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

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**FORM 8-K**

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

**Date of Report (Date of earliest event reported): September 14, 2015**

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**ACHIEVE LIFE SCIENCES, INC.**  
(Exact name of registrant as specified in its charter)

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**Delaware**  
(State or other Jurisdiction  
of Incorporation)

**033-80623**  
(Commission  
File Number)

**95-4343413**  
(IRS Employer  
Identification No.)

**1001 W. Broadway, Suite 400**  
**Vancouver, BC**  
(Address of Principal Executive Offices)

**V6H 4B1**  
(Zip Code)

**Registrant's telephone number, including area code: (604) 736-3678**

**N/A**  
(Former name or former address if changed since last report.)

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

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

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

Emerging growth company

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

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

On September 14, 2017, Achieve Life Sciences, Inc. (the “Company”) and Lincoln Park Capital Fund, LLC (“LPC”) entered into a purchase agreement (the “Purchase Agreement”), pursuant to which the Company has the right to sell to LPC Company securities having an aggregate value of up to \$11,000,000, subject to certain limitations and conditions set forth in the Purchase Agreement (the “Offering”).

Pursuant to the Purchase Agreement, upon the satisfaction of all of the conditions to the Company’s right to commence sales under the Purchase Agreement, LPC shall initially purchase \$1,000,000 of the Company’s units (the “Units”), with each Unit consisting of (a) one share of the Company’s common stock, par value \$0.001 per share (“Common Stock”) and (b) one warrant to purchase one-quarter (1/4) of a share of Common Stock at an exercise price of \$3.496 per share (each, a “Warrant”). Each Warrant is exercisable six months following the issuance date until the date that is five years and six months after the issuance date and is subject to customary adjustments. The Warrants are issuable only as part of the Units in the initial purchase of \$1,000,000 and no warrants shall be issued in connection with any other purchases of Common Stock under the Purchase Agreement.

After the initial purchase, if the Company’s stock price is above \$1.00, as often as every business day over the 30-month term of the Purchase Agreement, and up to an aggregate amount of an additional \$10,000,000 (subject to certain limitations) of shares of Common Stock, the Company has the right, from time to time, at its sole discretion and subject to certain conditions, to direct LPC to purchase up to 80,000 shares of Common Stock, with such amount increasing as the closing sale price of the Company’s Common Stock as reported on The NASDAQ Capital Market increases. The purchase price of shares of Common Stock pursuant to the Purchase Agreement will be based on prevailing market prices of Common Stock at the time of sales without any fixed discount, and the Company will control the timing and amount of any sales of Common Stock to LPC. In addition, the Company may direct LPC to purchase additional amounts as accelerated purchases if on the date of a regular purchase the closing sale price of the Common Stock is not below \$2.00 per share. As consideration for entering into the Purchase Agreement, the Company has agreed to issue to LPC 123,516 shares of Common Stock. The Company will not receive any cash proceeds from the issuance of these shares. LPC has covenanted not to cause or engage in any manner whatsoever, any direct or indirect short selling or hedging of the Company’s shares of Common Stock.

The Company has agreed with LPC that it will not enter into any “variable rate” transactions with any third party from the date of the Purchase Agreement until the earlier of (i) the 18-month anniversary of the date of the Purchase Agreement and (ii) the date on which LPC has purchased the full amount available to be purchased pursuant to the Purchase Agreement, subject to certain exceptions.

The Purchase Agreement contains customary representations, warranties and agreements of the Company and LPC, limitations and conditions to completing future sale transactions, indemnification rights and other obligations of the parties. The Company has the right to terminate the Purchase Agreement at any time, at no cost to the Company.

Actual sales of shares of Common Stock to LPC under the Purchase Agreement will depend on a variety of factors to be determined by the Company from time to time, including (among others) market conditions, the trading price of the Common Stock and determinations by the Company as to other available and appropriate sources of funding for the Company.

The Offering was made pursuant to the Company’s registration statement on Form S-3 (SEC File No. 333-207670) (the “Registration Statement”), which was declared effective by the SEC on November 20, 2015, and pursuant to a prospectus supplement dated September 14, 2017.

The initial purchase is expected to close on September 15, 2017. No discounts are payable in connection with the Offering, and the Company expects to use the proceeds from the Offering to advance its product candidate cytisine as well as for general corporate purposes. The Company may also potentially use a portion of the net proceeds to in-license or acquire additional assets.

In connection with the Registered Offering, the Company engaged Tigress Financial Partners LLC, a registered broker-dealer and FINRA member (“Tigress”) as a placement agent. Tigress will receive \$10,000 as compensation

in connection with its services in connection herewith, upon receipt of written confirmation from the Financial Industry Regulatory Authority, Inc. ("FINRA"), to the effect that FINRA's Corporate Finance Department has determined not to raise any objection with respect to the fairness or reasonableness of the terms of the Purchase Agreement or the transactions contemplated thereby. The Company also agreed to reimburse Tigress for reasonable out of pocket expenses incurred in connection with its services up to an aggregate of \$5,000.

Copies of the Purchase Agreement and the Form of Warrant are attached hereto as Exhibits 10.1 and 4.1, respectively, and are incorporated herein by reference.

The Company is filing the opinion of its counsel, Fenwick & West LLP, regarding the validity of the shares of Common Stock issued pursuant to the Purchase Agreement and upon the exercise of Warrants, as Exhibit 5.1 hereto. The Company is filing the consent of its independent accountants, PricewaterhouseCoopers LLP, to the incorporation by reference of the consolidated financial statements of Achieve Life Science, Inc. as of December 31, 2016 and 2015, and for the year ended December 31, 2016 and the period from May 12, 2015 (the date of inception) to December 31, 2015, into the Registration Statement, as Exhibit 23.1. Exhibit 5.1 and Exhibit 23.1 are incorporated herein by reference and into the Registration Statement.

A copy of the press release issued by the Company announcing the Offering is furnished as Exhibit 99.1 hereto.

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

##### (d) Exhibits

<u>Exhibit No.</u>	<u>Description</u>
4.1	<a href="#"><u>Form of Warrant.</u></a>
5.1	<a href="#"><u>Opinion of Fenwick &amp; West LLP.</u></a>
10.1	<a href="#"><u>Purchase Agreement, dated as of September 14, 2017, by and between Achieve Life Sciences, Inc. and Lincoln Park Capital Fund, LLC.</u></a>
23.1	<a href="#"><u>Consent of PricewaterhouseCoopers LLP.</u></a>
23.2	<a href="#"><u>Consent of Fenwick &amp; West LLP (contained in Exhibit 5.1).</u></a>
99.1	<a href="#"><u>Press release of Achieve Life Sciences, Inc. issued September 14, 2017.</u></a>

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**SIGNATURES**

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

Date: September 14, 2017

ACHIEVE LIFE SCIENCES, INC.

/s/ John Bencich

John Bencich

Executive Vice President and Chief Financial Officer

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**EXHIBIT INDEX**

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## ACHIEVE LIFE SCIENCES INC.

## WARRANT TO PURCHASE COMMON STOCK

Warrant No.: 001

Number of Shares of Common Stock: 82,237

Date of Issuance: September 15, 2017 (“**Issuance Date**”)

Achieve Life Sciences, Inc., a Delaware corporation (the “**Company**”), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Lincoln Park Capital Fund, LLC, the registered holder hereof or its permitted assigns (the “**Holder**”), is entitled, subject to the terms set forth below, to purchase from the Company, at the Exercise Price (as defined below) then in effect, upon surrender of this Warrant to Purchase Common Stock (including any Warrants to Purchase Common Stock issued in exchange, transfer or replacement hereof, the “**Warrant**”), at any time or times after March 15, 2018 (the “**Exercisability Date**”), but not after 11:59 p.m., New York time, on the Expiration Date (as defined below), up to 82,237 (subject to adjustment as provided herein) fully paid and nonassessable shares of Common Stock (as defined below) (the “**Warrant Shares**”). Except as otherwise defined herein, capitalized terms in this Warrant shall have the meanings set forth in Section 15. This Warrant is issued pursuant to the prospectus supplement dated September 14, 2017 and accompanying prospectus (collectively, the “**Prospectus**”) that forms a part of the Registration Statement on Form S-3 (File number 333-207670) (the “**Registration Statement**”).

