(l) No Event of Default has occurred, or any event which, after notice and/or lapse of time, would become an Event of Default has occurred;

(m) All federal, state and local governmental laws, rules and regulations applicable to the transactions contemplated by the Transaction Documents and necessary for the execution, delivery and performance of the Transaction Documents and the consummation of the transactions contemplated thereby in accordance with the terms thereof shall have been complied with, and all consents, authorizations and orders of, and all filings and registrations with, all federal, state and local courts or governmental agencies and all federal, state and local regulatory or self-regulatory agencies necessary for the execution, delivery and performance of the Transaction Documents and the consummation of the transactions contemplated thereby in accordance with the terms thereof shall have been obtained or made, including, without limitation, in each case those required under the Securities Act, the Exchange Act, applicable state securities or "Blue Sky" laws or applicable rules and regulations of the Principal Market, or otherwise required by the SEC, the Principal Market or any state securities regulators;

(n) No statute, regulation, order, decree, writ, ruling or injunction shall have been enacted, entered, promulgated, threatened or endorsed by any federal, state, local or foreign court or governmental authority of competent jurisdiction which prohibits the consummation of or which would materially modify or delay any of the transactions contemplated by the Transaction Documents;

(o) No action, suit or proceeding before any federal, state, local or foreign arbitrator or any court or governmental authority of competent jurisdiction shall have been commenced or threatened, and no inquiry or investigation by any federal, state, local or foreign governmental authority of competent jurisdiction shall have been commenced or threatened, against the Company, or any of the officers, directors or affiliates of the Company, seeking to restrain, prevent or change the transactions contemplated by the Transaction Documents, or seeking material damages in connection with such transactions; and

(p) The Company shall have provided the Investor with the information requested by the Investor in connection with its due diligence requests in accordance with the terms of Section 5(f) hereof.

## **9. INDEMNIFICATION.**

In consideration of the Investor's execution and delivery of the Transaction Documents and acquiring the Securities hereunder and in addition to all of the Company's other obligations under the Transaction Documents, the Company shall defend, protect, indemnify and hold harmless the Investor and all of its affiliates, stockholders, officers, directors, members, managers, employees and direct or indirect investors and any of the foregoing Person's agents or other representatives (including, without limitation, those retained in connection with the transactions contemplated by this Agreement) (collectively, the "Indemnitees") from and against any and all actions, causes of action, suits, claims, losses, costs, penalties, fees, liabilities and damages, and expenses in connection therewith (irrespective of whether any such Indemnitee is a party to the action for which indemnification hereunder is sought), and including reasonable attorneys' fees and disbursements (the "Indemnified Liabilities"), incurred by any Indemnitee as a result of, or arising out of, relating to: (a) any misrepresentation or breach of any representation or warranty made by