1. **EXERCISE OF WARRANT.**

(a) **Mechanics of Exercise.** Subject to the terms and conditions hereof, this Warrant may be exercised by the Holder on any day after the Exercisability Date, in whole or in part, by (i) delivery to the Company of a written notice, in the form attached hereto as Exhibit A (the “**Exercise Notice**”), of the Holder’s election to exercise this Warrant and (ii) (x) if the Holder is not electing a Cashless Exercise (as defined below) pursuant to Section 1(d) of this Warrant, payment to the Company of an amount equal to the applicable Exercise Price multiplied by the number of Warrant Shares as to which this Warrant is being exercised (the “**Aggregate Exercise Price**”) in cash or by wire transfer of immediately available funds, or (y) by notifying the Company pursuant to the Exercise Notice that this Warrant is being exercised pursuant to a Cashless Exercise (as defined in Section 1(d)) (collectively, the satisfaction of the aforementioned requirements is referred to herein as “**Exercise**”). The Holder shall not be required to deliver the original Warrant in order to effect an Exercise hereunder, provided that in the event of an Exercise of this Warrant for all Warrant Shares then issuable hereunder, this Warrant is surrendered to the Company by the second Trading Day following the date on which the Warrant has been duly Exercised. Exercise with respect to less than all of the Warrant Shares shall have the same effect as cancellation of the original Warrant and issuance of a new Warrant evidencing the right to purchase the remaining number of Warrant Shares. On or before the first (1st) Business Day following the date on which the Company has received the Exercise Notice, the Company shall transmit by facsimile an acknowledgment of confirmation of receipt of the Exercise Notice to the Holder and the Company’s transfer

agent (the “**Transfer Agent**”). On or before the third (3rd) Business Day following the date on which the Warrant has been duly Exercised (the “**Share Delivery Date**”), the Company shall (X) provided that the Transfer Agent is participating in The Depository Trust Company (“**DTC**”) Fast Automated Securities Transfer Program, upon the request of the Holder, credit such aggregate number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the Holder’s or its designee’s balance account with DTC through its Deposit Withdrawal Agent Commission system, or (Y) if the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program or if the certificates are required to bear a legend regarding restriction on transferability, issue and dispatch by overnight courier to the address as specified in the Exercise Notice, a certificate, registered in the Company’s share register in the name of the Holder or its designee, for the number of shares of Common Stock to which the Holder is entitled pursuant to such Exercise. Upon Exercise, the Holder shall be deemed for all corporate purposes to have become the holder of record of the Warrant Shares with respect to which this Warrant has been Exercised, irrespective of the date such Warrant Shares are credited to the Holder’s DTC account or the date of delivery of the certificates evidencing such Warrant Shares, as the case may be. If this Warrant is submitted in connection with any exercise pursuant to this Section 1(a) and the number of Warrant Shares represented by this Warrant submitted for exercise is greater than the number of Warrant Shares being acquired upon an exercise, then the Company shall as soon as practicable and in no event later than five Business Days after any exercise and at its own expense, issue a new Warrant (in accordance with Section 7(d)) representing the right to purchase the number of Warrant Shares purchasable immediately prior to such exercise under this Warrant, less the number of Warrant Shares with respect to which this Warrant is exercised. No fractional shares of Common Stock are to be issued upon the exercise of this Warrant, but rather the number of shares of Common Stock to be issued shall be rounded down to the nearest whole number. The Company shall pay any and all taxes which may be payable with respect to the issuance and delivery of Warrant Shares upon exercise of this Warrant; provided, however, that the Company shall not be required to pay any tax which may be payable in respect of any transfer involved in the registration of any certificates for Warrant Shares or Warrants in a name other than that of the Holder or an affiliate thereof. The Holder shall be responsible for all other tax liability that may arise as a result of holding or transferring this Warrant or receiving Warrant Shares upon exercise hereof.

(b) Exercise Price. For purposes of this Warrant, “**Exercise Price**” means \$3.496 per Warrant Share, subject to adjustment as provided herein.

(c) Company’s Failure to Timely Deliver Securities. If the Company shall fail for any reason or for no reason to issue to the Holder within three (3) Business Days of Exercise in compliance with the terms of this Section 1, a certificate for the number of shares of Common Stock to which the Holder is entitled and register such shares of Common Stock on the Company’s share register or to credit the Holder’s balance account with DTC for such number of shares of Common Stock to which the Holder is entitled upon the Holder’s exercise of this Warrant, then the Holder shall be entitled, but not required, to rescind the previously submitted Notice of Exercise and the Company shall return all consideration paid by Holder for such shares upon such rescission. Notwithstanding anything herein to the contrary, the Company shall not be required to make any cash payments to the Holder in lieu of issuance of the Warrant Shares.

(d) Cashless Exercise. Notwithstanding anything contained herein to the contrary (but subject to Section 1(f) below), on any day after the Exercisability Date, the Holder may exercise all or any portion of this Warrant and, in lieu of making the cash payment otherwise contemplated to be made to the Company upon such exercise in payment of the Aggregate Exercise Price, elect instead to receive upon such exercise the “Net Number” of shares of Common Stock determined according to the following formula (a “**Cashless Exercise**”):

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

For purposes of the foregoing formula:

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

B = the Weighted Average Price of the shares of Common Stock for the Trading Day immediately preceding the date of the Exercise Notice.

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

If Warrant Shares are issued in such a cashless exercise, the parties acknowledge and agree that in accordance with Section 3(a)(9) of the Securities Act, the Warrant Shares shall take on the registered characteristics of this Warrant, notwithstanding whether the Registration Statement is then effective (or the Prospectus is then available for use) for the issuance by the Company to the Holder of any portion of the Warrant Shares. The Company agrees not to take any position contrary to this Section 1(d).

(e) Disputes. In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Company shall issue to the Holder the number of Warrant Shares that are not disputed in accordance with the delivery obligations set forth in this Warrant.

(f) Beneficial Ownership. The Company shall not effect the exercise of this Warrant, and the Holder shall not have the right to exercise this Warrant, to the extent that after giving effect to such exercise, such Holder (together with such Holder’s affiliates and any other Persons acting as a group together with such Holder) would beneficially own in excess of 4.99% (the “**Maximum Percentage**”) of the shares of Common Stock outstanding immediately after giving effect to such exercise. For purposes of the foregoing sentence, the aggregate number of shares of Common Stock beneficially owned by such Person and its affiliates shall include the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which the determination of such sentence is being made, but shall exclude shares of Common Stock which would be issuable upon (i) exercise of the remaining, unexercised portion of this



Warrant beneficially owned by such Person and its affiliates and (ii) exercise or conversion of the unexercised or unconverted portion of any other securities of the Company beneficially owned by such Person and its affiliates (including, without limitation, any convertible notes or convertible preferred stock or warrants) subject to a limitation on conversion or exercise analogous to the limitation contained herein. Except as set forth in the preceding sentence, for purposes of this paragraph, beneficial ownership shall be calculated in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended (the "**Exchange Act**"), it being acknowledged that the Company is not representing to the Holder that such calculation is in compliance with Section 13(d) of the Exchange Act, and the Holder is solely responsible for any schedules required to be filed in accordance therewith. For purposes of this Warrant, in determining the number of outstanding shares of Common Stock, the Holder may rely on the number of outstanding shares of Common Stock as reflected in (1) the Company's most recent Form 10-K, Form 10-Q, Current Report on Form 8-K or other public filing with the Securities and Exchange Commission, as the case may be, (2) a more recent public announcement by the Company or (3) any other notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding. For any reason at any time, upon the written or oral request of the Holder, where such request indicates that it is being made pursuant to this Warrant, the Company shall within two (2) Business Days confirm orally and in writing to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder and its affiliates since the date as of which such number of outstanding shares of Common Stock was reported. By written notice to the Company, the Holder may from time to time increase or decrease the Maximum Percentage to any other percentage not in excess of 9.99% specified in such notice; provided that (i) any such increase will not be effective until the sixty-first (61st) day after such notice is delivered to the Company, and (ii) any such increase or decrease will apply only to the Holder.

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

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

(b) Other Events. If any event occurs of the type contemplated by the provisions of Section 2(a) but not expressly provided for by such provisions (including, without limitation, the granting of stock appreciation rights, phantom stock rights or other rights with equity features to the holders of the Company's equity securities), then the Company's Board of Directors will make an appropriate adjustment in the Exercise Price and the number of Warrant Shares and provide that the record date for stockholders entitled to participate in such event shall be the effective date for such adjustment so as to protect the rights of the Holder; provided that no such adjustment pursuant to this Section 2(b) will increase the Exercise Price or decrease the number of Warrant Shares as otherwise determined pursuant to this Section 2.