the Company in the Transaction Documents or any other certificate, instrument or document contemplated hereby or thereby, (b) any breach of any covenant, agreement or obligation of the Company contained in the Transaction Documents or any other certificate, instrument or document contemplated hereby or thereby, (c) any cause of action, suit or claim brought or made against such Indemnitee and arising out of or resulting from the execution, delivery, performance or enforcement of the Transaction Documents or any other certificate, instrument or document contemplated hereby or thereby, (d) any violation of the Securities Act, the Exchange Act, state securities or "Blue Sky" laws, or the rules and regulations of the Principal Market in connection with the transactions contemplated by the Transaction Documents by the Company or any of its Subsidiaries, affiliates, officers, directors or employees, (e) any untrue statement or alleged untrue statement of a material fact contained, or incorporated by reference, in the Registration Statement or any amendment thereto or any omission or alleged omission to state therein, or in any document incorporated by reference therein, a material fact required to be stated therein or necessary to make the statements therein not misleading, or (f) any untrue statement or alleged untrue statement of a material fact contained, or incorporated by reference, in the Prospectus, or any omission or alleged omission to state therein, or in any document incorporated by reference therein, 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; provided, however, that (I) the indemnity contained in clause (c) of this Section 9 shall not apply to any Indemnified Liabilities which directly and primarily result from the fraud, gross negligence or willful misconduct of an Indemnitee, (II) the indemnity contained in clauses (d), (e) and (f) of this Section 9 shall not apply to any Indemnified Liabilities to the extent, but only to the extent, arising out of or based upon any untrue statement or alleged untrue statement or omission or alleged omission made in reliance upon and in conformity with written information furnished to the Company by or on behalf of the Investor expressly for use in any Prospectus Supplement (it being hereby acknowledged and agreed that the written information set forth on Exhibit C attached hereto is the only written information furnished to the Company by or on behalf of the Investor expressly for use in the Initial Prospectus Supplement), if the Prospectus was timely made available by the Company to the Investor pursuant to terms of the Transaction Documents, (III) the indemnity contained in clauses (d), (e) and (f) of this Section 9 shall not inure to the benefit of the Investor to the extent such Indemnified Liabilities are based on a failure of the Investor to deliver or to cause to be delivered the Prospectus made available by the Company, if such Prospectus was timely made available by the Company pursuant to terms of the Transaction Documents, and if delivery of the Prospectus would have cured the defect giving rise to such Indemnified Liabilities, and (IV) the indemnity in this Section 9 shall not apply to amounts paid in settlement of any claim if such settlement is effected without the prior written consent of the Company, which consent shall not be unreasonably withheld, conditioned or delayed. To the extent that the foregoing undertaking by the Company may be unenforceable for any reason, the Company shall make the maximum contribution to the payment and satisfaction of each of the Indemnified Liabilities which is permissible under applicable law; provided that no seller of Securities guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any seller of Securities who was not guilty of fraudulent misrepresentation. Payment under this indemnification shall be made within thirty (30) days from the date the Investor makes written request for it. A certificate containing reasonable detail as to the amount of such indemnification submitted to the Company by Investor shall be conclusive evidence, absent manifest error, of the amount due from the Company to Investor; provided that the Indemnitee shall undertake to repay any amount paid to it hereunder if it is ultimately determined, by a final and non-appealable order of a court of competent jurisdiction, that the Indemnitee is not entitled to be indemnified against such Indemnified Liabilities by the Company pursuant to this Agreement. If any action shall be brought against any Indemnitee in respect of which indemnity may be sought pursuant to this Agreement, such Indemnitee shall promptly notify the Company in writing, and the Company shall have the right to assume the defense thereof with counsel of its own choosing reasonably acceptable to the Indemnitee. Any Indemnitee shall have the right to employ separate counsel in any such action and participate in the defense thereof, but the fees and expenses of such counsel shall be at the expense of such Indemnitee, except to the extent that (i) the employment thereof has been specifically authorized by the Company in writing, (ii) the

Company has failed after a reasonable period of time to assume such defense and to employ counsel or (iii) in such action there is, in the reasonable opinion of such separate counsel, a material conflict on any material issue between the position of the Company and the position of such Indemnitee, in which case the Company shall be responsible for the reasonable fees and expenses of no more than one such separate counsel.

#### 10. EVENTS OF DEFAULT.

An "Event of Default" shall be deemed to have occurred at any time as any of the following events occurs:

(a) the effectiveness of the Registration Statement registering the Securities lapses for any reason (including, without limitation, the issuance of a stop order or similar order) or the Registration Statement or the Prospectus is unavailable for the sale by the Company to the Investor (or the resale by the Investor) of any or all of the Securities to be issued to the Investor under the Transaction Documents (including, without limitation, as a result of any failure of the Company to satisfy all of the requirements for the use of a registration statement on Form S-3 pursuant to the Securities Act for the offering and sale of the Securities contemplated by this Agreement), and such lapse or unavailability continues for a period of ten (10) consecutive Business Days or for more than an aggregate of thirty (30) Business Days in any 365-day period;

(b) the suspension of the Common Stock from trading or the failure of the Common Stock to be listed on the Principal Market for a period of one (1) Business Day, provided that the Company may not direct the Investor to purchase any Common Stock during any such suspension;

(c) the delisting of the Common Stock from the Nasdaq Global Market unless the Common Stock is immediately thereafter trading on the New York Stock Exchange, the NASDAQ Capital Market, The NASDAQ Global Select Market, the NYSE Arca, the OTC Bulletin Board or OTC Markets (or nationally recognized successor to any of the foregoing);

(d) the failure for any reason by the Transfer Agent to issue Purchase Shares to the Investor within three (3) Business Days after Purchase Date, Accelerated Purchase Date or Additional Accelerated Purchase Date, as applicable, on which the Investor is entitled to receive such Purchase Shares;

(e) the Company breaches any representation, warranty, covenant or other term or condition under any Transaction Document if such breach could have a Material Adverse Effect and except, in the case of a breach of a covenant which is reasonably curable, only if such breach continues for a period of at least five (5) Business Days;

(f) if any Person commences a proceeding against the Company pursuant to or within the meaning of any Bankruptcy Law;

(g) if the Company is at any time insolvent, or pursuant to or within the meaning of any Bankruptcy Law, (i) commences a voluntary case, (ii) consents to the entry of an order for relief against it in an involuntary case, (iii) consents to the appointment of a Custodian of it or for all or substantially all of its property, or (iv) makes a general assignment for the benefit of its creditors or is generally unable to pay its debts as the same become due;

(h) a court of competent jurisdiction enters an order or decree under any Bankruptcy Law that (i) is for relief against the Company in an involuntary case, (ii) appoints a Custodian of the Company or for all or substantially all of its property, or (iii) orders the liquidation of the Company or any Subsidiary;

(i) if at any time the Company is not eligible to transfer its Common Stock electronically as DWAC Shares; or

(j) if at any time after the Commencement Date, the Exchange Cap is reached (to the extent the Exchange Cap is applicable pursuant to Section 2(d) hereof) and the Company's shareholders have not approved the transactions contemplated by this Agreement in accordance with the applicable rules and regulations of the Nasdaq Global Market, any other Principal Market on which the Common Stock may be listed or quoted after the date of this Agreement, the Certificate of Incorporation and the Bylaws.

In addition to any other rights and remedies under applicable law and this Agreement, so long as an Event of Default has occurred and is continuing, or if any event which, after notice and/or lapse of time, would become an Event of Default, has occurred and is continuing, the Company shall not deliver to the Investor any Regular Purchase Notice or Accelerated Purchase Notice, and the Investor shall not purchase any Common Stock under this Agreement.

## **11. TERMINATION**

This Agreement may be terminated only as follows:

(a) If pursuant to or within the meaning of any Bankruptcy Law, the Company commences a voluntary case or any Person commences a proceeding against the Company, a Custodian is appointed for the Company or for all or substantially all of its property, or the Company makes a general assignment for the benefit of its creditors (any of which would be an Event of Default as described in Sections 10(f), 10(g) and 10(h) hereof), this Agreement shall automatically terminate without any liability or payment to the Company (except as set forth below) without further action or notice by any Person.

(b) In the event that the Commencement shall not have occurred on or before September 30, 2019, due to the failure to satisfy the conditions set forth in Sections 7 and 8 above with respect to the Commencement, either the Company or the Investor shall have the option to terminate this Agreement at the close of business on such date or thereafter without liability of any party to any other party (except as set forth below); provided, however, that the right to terminate this Agreement under this Section 11(b) shall not be available to any party if such party is then in breach of any covenant or agreement contained in this Agreement or any representation or warranty of such party contained in this Agreement fails to be true and correct such that the conditions set forth in Section 7(c) or Section 8(d), as applicable, could not then be satisfied.

(c) At any time after the Commencement Date, the Company shall have the option to terminate this Agreement for any reason or for no reason by delivering notice (a "Company Termination Notice") to the Investor electing to terminate this Agreement without any liability whatsoever of any party to any other party under this Agreement (except as set forth below in this Section 11). The Company Termination Notice shall not be effective until one (1) Business Day after it has been received by the Investor.