3. RIGHTS UPON DISTRIBUTION OF ASSETS. If the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a "**Distribution**"), then, in each such case

(a) any Exercise Price in effect immediately prior to the close of business on the record date fixed for the determination of holders of shares of Common Stock entitled to receive the Distribution shall be reduced, effective as of the close of business on such record date, to a price determined by multiplying such Exercise Price by a fraction of which (i) the numerator shall be the Weighted Average Price of the shares of Common Stock on the Trading Day immediately preceding such record date minus the value of the Distribution (as determined in good faith by the Company's Board of Directors) applicable to one share of Common Stock, and (ii) the denominator shall be the Weighted Average Price of the shares of Common Stock on the Trading Day immediately preceding such record date; and

(b) the number of Warrant Shares shall be increased to a number of shares equal to the number of shares of Common Stock obtainable immediately prior to the close of business on the record date fixed for the determination of holders of shares of Common Stock entitled to receive the Distribution multiplied by the reciprocal of the fraction set forth in the immediately preceding paragraph (a).

#### 4. PURCHASE RIGHTS: FUNDAMENTAL TRANSACTIONS.

(a) Purchase Rights. In addition to any adjustments pursuant to Section 2 above, if at any time the Company grants, issues or sells any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property of the Company pro rata to the record holders of any class of shares of Common Stock (the "**Purchase Rights**"), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on the exercise of this Warrant) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights.

(b) **Fundamental Transactions.** Upon the occurrence of any Fundamental Transaction, any Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Warrant referring to the "Company" shall refer instead to any Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant with the same effect as if such Successor Entity had been named as the Company herein. Upon consummation of the Fundamental Transaction, any Successor Entity shall deliver to the Holder confirmation that there shall be issued upon exercise of this Warrant at any time after the consummation of the Fundamental Transaction, in lieu of the shares of the Common Stock (or other securities, cash, assets or other property purchasable upon the exercise of the Warrant prior to such Fundamental Transaction), such shares of stock, securities, cash, assets or any other property whatsoever (including warrants or other purchase or subscription rights), if any, that the Holder would have been entitled to receive upon the happening of such Fundamental Transaction had this Warrant been exercised immediately prior to such Fundamental Transaction, as adjusted in accordance with the provisions of this Warrant. In addition to and not in substitution for any other rights hereunder, prior to the consummation of any Fundamental Transaction pursuant to which holders of shares of Common Stock are entitled to receive securities or other assets with respect to or in exchange for shares of Common Stock (a "**Corporate Event**"), the Company shall make appropriate provision to insure that the Holder will thereafter have the right to receive upon an exercise of this Warrant within 90 days after the consummation of the Fundamental Transaction but, in any event, prior to the Expiration Date, in lieu of the shares of the Common Stock (or other securities, cash, assets or other property) purchasable upon the exercise of the Warrant prior to such Fundamental Transaction, such shares of stock, securities, cash, assets or any other property whatsoever (including warrants or other purchase or subscription rights) which the Holder would have been entitled to receive upon the happening of such Fundamental Transaction had the Warrant been exercised immediately prior to such Fundamental Transaction. Provision made pursuant to the preceding sentence shall be in a form and substance reasonably satisfactory to the Holder. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the Holder shall be given the same choice as to the consideration it receives upon any exercise of this Warrant following such Fundamental Transaction. The provisions of this Section shall apply similarly and equally to successive Fundamental Transactions and Corporate Events and shall be applied without regard to any limitations on the exercise of this Warrant.

5. **NONCIRCUMVENTION.** The Company hereby covenants and agrees that the Company will not, by amendment of its Certificate of Incorporation, Bylaws or through any reorganization, transfer of assets, consolidation, merger, scheme of arrangement, dissolution, issue or sale of securities, or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, and will at all times in good faith carry out all the provisions of this Warrant. Without limiting the generality of the foregoing, the Company (i) shall not increase the par value of any shares of Common Stock receivable upon the exercise

of this Warrant above the Exercise Price then in effect, and (ii) shall, so long as this Warrant is outstanding, take all action necessary to reserve and keep available out of its authorized and unissued shares of Common Stock, solely for the purpose of effecting the exercise of this Warrant, 100% of the number of shares of Common Stock issuable upon exercise of this Warrant then outstanding (without regard to any limitations on exercise).

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

7. REISSUANCE OF WARRANTS.

(a) Transfer of Warrant. If this Warrant is to be transferred in accordance with Section 14, the Holder shall surrender this Warrant to the Company, together with all applicable transfer taxes, whereupon the Company will forthwith issue and deliver upon the order of the Holder a new Warrant (in accordance with Section 7(d)), registered as the Holder may request, representing the right to purchase the number of Warrant Shares being transferred by the Holder and, if less than the total number of Warrant Shares then underlying this Warrant is being transferred, a new Warrant (in accordance with Section 7(d)) to the Holder representing the right to purchase the number of Warrant Shares not being transferred.

(b) Lost, Stolen or Mutilated Warrant. Upon receipt by the Company of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant, and, in the case of loss, theft or destruction, of any indemnification undertaking by the Holder to the Company in customary form or the provision of reasonable security by the Holder to the Company and, in the case of mutilation, upon surrender and cancellation of this Warrant, the Company shall execute and deliver to the Holder a new Warrant (in accordance with Section 7(d)) representing the right to purchase the Warrant Shares then underlying this Warrant.

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

to purchase such portion of such Warrant Shares as is designated by the Holder at the time of such surrender; provided, however, that no Warrants for fractional shares of Common Stock shall be given.

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

8. NOTICES. Whenever notice is required to be given to either party under this Warrant, unless otherwise provided herein, such notice shall be given in accordance with information provided by the Holder to the Company, or by the Company to the Holder, as applicable, in writing. The Company shall provide the Holder with prompt written notice of all actions taken pursuant to this Warrant, including in reasonable detail a description of such action and the reason therefor.

9. AMENDMENT AND WAIVER. This Warrant is one of a series of Warrants to purchase Common Stock of the Company issued on the Issuance Date (collectively, the "**Warrants**"). Except as otherwise provided herein, the provisions of this Warrant may be amended and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company has obtained the written consent of the Company and the Holder.

10. GOVERNING LAW. This Warrant shall be governed by and construed and enforced in accordance with, and all questions concerning the construction, validity, interpretation and performance of this Warrant shall be governed by, the internal laws of the State of New York, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of New York or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of New York.

11. CONSTRUCTION; HEADINGS. This Warrant shall be deemed to be jointly drafted by the Company and the Holder and shall not be construed against any person as the drafter hereof. The headings of this Warrant are for convenience of reference and shall not form part of, or affect the interpretation of, this Warrant.

12. DISPUTE RESOLUTION. In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Company shall submit the disputed determinations or arithmetic calculations via facsimile within two (2) Business Days of receipt of the Exercise Notice giving rise to such dispute, as the case may be, to the Holder. If the Holder and the Company are unable to agree upon such determination or calculation of the Exercise Price or the Warrant Shares within three Business Days of such disputed determination

or arithmetic calculation being submitted to the Holder, then the Company shall, within two (2) Business Days submit via facsimile (a) the disputed determination of the Exercise Price to an independent, reputable investment bank selected by the Company and approved by the Holder or (b) the disputed arithmetic calculation of the Warrant Shares to the Company's independent, outside accountant. The Company shall cause at its expense the investment bank or the accountant, as the case may be, to perform the determinations or calculations and notify the Company and the Holder of the results no later than ten Business Days from the time it receives the disputed determinations or calculations. Such investment bank's or accountant's determination or calculation, as the case may be, shall be binding upon all parties absent demonstrable error. The expenses of the investment bank and accountant will be borne by the Company unless the investment bank or accountant determines that the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares by the Holder was incorrect, in which case the expenses of the investment bank and accountant will be borne by the Holder.

13. REMEDIES, OTHER OBLIGATIONS, BREACHES AND INJUNCTIVE RELIEF. The remedies provided in this Warrant shall be cumulative and in addition to all other remedies available under this Warrant, at law or in equity (including a decree of specific performance and/or other injunctive relief), and nothing herein shall limit the right of the Holder to pursue actual damages for any failure by the Company to comply with the terms of this Warrant.

14. TRANSFER. This Warrant may be offered for sale, sold, transferred or assigned without the consent of the Company, subject to applicable securities laws.