(d) This Agreement shall automatically terminate on the date that the Company sells and the Investor purchases the full Available Amount as provided herein, without any action or notice on the part of any party and without any liability whatsoever of any party to any other party under this Agreement (except as set forth below).

(e) If for any reason or for no reason the full Available Amount has not been purchased in accordance with Section 2 of this Agreement by the Maturity Date, this Agreement shall automatically terminate on the Maturity Date, without any action or notice on the part of any party and without any liability whatsoever of any party to any other party under this Agreement (except as set forth below).

Except as set forth in Sections 11(a) (in respect of an Event of Default under Sections 10(f), 10(g), 10(h), 11(d) and 11(e)), any termination of this Agreement pursuant to this Section 11 shall be effected by written notice from the Company to the Investor, or the Investor to the Company, as the case may be, setting forth the basis for the termination hereof). The representations and warranties and covenants of the Company and the Investor contained in Sections 3, 4, 5, and 6 hereof, the indemnification provisions set forth in Section 9 hereof and the agreements and covenants set forth in Sections 10, 11 and 12 shall survive the Commencement and any termination of this Agreement. No termination of this Agreement shall (i) affect the Company's or the Investor's rights or obligations under this Agreement with respect to pending Regular Purchases, Accelerated Purchases and Additional Accelerated Purchases and the Company and the Investor shall complete their respective obligations with respect to any pending Regular Purchases, Accelerated Purchases and Additional Accelerated Purchases under this Agreement or (ii) be deemed to release the Company or the Investor from any liability for intentional misrepresentation or willful breach of any of the Transaction Documents.

## 12. MISCELLANEOUS.

(a) Governing Law; Jurisdiction; Jury Trial. The corporate laws of the State of Delaware shall govern all issues concerning the relative rights of the Company and its stockholders. All other questions concerning the construction, validity, enforcement and interpretation of this Agreement and the other Transaction Documents shall be governed by the internal laws of the State of Illinois, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of Illinois or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of Illinois. Each party hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in the State of Illinois, County of Cook, for the adjudication of any dispute hereunder or under the other Transaction Documents or in connection herewith or therewith, or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof to such party at the address for such notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law. **EACH PARTY HEREBY IRREVOCABLY WAIVES ANY RIGHT IT MAY HAVE, AND AGREES NOT TO REQUEST, A JURY TRIAL FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION HEREWITH OR ARISING OUT OF THIS AGREEMENT OR ANY TRANSACTION CONTEMPLATED HEREBY.**

(b) Counterparts. This Agreement may be executed in two or more identical counterparts, all of which shall be considered one and the same agreement and shall become effective when counterparts have been signed by each party and delivered to the other party; provided that a facsimile signature or signature delivered by e-mail in a ".pdf" format data file shall be considered due execution and shall be binding upon the signatory thereto with the same force and effect as if the signature were an original signature.



(c) Headings. The headings of this Agreement are for convenience of reference and shall not form part of, or affect the interpretation of, this Agreement.

(d) Severability. If any provision of this Agreement shall be invalid or unenforceable in any jurisdiction, such invalidity or unenforceability shall not affect the validity or enforceability of the remainder of this Agreement in that jurisdiction or the validity or enforceability of any provision of this Agreement in any other jurisdiction.

(e) Entire Agreement; Amendment. This Agreement supersedes all other prior oral or written agreements between the Investor, the Company, their affiliates and Persons acting on their behalf with respect to the subject matter hereof, and this Agreement, the other Transaction Documents and the instruments referenced herein contain the entire understanding of the parties with respect to the matters covered herein and therein and, except as specifically set forth herein or therein, neither the Company nor the Investor makes any representation, warranty, covenant or undertaking with respect to such matters. The Company acknowledges and agrees that it has not relied on, in any manner whatsoever, any representations or statements, written or oral, other than as expressly set forth in the Transaction Documents. No provision of this Agreement may be amended other than by a written instrument signed by both parties hereto.

(f) Notices. Any notices, consents or other communications required or permitted to be given under the terms of this Agreement must be in writing and will be deemed to have been delivered: (i) upon receipt when delivered personally; (ii) upon receipt when sent by facsimile or email (provided confirmation of transmission is mechanically or electronically generated and kept on file by the sending party); or (iii) one Business Day after deposit with a nationally recognized overnight delivery service, in each case properly addressed to the party to receive the same. The addresses for such communications shall be:

If to the Company:

T2 Biosystems, Inc.  
101 Hartwell Avenue  
Lexington, MA 02421  
Telephone: 781-761-4646  
E-mail: mgibbs@t2biosystems.com  
Attention: Michael Gibbs

With a copy to (which shall not constitute notice or service of process):

Latham & Watkins LLP  
200 Clarendon Street, 27<sup>th</sup> Floor  
Boston, MA  
Telephone: +1.781.434.6608  
E-mail: Evan.Smith@lw.com  
Attention: Evan Smith

If to the Investor:

Lincoln Park Capital Fund, LLC  
440 North Wells, Suite 410  
Chicago, IL 60654  
Telephone: 312.822.9300  
Facsimile: 312.822.9301  
E-mail: jscheinfeld@lpcfunds.com/jcope@lpcfunds.com  
Attention: Josh Scheinfeld/Jonathan Cope

With a copy to (which shall not constitute notice or service of process):

K&L Gates, LLP  
200 South Biscayne Boulevard  
Suite 3900  
Miami, Florida 33131  
Telephone: 305.539.3300  
Facsimile: 305.358.7095  
E-mail: clayton.parker@klgates.com  
Attention: Clayton E. Parker, Esq.

or at such other address and/or facsimile number and/or to the attention of such other Person as the recipient party has specified by written notice given to each other party three (3) Business Days prior to the effectiveness of such change. Written confirmation of receipt (A) given by the recipient of such notice, consent or other communication, (B) mechanically or electronically generated by the sender's facsimile machine or email account containing the time, date, and recipient facsimile number or email address, as applicable, and an image of the first page of such transmission or (C) provided by a nationally recognized overnight delivery service, shall be rebuttable evidence of personal service, receipt by facsimile, email or receipt from a nationally recognized overnight delivery service in accordance with clause (i), (ii) or (iii) above, respectively.

(g) Successors and Assigns. This Agreement shall be binding upon and inure to the benefit of the parties and their respective successors and assigns. The Company shall not assign this Agreement or any rights or obligations hereunder without the prior written consent of the Investor, including by merger or consolidation. The Investor may not assign its rights or obligations under this Agreement.

(h) No Third Party Beneficiaries. This Agreement is intended for the benefit of the parties hereto and their respective permitted successors and assigns and, except as set forth in Section 9, is not for the benefit of, nor may any provision hereof be enforced by, any other Person.

(i) Publicity. The Company shall afford the Investor and its counsel with the opportunity to review and comment upon, shall consult with the Investor and its counsel on the form and substance of, and shall give due consideration to all such comments from the Investor or its counsel on, any press release, SEC filing or any other public disclosure by or on behalf of the Company relating to the Investor, its purchases hereunder or any aspect of the Transaction Documents or the transactions contemplated thereby, not less than 24 hours prior to the issuance, filing or public disclosure thereof. The Investor must be provided with a final version of any such press release, SEC filing or other public disclosure at least 24 hours prior to any release, filing or use by the Company thereof. The Company agrees and acknowledges that its failure to fully comply with this provision constitutes a Material Adverse Effect.

(j) Further Assurances. Each party shall do and perform, or cause to be done and performed, all such further acts and things, and shall execute and deliver all such other agreements, certificates, instruments and documents, as the other party may reasonably request in order to carry out the intent and accomplish the purposes of this Agreement and the consummation of the transactions contemplated hereby.