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

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

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

(c) "**Closing Sale Price**" means, for any security as of any date, the last closing bid price and last closing trade price, respectively, for such security on the Principal Market, as reported by Bloomberg, or, if the Principal Market begins to operate on an extended hours basis and does not designate the closing bid price or the closing trade price, as the case may be, then the last bid price or the last trade price, respectively, of such security prior to 4:00:00 p.m., New York time, as reported by Bloomberg, or, if the Principal Market is not the principal securities exchange or trading market for such security, the last closing bid price or last trade price, respectively, of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg, or if the foregoing do not apply, the last closing bid price or last trade price, respectively, of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg, or, if no closing bid price or last trade price, respectively, is reported for such security by Bloomberg, the average of the bid prices, or the ask prices, respectively, of any market makers for such security as

reported in the “pink sheets” by OTC Markets Group Inc. If the Closing Sale Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Closing Sale Price, as the case may be, of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. All such determinations to be appropriately adjusted for any stock dividend, stock split, stock combination or other similar transaction during the applicable calculation period.

(d) “**Common Stock**” means (i) the Company’s shares of Common Stock, par value \$0.001 per share, and (ii) any share capital into which such Common Stock shall have been changed or any share capital resulting from a reclassification of such Common Stock.

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

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

(g) “**Expiration Date**” means the date that is five years and six months after the Issuance Date or, if such date falls on a day other than a Business Day or on which trading does not take place on the Principal Market (a “**Holiday**”), the next date that is not a Holiday.

(h) “**Fundamental Transaction**” means that (A) the Company shall, directly or indirectly, in one or more related transactions, (i) consolidate or merge with or into (whether or not the Company is the surviving corporation) another Person, or (ii) sell, assign, transfer, convey or otherwise dispose of all or substantially all of the properties or assets of the Company to another Person, or (iii) allow another Person to make a purchase, tender or exchange offer that is accepted by the holders of more than the 50% of the outstanding shares of Common Stock (not including any shares of Common Stock held by the Person or Persons making or party to, or associated or affiliated with the Persons making or party to, such purchase, tender or exchange offer), or (iv) consummate a stock purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another Person whereby such other Person acquires more than 50% of the outstanding shares of Common Stock (not including any shares of Common Stock held by the other Person or other Persons making or party to, or associated or affiliated with the other Persons making or party to, such stock purchase agreement or other business combination), or (v) reorganize, recapitalize or reclassify the Common Stock, or (B) any “person” or “group” (as these terms are used for purposes of Sections 13(d) and 14(d) of the Exchange Act) is or shall become the “beneficial owner” (within the meaning of Rule 13d-3 under the Exchange Act), directly or indirectly, of 50% of the aggregate ordinary voting power represented by issued and outstanding Common Stock.

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

(j) “**Parent Entity**” of a Person means an entity that, directly or indirectly, controls the applicable Person and whose common stock or equivalent equity security is quoted or listed on an Eligible Market, or, if there is more than one such Person or Parent Entity, the Person or Parent Entity with the largest public market capitalization as of the date of consummation of the Fundamental Transaction.

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

(l) “**Principal Market**” means The NASDAQ Capital Market.

(m) “**Securities Act**” means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

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

(o) “**Trading Day**” means any day on which the Common Stock is traded on the Principal Market, or, if the Principal Market is not the principal trading market for the Common Stock, then on the principal securities exchange or securities market on which the Common Stock is then traded; provided that “Trading Day” shall not include any day on which the Common Stock is scheduled to trade on such exchange or market for less than 4.5 hours or any day that the Common Stock is suspended from trading during the final hour of trading on such exchange or market (or if such exchange or market does not designate in advance the closing time of trading on such exchange or market, then during the hour ending at 4:00:00 p.m., New York time).

(p) “**Weighted Average Price**” means, for any security as of any date, the dollar volume-weighted average price for such security on the Principal Market during the period beginning at 9:30:01 a.m., New York City time, and ending at 4:00:00 p.m., New York City time, as reported by Bloomberg through its “Volume at Price” function or, if the foregoing does not apply, the dollar volume-weighted average price of such security in the over-the-counter market on the electronic bulletin board for such security during the period beginning at 9:30:01 a.m., New York City time, and ending at 4:00:00 p.m., New York City time, as reported by Bloomberg, or, if no dollar volume-weighted average price is reported for such security by Bloomberg for such hours, the average of the highest closing bid price and the lowest closing ask price of any of the market makers for such security as reported in the “pink sheets” by Pink Sheets LLC (formerly the National Quotation Bureau, Inc.). If the Weighted Average Price cannot be calculated for such security on such date on any of the foregoing bases, the Weighted Average Price of such security on such date shall be the fair market value as mutually determined by the



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Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved pursuant to Section 12 with the term "Weighted Average Price" being substituted for the term "Exercise Price." All such determinations shall be appropriately adjusted for any share dividend, share split or other similar transaction during such period.

**[Signature Page Follows]**

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

**ACHIEVE LIFE SCIENCES, INC.**

By: \_\_\_\_\_

Name:

Title:

EXHIBIT A

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

To: ACHIEVE LIFE SCIENCES INC.  
1001 W. Broadway, Suite 400  
Vancouver, British Columbia, Canada V6H 4B1  
Attention: Chief Executive Officer  
By Facsimile: \_\_\_\_\_

The undersigned holder hereby exercises the right to purchase \_\_\_\_\_ of the shares of Common Stock ("**Warrant Shares**") of **ACHIEVE LIFE SCIENCES, INC.**, a Delaware corporation (the "**Company**"), evidenced by the attached Warrant to Purchase Common Stock (the "**Warrant**"). Capitalized terms used herein and not otherwise defined shall have the respective meanings set forth in the Warrant.

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

a "Cash Exercise" with respect to Warrant Shares; and/or  
a "Cashless Exercise" with respect to Warrant Shares.

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

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

4. Representations and Warranties. By its delivery of this Exercise Notice, the undersigned represents and warrants to the Company that in giving effect to the exercise evidenced hereby the Holder will not beneficially own in excess of the number of shares of Common Stock (determined in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended) permitted to be owned under Section 1(f) of this Warrant to which this notice relates.

Date: \_\_\_\_\_,  
Name of Registered Holder:

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

Facsimile Number for notices: \_\_\_\_\_  
Address for delivery (if applicable): \_\_\_\_\_

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**ACKNOWLEDGMENT**

The Company hereby acknowledges this Exercise Notice.

**ACHIEVE LIFE SCIENCES, INC.**

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



1191 SECOND AVENUE, 10TH FLOOR SEATTLE, WA 98101  
TEL: 206.389.4510 FAX: 206.389.4511 WWW.FENWICK.COM

September 14, 2017

Achieve Life Sciences, Inc.  
1001 W. Broadway, Suite 400  
Vancouver, BC V6H 4B1

Ladies and Gentlemen:

At your request, we have examined the prospectus supplement, dated September 14, 2017 (the "**Prospectus Supplement**"), to a Registration Statement on Form S-3, Registration No. 333-207670 (the "**Registration Statement**") filed by Achieve Life Sciences, Inc., a Delaware corporation (the "**Company**"), with the Securities and Exchange Commission (the "**Commission**") under the Securities Act of 1933, as amended, on October 29, 2015 in connection with the registration under the Securities Act of the proposed issuance and sale, from time to time pursuant to the Purchase Agreement (the "**Purchase Agreement**"), dated September 14, 2017, by and between the Company and Lincoln Park Capital Fund, LLC, an Illinois limited liability company ("**LPC**"), of (i) 328,947 of the Company's Units, with each Unit containing one share (each a "**Unit Share**" and collectively the "**Unit Shares**") of the Company's common stock, par value \$0.001, (the "**Common Stock**") and one warrant to purchase one-quarter of one share of Common Stock (each a "**Warrant**" and collectively the "**Warrants**"), (ii) up to \$10,000,000 in aggregate purchase price of shares of Common Stock to be sold by the Company in its sole discretion from time to time (the "**Purchase Shares**") and (iii) 123,516 shares of Common Stock to be issued to LPC as consideration under the Purchase Agreement (the "**Commitment Shares**," together with the Purchase Shares and the Unit Shares, the "**Shares**"). The shares of Common Stock issuable upon exercise of the Warrants are collectively referred to herein as the "**Warrant Shares**." The Shares, the Warrants and the Warrant Shares are collectively referred to herein as the "**Securities**." The Securities are to be sold pursuant to the Prospectus Supplement and the base prospectus included in the Registration Statement, dated November 20, 2015 (together with the Prospectus Supplement, the "**Prospectus**").