(k) No Financial Advisor, Placement Agent, Broker or Finder. The Company represents and warrants to the Investor that, except as disclosed in Schedule 4(x), it has not engaged any financial advisor, placement agent, broker or finder in connection with the transactions contemplated hereby. The Investor represents and warrants to the Company that it has not engaged any financial advisor, placement agent, broker or finder in connection with the transactions contemplated hereby. The Company shall be responsible for the payment of any fees or commissions, if any, of any financial advisor, placement agent, broker or finder relating to or arising out of the transactions contemplated hereby. The Company shall pay, and hold the Investor harmless against, any liability, loss or expense (including, without limitation, attorneys' fees and out of pocket expenses) arising in connection with any such claim.

(l) No Strict Construction. The language used in this Agreement will be deemed to be the language chosen by the parties to express their mutual intent, and no rules of strict construction will be applied against any party.

(m) Remedies, Other Obligations, Breaches and Injunctive Relief. The Investor's remedies provided in this Agreement, including, without limitation, the Investor's remedies provided in Section 9, shall be cumulative and in addition to all other remedies available to the Investor under this Agreement, at law or in equity (including a decree of specific performance and/or other injunctive relief), no remedy of the investor contained herein shall be deemed a waiver of compliance with the provisions giving rise to such remedy and nothing herein shall limit the Investor's right to pursue actual damages for any failure by the other party to comply with the terms of this Agreement. The parties acknowledge that a breach by any party of its obligations hereunder will cause irreparable harm to the non-breaching party and that the remedy at law for any such breach may be inadequate. The parties therefore agree that, in the event of any such breach or threatened breach, the non-breaching party shall be entitled, in addition to all other available remedies, to an injunction restraining any breach, without the necessity of showing economic loss and without any bond or other security being required.

(n) Enforcement Costs. If: (i) this Agreement is placed by the Investor in the hands of an attorney for enforcement or is enforced by the Investor through any legal proceeding; (ii) an attorney is retained to represent the Investor in any bankruptcy, reorganization, receivership or other proceedings affecting creditors' rights and involving a claim under this Agreement; or (iii) an attorney is retained to represent the Investor in any other proceedings whatsoever in connection with this Agreement, then the Company shall pay to the Investor, as incurred by the Investor, all reasonable costs and expenses including attorneys' fees incurred in connection therewith, in addition to all other amounts due hereunder.

(o) Waivers. No provision of this Agreement may be waived other than in a written instrument signed by the party against whom enforcement of such waiver is sought. No failure or delay in the exercise of any power, right or privilege hereunder shall operate as a waiver thereof, nor shall any single or partial exercise of any such power, right or privilege preclude other or further exercise thereof or of any other right, power or privilege.

(p) Adjustments for Share Splits. The parties acknowledge and agree that all share-related numbers contained in this Agreement shall be adjusted to take into account any reorganization, recapitalization, non-cash dividend, stock split or other similar transaction effected with respect to the Common Stock except as specifically stated herein.

\* \* \* \* \*

IN WITNESS WHEREOF, the Investor and the Company have caused this Agreement to be duly executed as of the Execution Date.

**THE COMPANY:**

**T2 BIOSYSTEMS, INC.**

By: /s/ John McDonough

Name: John McDonough

Title: CEO

**INVESTOR:**

**LINCOLN PARK CAPITAL FUND, LLC**

**BY: LINCOLN PARK CAPITAL, LLC**

**BY: ALEX NOAH INVESTORS, INC.**

By: /s/ Jonathan Cope

Name: Jonathan Cope

Title: President

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**SCHEDULES**

Schedule 4(c) Capitalization  
Schedule 4(p) Tax Status  
Schedule 4(x) Agent Fees

**EXHIBITS**

Exhibit A Form of Officer's Certificate  
Exhibit B Form of Secretary's Certificate  
Exhibit C Information About Investor Furnished to the Company

## SECOND AMENDMENT TO EMPLOYMENT AGREEMENT

John McDonough and T2 Biosystems, Inc. (the “**Company**”) enter into this second amendment to the employment agreement (this “**Second Amendment**”) dated as of March 14, 2008, and previously amended on July 22, 2014 (the “**Agreement**”), as of **July 30, 2019** (the “**Effective Date**”).

1. Section 1(c) is hereby added to the Agreement and reads as follows:

“(c) **Resignation**. You agree to resign from your position as President and Chief Executive Officer and your employment with the Company on the start date of a new Chief Executive Officer, or such earlier date as determined by the Board (the “**Resignation Date**”).

(i) You acknowledge and agree that your employment with the Company and any of its parents, subsidiaries and affiliates (“**Affiliates**”) will terminate on the Resignation Date.

(ii) Between the Effective Date and the Resignation Date, You will assist the Company in identifying a new Chief Executive Officer, and otherwise continue to serve as the Chief Executive Officer, President, Executive Chairman and an employee pursuant and subject to the terms of the Agreement.

(iii) On the July 30, 2019 earnings call, you will announce that you have been appointed Executive Chairman and your intent to step down as Chief Executive Officer and become non-executive Chairman of the Board after working with the Board to identify and appoint your successor as Chief Executive Officer. Effective immediately, you will assume the role of Executive Chairman of the Board, and serve in that capacity as duly appointed or elected for no additional compensation through the Resignation Date. Following the Resignation Date, you will become eligible for compensation, including quarterly cash retainer payments and annual equity grants, as non-executive Chairman of the Board and Director pursuant to, and to the extent provided by, the Company’s Non-Employee Director Compensation Program, as in effect from time to time (the “**Program**”). The annual equity grant under the Program is currently 22,000 stock options, 11,000 restricted stock units or a combination thereof (as determined by the Board) and the annual cash retainer payments you will initially be eligible for following the Resignation Date as a director and Chairman of the Board is currently: \$40,000 for service as a director and \$30,000 for service as the Chairman of the Board.

(iv) You understand that you are giving up any right or claim to future employment, including without limitation, any future compensation or benefits, except as set forth in this Agreement.

(vi) You agree that on or before the Resignation Date or upon the Company’s request, you will return to the Company all property of the Company in my possession or control, including without limitation, all keys, access cards, credit cards, calling cards, cellular phones and other mobile communications devices. Notwithstanding the foregoing, you shall be entitled to retain ownership of your Company issued laptop following the Resignation Date.”

2. The first sentence of Section 4(a) of the Agreement is hereby amended and restated in its entirety to read as follows:

“(a) **Base Salary**. While you are employed hereunder, the Company will pay you a base salary at the annual rate of \$550,000 (the “**Base Salary**”).”

3. Section 4(b) of the Agreement is hereby amended and restated in its entirety to read as follows:

“(b) Annual Bonus. While you are employed hereunder, you will be eligible to receive an annual performance bonus (the “Annual Bonus”) after the conclusion of each calendar year you are employed by the Company, in an amount which shall be determined by the Compensation Committee of the Board (or its designee), and upon the achievement of specific milestones as agreed to by you and the Board of Directors. The Annual Bonus will be pro-rated for any partial year of employment. The Annual Bonus shall be primarily based on your performance and overall performance of the Company, measured against goals that are mutually agreed upon by you and the Compensation Committee. You shall submit proposed performance goals no later than January 31 of the year to which the goals relate, which will be reviewed and approved by the Compensation Committee of the Board in their sole discretion, no later than March 1 of the year to which the goals relate. The Annual Bonus, other than as provided for in Section 4(b)(i), will be paid to you within 60 days following the close of the year to which it relates. The target amount of the Annual Bonus shall be 85% of the Base Salary.

4. Section 4(c)(v) is hereby added to the Agreement, and reads as follows:

“(v) Previous Grants and Amendment to PSU Grant and Agreement. Exhibit A to this Agreement sets forth the issued and outstanding Company equity awards held by you as of the Effective Date. You and the Company hereby agree that the award agreement governing the 434,783 performance-based Restricted Stock Units (as defined in the Company’s 2014 Incentive Award Plan (the “**Plan**”)) granted to you on March 15, 2018 pursuant to the Plan (the “**PSU Agreement**”) is hereby amended such that your Termination of Service under and within the meaning of the PSU Agreement will be deemed to occur upon your termination of employment with the Company for any reason.”