In connection with our opinion expressed below we have examined originals or copies of the Company's Certificate of Incorporation, as amended (the "**Certificate**"), and Bylaws, as amended (the "**Bylaws**"), certain corporate proceedings of the Company's board of directors (the "**Board**") and stockholders relating to the Registration Statement, Purchase Agreement, the Certificate, the Bylaws, and such other agreements, documents, certificates and statements of the Company, its transfer agent and public or government officials, as we have deemed advisable, and have examined such questions of law as we have considered necessary. We have assumed the authenticity of all documents submitted to us as originals, the genuineness of all signatures on documents submitted to us, the conformity to originals of all documents submitted to us as copies, and the absence of any undisclosed termination, waiver or amendment to any document reviewed by us. In giving our opinion, we have also relied upon a good standing certificate regarding the Company issued under other outstanding securities or plans of the Company, to enable the Company to issue and deliver all of the Securities as of the date of this letter.

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

With respect to the Warrants and Purchase Shares we have assumed that, as of each and every time any of the Warrants are exercised or the Purchase Shares are issued, the Company will have a sufficient number of authorized and unissued shares of the Common Stock available for issuance under its Certificate to permit full exercise of each of the Warrants or issuance of the Purchase Shares, as the case may be, in accordance with their terms without the breach or violation of any other agreement, commitment or obligation of the Company.

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Based upon the foregoing, we are of the following opinion:

(1) With respect to the Shares, when the Shares are issued, sold and delivered in the manner and for the consideration stated in the Registration Statement and the Prospectus and the resolutions adopted by the Board, then such Shares will be validly issued, nonassessable and, to our knowledge, fully paid.

(2) With respect to the Warrant Shares, when the Warrant Shares are issued and delivered by the Company upon exercise of the Warrants in accordance with the terms thereof and the resolutions adopted by the Board, then such Warrant Shares will be validly issued, nonassessable and, to our knowledge, fully paid.

(3) The Warrants, when issued, sold and delivered in the manner and for the consideration stated in the Registration Statement and the Prospectus and the resolutions adopted by the Board, will be validly issued and will be legal, valid and binding obligations of the Company.

We consent to the use of this opinion as an exhibit to the Form 8-K and further consent to all references to us, if any, in the Registration Statement, the Prospectus constituting a part thereof and any amendments thereto. This opinion is intended solely for use in connection with the issuance and sale of the Securities subject to the Registration Statement and is not to be relied upon for any other purpose. This opinion is rendered as of the date first written above and based solely on our understanding of facts in existence as of such date after the aforementioned examination. We assume no obligation to advise you of any fact, circumstance, event or change in the law or the facts that may hereafter be brought to our attention whether or not such occurrence would affect or modify the opinions expressed herein.

Sincerely,

/s/ Fenwick & West LLP

FENWICK & WEST LLP

## PURCHASE AGREEMENT

**PURCHASE AGREEMENT** (the "Agreement"), dated as of September 14, 2017, by and between **ACHIEVE LIFE SCIENCES, INC.**, a Delaware corporation, (the "Company"), and **LINCOLN PARK CAPITAL FUND, LLC**, an Illinois limited liability company (the "Investor").

## 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, (i) One Million Dollars (\$1,000,000) of the Company's Units (the "Units"), with each Unit consisting of (a) one share of common stock, par value \$0.001, of the Company (the "Common Stock") and (b) one warrant to purchase one-quarter (1/4) of a share of Common Stock in the form attached hereto as **Exhibit A** (collectively, the "Warrant"), on the Commencement Date (as defined herein), and (ii) up to Ten Million Dollars (\$10,000,000) of Common Stock from time to time, in the Company's sole and absolute discretion, after the Commencement Date. The shares of Common Stock to be purchased under this Agreement (including, without limitation, the Initial Purchase Shares (as defined herein)) 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 Share Amount" means, with respect to any Accelerated Purchase made pursuant to Section 2(b) hereof, the number of Purchase Shares directed by the Company to be purchased by the Investor on 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 Section 2(b) hereof (subject to the Purchase Share limitations contained in Section 2(a) hereof) and (ii) the Accelerated Purchase Share Percentage multiplied by the trading volume of the Common Stock on the Principal Market during normal trading hours on the Accelerated Purchase Date.

(b) "Accelerated Purchase Date" means, with respect to any Accelerated Purchase 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 Section 2(b) hereof.

(c) "Accelerated Purchase Notice" means, with respect to any Accelerated Purchase made pursuant to Section 2(b) hereof, an irrevocable written notice from the Company to the Investor directing the Investor to buy a specified Accelerated Purchase Share Amount on the applicable Accelerated Purchase Date pursuant to Section 2(b) hereof at the applicable Accelerated Purchase Price.

(d) "Accelerated Purchase Share Percentage" means, with respect to any Accelerated Purchase made pursuant to Section 2(b) hereof, thirty percent (30%).

(e) "Accelerated Purchase Price" means, with respect to any particular Accelerated Purchase made pursuant to Section 2(b) hereof, the lower of (i) ninety-five percent (95%) of the VWAP during (A) the entire trading day on the Accelerated Purchase Date, if the volume of shares of Common Stock traded

on the Principal Market on the Accelerated Purchase Date has not exceeded the Accelerated Purchase Share Volume Maximum, or (B) the portion of the trading day of the Accelerated Purchase Date (calculated starting at the beginning of normal trading hours) until such time at which the volume of shares of Common Stock traded on the Principal Market has exceeded the Accelerated Purchase Share Volume Maximum or (ii) the Closing Sale Price on the Accelerated Purchase Date (to be appropriately adjusted for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction).

(f) "Accelerated Purchase Share Volume Maximum" means the number of shares of Common Stock traded on the Principal Market during normal trading hours on the Accelerated Purchase Date equal to (i) the amount of shares of Common Stock properly directed by the Company to be purchased on the Accelerated Purchase Notice, 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).

(g) "Available Amount" means initially Eleven Million Dollars (\$11,000,000) in the aggregate, which amount shall be reduced by the Purchase Amount each time the Investor purchases Units or shares of Common Stock pursuant to Section 2 hereof, including, without limitation, the Initial Purchase pursuant to Section 2(a) hereof.

(h) "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.

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

(j) "Base Price" means a price per Purchase Share equal to the sum of (i) the Signing Market Price, (ii) \$0.03125 and (iii) \$0.177 (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).

(k) "Base Prospectus" means the Company's final base prospectus, dated November 20, 2015, a preliminary form of which is included in the Registration Statement, including the documents incorporated by reference therein.

(l) "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.

(m) "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.

(n) "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 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.

(o) "Custodian" means any receiver, trustee, assignee, liquidator or similar official under any Bankruptcy Law.

(p) "DTC" means The Depository Trust Company, or any successor performing substantially the same function for the Company.

(q) "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 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.

(r) "Exchange Act" means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

(s) "Initial Prospectus Supplement" means the prospectus supplement to the Base Prospectus complying with Rule 424(b) under the Securities Act that is filed with the SEC and delivered by the Company to the Investor upon the execution and delivery of this Agreement in accordance with Section 5(a), including the documents incorporated by reference therein.

(t) "Initial Purchase Shares" means the aggregate number of shares of Common Stock contained in all of the Units to be purchased by the Investor in the Initial Purchase.

(u) "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 primarily 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 declaration of a national emergency or other calamity or crisis or any escalation or material worsening of any such hostilities, acts of war, sabotage or terrorism or military actions or similar event 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.

(v) "Maturity Date" means the first day of the month immediately following the thirty (30) month anniversary of the Commencement Date.

(w) "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.

(x) "Principal Market" means The NASDAQ Capital Market; provided however, that in the event the Company's Common Stock is ever listed or traded on The NASDAQ Global Market, The NASDAQ Global Select Market, the New York Stock Exchange, the NYSE American, the NYSE Arca or the OTC Bulletin Board (it being understood that as used herein "OTC Bulletin Board" shall also mean any successor or comparable market quotation system or exchange to the OTC Bulletin Board such as the OTCQB operated by the OTC Markets Group, Inc.), then the "Principal Market" shall mean such other market or exchange on which the Company's Common Stock is then listed or traded or any successor thereto.

(y) "Prospectus" means the Base Prospectus, as supplemented by any Prospectus Supplement (including the Initial Prospectus Supplement), including the documents incorporated by reference therein.

(z) "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 incorporated by reference therein.

(aa) "Purchase Amount" means, with respect to the Initial Purchase, any Regular Purchase or any Accelerated Purchase made hereunder, the portion of the Available Amount to be purchased by the Investor pursuant to Section 2 hereof.

(bb) "Purchase Date" means, with respect to any 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, of such Business Day a valid Regular Purchase Notice that the Investor is to buy Purchase Shares pursuant to Section 2(a) hereof.

(cc) "Purchase Price" means, with respect to any Regular Purchase made pursuant to Section 2(a) hereof, the lower of: (i) the lowest Sale Price of the Common Stock on the applicable Purchase Date and (ii) the arithmetic average of the three (3) lowest Closing Sale Prices for the Common Stock during the ten (10) consecutive Business Days ending on the Business Day immediately preceding such Purchase Date (in each case, to be appropriately adjusted for any reorganization, recapitalization, non-cash dividend, stock split, reverse stock split or other similar transaction).

(dd) "Registration Statement" means the effective registration statement on Form S-3 (Commission File No. 333-207670) filed by the Company with the SEC pursuant to the Securities Act for the registration of shares of its Common Stock, including the Purchase Shares, the Commitment Shares and the Warrant Shares, warrants, including the Warrants, and certain other securities, as such Registration Statement has been or may be amended and supplemented from time to time, including all

documents filed as part thereof or incorporated by reference therein, and including all information deemed to be a part thereof at the time of effectiveness pursuant to Rule 430B of the Securities Act, including any comparable successor registration statement filed by the Company with the SEC pursuant to the Securities Act for the registration of shares of its Common Stock, including the Purchase Shares, the Commitment Shares and the Warrant Shares, and warrants, including the Warrants.

(ee) "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 Purchase Date.

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

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

(hh) "Securities" means, collectively, the Purchase Shares, the Commitment Shares, the Warrant and the Warrant Shares.

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

(jj) "Signing Market Price" means \$2.96, representing the consolidated closing bid price of the Common Stock on The NASDAQ Capital Market on the Business Day immediately preceding the date of this Agreement.

(kk) "Staff Interpretations" means the interpretations of the SEC's staff set forth in response to question 116.21 of the Compliance and Disclosure Interpretations of Securities Act Forms of the Division of Corporate Finance dated September 22, 2016.

(ll) "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.

(mm) "Transaction Documents" means, collectively, this Agreement, the Warrant and the schedules and exhibits hereto, 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.

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

(oo) "Warrant Shares" means the shares of Common Stock issuable upon exercise of the Warrant (without regard to any limitations on the exercise of the Warrant set forth therein).

(pp) "VWAP" means in respect of an applicable Accelerated Purchase Date, the volume weighted average price of the Common Stock on the Principal Market, as reported on the Principal Market.

## 2. PURCHASE OF UNITS AND PURCHASE SHARES.

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 and the Investor has the obligation to purchase from the Company, Units and Purchase Shares as follows:

(a) Commencement. Upon the satisfaction of the conditions set forth in Sections 7 and 8 hereof (the "Commencement") and the date of satisfaction of such conditions the "Commencement Date"), the Investor shall purchase 328,947 Units (such purchase, the "Initial Purchase"), for an aggregate purchase price of One Million Dollars (\$1,000,000) (the "Initial Purchase Price"). Beginning one (1) Business Day following the Commencement Date, the Company shall have the right, but not the obligation, in its sole and absolute discretion, to direct the Investor, by its delivery to the Investor of a Regular Purchase Notice from time to time, to purchase up to Eighty Thousand (80,000) Purchase Shares (each such purchase a "Regular Purchase"), at the Purchase Price on the Purchase Date; provided, however, that (i) the Regular Purchase may be increased to up to One Hundred Thousand (100,000) Purchase Shares, provided that the Closing Sale Price of the Common Stock is not below \$3.00 on the Purchase Date, and (ii) the Regular Purchase may be increased to up to One Hundred Twenty Thousand (120,000) Purchase Shares, provided that the Closing Sale Price of the Common Stock is not below \$4.50 on the Purchase Date (all of which share amounts shall be appropriately adjusted 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); and provided, further, that the Investor's committed obligation under any single Regular Purchase shall not exceed One Million Dollars (\$1,000,000), unless the parties mutually agree to increase the dollar amount of any Regular Purchase on any Purchase Date at the applicable Purchase Price. 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 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 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 so long as at least one (1) Business Day has passed since the most recent Regular Purchase was completed.

(b) Accelerated Purchases. Subject to the terms and conditions of this Agreement, 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, in its sole and absolute discretion, to direct the Investor by the Company's delivery to the Investor of an Accelerated Purchase Notice from time to time, and the Investor thereupon shall have the obligation, to buy Purchase Shares at the Accelerated Purchase Price on the Accelerated Purchase Date in an amount equal to the Accelerated Purchase Share Amount (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 Closing Sale Price is not below \$2.00 (to be appropriately adjusted for any reorganization, recapitalization, non-cash dividend, stock split or other similar transaction). If the Company delivers any Accelerated Purchase Notice for an Accelerated Purchase Share Amount in excess of the limitations contained in the definition of Accelerated Purchase Share Amount, 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 which the Company is permitted to include in such Accelerated Purchase Notice in accordance herewith (which shall be confirmed in an Accelerated Purchase Confirmation (defined below)), and the Investor shall have no obligation to purchase such excess Purchase Shares in respect of such Accelerated

Purchase Notice; provided 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. Within one (1) Business Day after completion of each Accelerated Purchase Date, the Accelerated Purchase Share Amount and the applicable Accelerated Purchase Price shall be set forth on a confirmation of the Accelerated Purchase to be provided to the Company by the Investor (an "Accelerated Purchase Confirmation").

(c) Payment for Purchase Shares and Warrant. The Investor shall pay to the Company the Initial Purchase Price via wire transfer of immediately available funds on the same Business Day that the Investor receives the Initial Purchase Shares as DWAC Shares and a true and correct copy of the Warrant, duly executed on behalf of the Company and registered in the name of the Investor or its designee, if such Initial Purchase Shares and Warrant are so received by the Investor before 1:00 p.m., Eastern time, or, if such Initial Purchase Shares and Warrant are so received by the Investor after 1:00 p.m., Eastern time, the next Business Day. An original copy of the Warrant shall be sent to the Investor via nationally recognized overnight delivery service, in each case properly addressed to the Investor at its address set forth in Section 12(f). 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, the Investor shall pay to the Company an amount equal to the Purchase Amount with respect to such Accelerated Purchase as full payment for such Purchase Shares via wire transfer of immediately available funds on the third 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 in respect of a Regular Purchase or Accelerated Purchase (as applicable) within three (3) Business Days following the receipt by the Company of the Purchase Price or Accelerated Purchase Price, respectively, therefor in compliance with this Section 2(c), and if on or after such Business Day 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 or Accelerated Purchase (as applicable), then the Company shall, within three (3) 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 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 Price for such Regular Purchase plus the total Accelerated Purchase Price for such Accelerated Purchase (as applicable). The Company shall not issue any fraction of a share of Common Stock upon any Regular Purchase or 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 up or 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.

(d) Purchase Price Floor. The Company and the Investor 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) \$1.00.

(e) Compliance with Registration Statement Eligibility Requirements and Rules of Principal Market.

(i) Maximum Share Cap. Subject to Section 2(e)(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 would exceed the maximum number of shares of Common Stock that the Company may issue pursuant to this Agreement and the transactions contemplated hereby and thereby (taking into account all 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 Stock Market) without (A) breaching the Company's obligations under the applicable rules of The NASDAQ Stock Market or (B) obtaining stockholder approval under the applicable rules of The NASDAQ Stock Market (the "Exchange Cap"), unless and until the Company elects to solicit stockholder approval of the issuance of Common Stock pursuant to 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 Stock Market and the Certificate of Incorporation and Bylaws of the Company, or (C) if for so long as the Company is subject to the limitations set forth in General Instruction I.B.6. of Form S-3 and the Staff Interpretations, the maximum number of shares of Common Stock that the Company may issue pursuant to this Agreement and the transactions contemplated hereby without exceeding the limitations set forth in General Instruction I.B.6. of Form S-3 and the Staff Interpretations (the "Registration Statement Eligibility Cap"). For all purposes of this Agreement, the term "Maximum Share Cap" shall mean the lesser of (i) the Exchange Cap, to the extent applicable to the transactions contemplated by this Agreement, and (ii) the Registration Statement Eligibility Cap, to the extent applicable to the transactions contemplated by this Agreement. 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 pursuant to this Agreement; provided, that if stockholder approval is not obtained in accordance with this Section 2(e)(i), the Exchange Cap shall be applicable for all purposes of this Agreement and the transactions contemplated hereby and thereby at all times during the term of this Agreement (except as set forth in Section 2(e)(ii) below).