5. Section 6(c) of the Agreement is hereby amended and restated in its entirety to read as follows:

“(c) Termination by the Company without Cause. Provided you sign and do not revoke the General Release Agreement attached hereto as Exhibit B on or within twenty-one days following the date your employment terminates, in the event of a termination of your employment by the Company without Cause or due to your resignation pursuant to Section 1(c) on the Resignation Date:

(i) The Company will pay the Accrued Obligations to you promptly (*i.e.*, within fifteen (15) days) following such termination.

(ii) The Company will pay you severance in the amount of \$687,500, equal to fifteen (15) months of the Base Salary, payable in equal installments over a period of fifteen (15) months in accordance with the Company’s payroll practice, commencing on your termination of employment.

(iii) The Company will pay you \$233,750 in a single lump sum payment, on March 15 of the year following the year in which your termination of employment occurred.

(iv) If the termination occurs prior to your receipt of an Annual Bonus pursuant to Section 4(b)(ii) for 2019, on March 15, 2020, or should your termination occur in a subsequent year, the Company will pay to you the Annual Bonus you would have earned if you had remained employed, as determined by the Board based on the percentage of bonus criteria achieved, pro-rated based on the portion of calendar year 2019 or subsequent year for which you served as Chief Executive Officer and such Annual Bonus shall be paid on March 15 of the year following the applicable subsequent year.

(v) If you timely elect continued group medical insurance coverage pursuant to COBRA, the Company will reimburse you for all applicable premiums, for you and your eligible dependents during the period commencing on the date of your termination of employment and ending on the earliest to occur of (i) end of the fifteenth month after your employment termination date, (ii) the date that you or your covered spouse and/or dependents become no longer eligible for COBRA and (iii) the date on which you become eligible for healthcare coverage under the healthcare insurance plan of another employer. Notwithstanding the foregoing, if the Company determines that it cannot provide such reimbursement of premiums to you without potentially violating applicable law, the Company shall in lieu thereof provide to you a taxable monthly payment in an amount equal to 142% of the applicable premiums, which payment will be made regardless of whether you elect COBRA continuation coverage and will commence in the month following the month in which your termination of employment occurs and end on the earliest to occur of (A) the date that is fifteen months following your employment termination date, (B) the date that you become no longer eligible for COBRA and (C) the date you become eligible to receive healthcare coverage from a subsequent employer subject to any delay that may be required under Section 409A. You will promptly notify the Company if you become eligible for healthcare coverage under the healthcare insurance plan of another employer.

(vi) Notwithstanding any contrary terms of the agreements governing 100,000 Restricted Stock Units granted to you on February 21, 2019 pursuant to the Plan and an award agreement thereunder (the “**February 2019 Grant**”) and the 50,000 Restricted Stock Units granted to you February 9, 2017 pursuant to the Plan and an award agreement thereunder (the “**February 2017 Grant**”), the then-unvested and outstanding portion of each of the February 2019 Grant and the February 2017 Grant will become vested as of the date of termination totaling 116,667 shares as of July 30, 2019.”

6. The Agreement is hereby amended by adding each of Exhibit A and Exhibit B to this Second Amendment as corresponding Exhibits to the Agreement.

[Signature Page Follows]



IN WITNESS WHEREOF, the Parties have caused this amendment to be executed as of the date first written above.

**COMPANY:**

**T2 BIOSYSTEMS, INC.**

/s/ John M. Sprague

By: John M. Sprague  
Title: CFO

**EMPLOYEE:**

/s/ John McDonough

John McDonough

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**EXHIBIT A**

[see attached]

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**EXHIBIT B**

**GENERAL RELEASE AGREEMENT**

[see attached]