(ii) At-Market Transaction. Notwithstanding Section 2(e)(i) above, the Exchange Cap shall not be applicable for any purposes of this Agreement and the transactions contemplated hereby and thereby, solely to the extent that (and only for so long as) the Average Price shall equal or exceed the Base Price (it being hereby acknowledged and agreed that the Exchange Cap shall be applicable for all purposes of this Agreement and the transactions contemplated hereby and thereby at all other times during the term of this Agreement, unless the stockholder approval referred to in Section 2(e)(i) is obtained).

(iii) General. The Company shall not issue any shares of Common Stock pursuant to this Agreement if such issuance would reasonably be expected to result in (A) a violation of the Securities Act or non-compliance with the General Instructions of Form S-3 (including General Instruction I.B.6. thereof) or the Staff Interpretations or (B) a breach of the rules and regulations of The NASDAQ Stock Market. The provisions of this Section 2(e) 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, the General Instructions of Form S-3 (including General Instruction I.B.6. thereof), the Staff Interpretations and the rules and regulations of The NASDAQ Stock Market.

(f) 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 shares of 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 shares of Common Stock (the "Beneficial Ownership Limitation"). Upon the written or oral request of the Investor, the Company shall promptly (but not later than one (1) Business Day) confirm orally or in writing to the Investor the number of shares 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 date hereof and as of the Commencement Date:

(a) 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.

(b) 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 from its own independent advisors as it has considered necessary to make an informed investment decision with respect to its acquisition of the Securities and is not relying on any accounting, legal, tax or other advice from the Company or its officers, employees, representatives or advisors.

(c) No Governmental Review. The Investor understands that no U.S. federal or state agency 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.

(d) 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.

(e) Residency. The Investor is a resident of the State of Illinois.

(f) Confidentiality. Other than to other Persons party to this Agreement, Investor has maintained the confidentiality of all disclosures made to it in connection with this transaction (including the existence and terms of this transaction).

(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, nor has the Investor caused any Person to engage in or effect, 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 date hereof and as of the Commencement Date:

(a) Organization and Qualification. The Company and each of the 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 Subsidiary is in violation or default of any of the provisions of its respective certificate or articles of formation or incorporation, bylaws or other organizational or charter documents. Each of the Company and the 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, would 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, except where the revocation, limitation or curtailment would not reasonably be expected to result in a Material Adverse Effect. The Company has no Subsidiaries except as set forth on Schedule 4(a).

(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 the Warrant and each of the other Transaction Documents, including without limitation, the reservation for issuance and the issuance of the Securities in accordance with the terms hereof and thereof, (ii) the execution and delivery of the Transaction Documents by the Company and the consummation by it of the transactions contemplated hereby and thereby, including without limitation, the issuance of the Commitment Shares (as defined below in Section 5(e)), the Initial Purchase Shares and the Warrant and the reservation for issuance and the issuance of the other Purchase Shares and the Warrant Shares issuable under this Agreement and the Warrant, as applicable, have been duly authorized by the Company's Board of Directors (or a duly authorized committee thereof) and no further consent or authorization is required by the Company, its Board of Directors (or a duly authorized committee thereof) or its stockholders, (iii) each of this Agreement and the Warrant has been, and each other Transaction Document shall be on the Commencement Date, duly executed and delivered by the Company and (iv) each of this Agreement and the Warrant 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 (or a duly authorized committee thereof) has approved the resolutions (the "Signing Resolutions") substantially in the form provided to the Investor to authorize this Agreement, the Warrant, the other Transaction Documents and the transactions contemplated hereby and thereby. The Signing Resolutions are valid, in full force and effect and have not been materially modified or supplemented in any respect. The Company has delivered to the Investor a true and correct copy of a unanimous written consent adopting the Signing Resolutions executed by all of the members of the Board of Directors of the Company (or a duly authorized committee thereof). Except as set forth in this Agreement, no other approvals or consents of the Company's Board of Directors and/or stockholders is necessary under applicable laws and the Company's Certificate of Incorporation and/or Bylaws to authorize the execution and delivery of this Agreement, the Warrant, the other Transaction Documents or any of the transactions contemplated hereby or thereby, including, but not limited to, the issuance of the Commitment Shares, the Purchase Shares, the Warrant and the Warrant Shares.

(c) Capitalization. As of the date hereof, the authorized capital stock of the Company is set forth on Schedule 4(c). Except as disclosed in Schedule 4(c) or in the SEC Documents, (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, except for outstanding stock options and restricted stock units granted to the Company's directors, officers or employees under the Company's equity plans described in the SEC Documents, (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 or the Warrant 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 made available to the Investor true and correct copies of the Company's Certificate of Incorporation, as amended and as in effect on the date hereof (the "Certificate of Incorporation"), and the Company's Bylaws, as amended and as in effect on the date hereof (the "Bylaws"), and summaries of the 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.

(d) Issuance of Securities. Upon issuance and payment thereof in accordance with the terms and conditions of this Agreement, (i) the Purchase Shares shall be duly authorized, 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, and will be issued in compliance with all federal and state securities laws, with the holders being entitled to all rights accorded to a holder of shares of Common Stock and (ii) the Warrant shall be duly authorized, validly issued and free from all taxes, liens, charges, restrictions, rights of first refusal and preemptive rights with respect to the issue thereof, and will be issued in compliance with all federal and state securities laws. The Commitment Shares (as defined below in Section 5(e)) have been duly authorized and, upon issuance in accordance with the terms of this

Agreement, 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. As of the Commencement, the Company shall have reserved from its duly authorized shares of capital stock not less than (i) 11,000,000 shares of Common Stock for issuance upon purchase under this Agreement as Purchase Shares and (ii) the maximum number of Warrant Shares issuable upon exercise of the Warrant (without taking into account any limitations on the exercise of the Warrant set forth therein). Upon issuance and payment thereof in accordance with the terms and conditions of the Warrant, the Warrant 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, and will be issued in compliance with all federal and state securities laws, with the holders being entitled to all rights accorded to a holder of shares of Common Stock. The Company understands and acknowledges that the number of Warrant Shares will increase in certain circumstances. The Company further acknowledges that its obligation to issue the Warrant Shares upon exercise of the Warrant in accordance with this Agreement and the Warrant is absolute and unconditional, regardless of the dilutive effect that such issuance may have on the ownership interests of other stockholders of the Company. The Securities are being issued pursuant to the Registration Statement and the issuance of the Securities has been registered by the Company pursuant to the Securities Act. Upon receipt of the Securities, the Investor will have good and marketable title to such Securities and such Securities will be immediately freely tradable, except that the Warrants sold under this Agreement are not listed, and will not be listed, for trading on any national securities exchange.

(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, the Commitment Shares, the Warrant and the Warrant 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 would 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 which would 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 knowing violation of any law, ordinance, and regulation of any governmental entity, except for possible violations, the sanctions for which either individually or in the aggregate would 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, 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 routine correspondence. To the knowledge of the Company, the Principal Market has not commenced any delisting proceedings against the Company.

(f) SEC Documents; Financial Statements. The Company has filed all reports, schedules, forms, statements and other documents required to be filed by the Company under the Securities Act and the Exchange Act, including pursuant to Section 13(a) or 15(d) thereof, for the 12 months preceding the date hereof (or such shorter period as the Company was required by law or regulation to file such material) (the foregoing materials, including the exhibits thereto and documents incorporated by reference therein, 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 and to the Company’s knowledge, 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. The Company has received no notices or correspondence from the SEC for the one year preceding the date hereof. To the Company’s knowledge, 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, 2016, 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 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 Subsidiaries or any of the Company’s or the Company’s Subsidiaries’ officers or directors in their capacities as such, which would reasonably be expected to result in 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 Integrated 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 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. To the Company's knowledge, it 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 described in the SEC Documents and which the failure to so have would not reasonably be expected to have a Material Adverse Effect. None of the Company's material trademarks, trade names, service marks, service mark registrations, service names, patents, patent rights, copyrights, inventions, licenses, approvals, governmental 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 material trademark, trade name rights, patents, patent rights, copyrights, inventions, 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, 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 would 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 would not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect.

(m) Title. The Company and the 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 the 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 the 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 leases by the Company and the Subsidiaries are held by them under valid, subsisting and enforceable leases with which the Company and the 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. 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 or foreign regulatory authorities necessary to conduct their respective businesses, and neither the Company nor any such Subsidiary has received any written 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 (or requested valid extensions of) 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. To the knowledge of the Company, 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 or the laws of the state of its incorporation which is or would reasonably be expected to 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, to the knowledge of the Company, 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 any Prospectus Supplements thereto. 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 made available 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 in all material respects 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 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. Neither the Company, nor to the knowledge of the Company, any agent or other Person acting on behalf of the Company, has (i) directly or indirectly, used any funds for unlawful contributions, gifts, entertainment or other unlawful expenses related to foreign or domestic political activity, (ii) made any unlawful payment to foreign or domestic government officials or employees or to any foreign or domestic political parties or campaigns from corporate funds, (iii) failed to disclose fully any contribution made by the Company (or made by any Person acting on its behalf of which the Company is aware) which is in violation of law, or (iv) violated in any material respect any provision of the Foreign Corrupt Practices Act of 1977, as amended.

(u) Registration Statement. The Company has prepared and filed with the SEC in accordance with the provisions of the Securities Act the Registration Statement. The Registration Statement was declared effective by order of the SEC on November 20, 2015. The Registration Statement is effective pursuant to the Securities Act and available for the issuance of the Securities thereunder, and the Company has not received any written notice that the SEC has issued or intends to issue a stop order or other similar order with respect to the Registration Statement or the Prospectus or that the SEC otherwise has (i) suspended or withdrawn the effectiveness of the Registration Statement or (ii) issued any order preventing or suspending the use of the Prospectus or any Prospectus Supplement, in either case, either temporarily or permanently or intends or has threatened in writing to do so. The "Plan of Distribution" section of the Prospectus permits the issuance of the Securities under the terms of this Agreement and the Warrant, as applicable. 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 and the Warrant, as applicable, in reliance on General Instruction I.B.6. of Form S-3 and the Staff Interpretations, 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, for so long as the Company is subject to General Instruction I.B.6. of Form S-3 and the Staff Interpretations, the Company shall not issue any shares of Common Stock pursuant to this Agreement if such issuance would reasonably be expected to result in noncompliance with General Instruction I.B.6. of Form S-3 and the Staff Interpretations. 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 not and 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, and, until the Investor does not hold any of the Securities, shall not distribute any offering material in connection with the offering and sale of any of the Securities, to or by the Investor, in each case, 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 agrees that unless it obtains the prior written consent of the Investor it will not make, an offer relating to the Securities that would constitute a "free writing prospectus" as defined in Rule 405 under the Securities Act. The Company shall comply with the requirements of Rules 164 and 433 under the Securities Act applicable to any such free writing prospectus consented to by the Investor, including in respect of timely filing with the SEC, legending and record keeping.

(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) Sarbanes-Oxley. The Company is in material compliance with all provisions of the Sarbanes-Oxley Act of 2002, as amended, which are applicable to it as of the date hereof.

(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 receipt of payment for the Securities will not be, an "investment company" within the meaning of the Investment Company Act of 1940, as amended.

(z) Listing and Maintenance Requirements. The Common Stock is registered pursuant to Section 12(b) or 12(g) 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 written 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 written notice from the Principal Market to the effect that the Company is not in compliance with the listing or maintenance requirements of the Principal Market. The Company is 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) Shell Company Status. The Company is not currently, and has never been, an issuer identified in Rule 144(i)(1) under the Securities Act.

(dd) Canadian Securities Laws. The Company is not the subject of a cease trade order, or management cease trade order, issued by the British Columbia Securities Commission (the "BCSC"), and the Company is, to the best of its knowledge, not aware of any such order being contemplated or threatened by the BCSC. The Company is a reporting issuer under the securities laws of the Province of British Columbia (the "BC Securities Laws"), is not in default of any requirement of the BC Securities Laws, and the Company is not included on the Defaulting Issuers List maintained by the BCSC. All disclosure and filings on the public record and fees required to be made and paid by the Company pursuant to the BC Securities Laws have been made and paid, and the Company has not filed any confidential material change reports.

## 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 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, and the Company shall not file the Current Report or 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 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. From and after the filing of the Current Report and the Initial Prospectus Supplement, the Company shall have publicly disclosed, in the manner contemplated by Regulation FD, all material, non-public information (if any) regarding the Company or any of its Subsidiaries delivered to the Investor by the Company or any of its Subsidiaries, or any of their respective officers, directors, employees or agents in connection with the transactions contemplated by the Transaction Documents.

(b) Blue Sky. The Company shall use its reasonable best efforts to take all such actions, if any, as is reasonably necessary in order to obtain an exemption for or to register or qualify (i) the issuance of the Securities to the Investor under this Agreement and (ii) any subsequent resale of all Securities 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 from time to time, 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, Commitment Shares and Warrant Shares to be issued to the Investor under this Agreement and the Warrant, as applicable, 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 use commercially reasonable efforts to maintain, so long as any shares of Common Stock shall be so listed, such listing of all such Purchase Shares, Commitment Shares and Warrant Shares 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 the Principal Market 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 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 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, engage in or effect, or cause any Person to enter into, engage in or effect, directly or indirectly

through any third party, 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 the Transfer Agent to issue, on the date of this Agreement, 123,516 shares of Common Stock (the "Commitment Shares") directly to the Investor electronically as DWAC Shares and shall deliver to the Transfer Agent the Irrevocable Transfer Agent Instructions with respect to the issuance of the Commitment Shares. For the avoidance of doubt, all of the Commitment Shares shall be fully earned as of the date of this Agreement, whether or not the Commencement shall occur or any Purchase Shares are purchased by the Investor under this Agreement and irrespective of any termination of this Agreement.

(f) Due Diligence: Non-Public Information. The Investor shall have the right, from time to time as the Investor may reasonably deem appropriate and upon reasonable advance notice to the Company, 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. 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 constitutes or might constitute material, non-public information, unless a simultaneous public announcement thereof is made by the Company in the manner contemplated by Regulation FD. 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, stockholders 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 and 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 shares of Common Stock to the Investor made under this Agreement.

(i) Effective Registration Statement; Current Prospectus; Securities Law Compliance. 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, subject to the Maximum Share Cap, by the Company to the Investor, and for the resale of all the Securities by the Investor, at all times until the date on which the Investor shall have sold all the Securities (including, without limitation, all of the Warrant Shares) and no Available Amount remains under this Agreement (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 Sections 12(b) or 12(g) of the Exchange Act, shall comply with its reporting and filing obligations 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 such registration or to terminate or suspend its reporting and filing obligations under the Exchange Act, and (b) prepare and file with the SEC, at the Company's expense, such amendments (including, without limitation, post-effective amendments) to the Registration Statement and such Prospectus Supplements pursuant to Rule 424(b) under the Securities Act, in each case, as may be necessary 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, and for the resale of all of the Securities by the Investor, at all times during the Registration Period (it being hereby acknowledged and agreed that the Company shall prepare and file with the SEC, at the Company's expense, immediately prior to the third anniversary of the initial effective date of the Registration Statement (the "Renewal Date"), a new Registration Statement relating to the Securities, in a form satisfactory to the Investor and its counsel, and the Company shall use its reasonable best efforts to cause such Registration Statement to be declared effective within 180 days after the Renewal Date). The Investor shall furnish to the Company such information regarding itself, its affiliates, the Securities held by it and its affiliates and the intended method of distribution thereof as shall be reasonably requested by the Company in connection with the preparation and filing of any such amendment to the Registration Statement (or new Registration Statement) or any such Prospectus Supplement, and shall otherwise cooperate with the Company as reasonably requested by the Company in connection with the preparation and filing of any such amendment to the Registration Statement (or new Registration Statement) or any such Prospectus Supplement. The Company shall comply with all applicable federal, state and foreign securities laws in connection with the offer, issuance and sale by the Company 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) Stop Orders. The Company shall advise the Investor promptly (but in no event later than 24 hours) and shall confirm such advice in writing: (i) of the Company's receipt of notice of any request by the SEC for amendment of or a supplement to the Registration Statement, the Prospectus, any Prospectus Supplement or for any additional information in connection therewith; (ii) of the Company's receipt of notice of the issuance by the SEC of any stop order suspending the effectiveness of the Registration Statement or prohibiting or suspending the use of the Prospectus or any Prospectus Supplement, or of the Company's receipt of any notification of the suspension of qualification of the 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, the Prospectus or any Prospectus Supplement untrue or which requires the making of any additions to or changes to the statements then made in the Registration Statement, the Prospectus or any Prospectus Supplement 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 the Prospectus or any Prospectus Supplement, in light of the circumstances under which they were made) not misleading, or of the necessity to amend the Registration Statement or supplement the Prospectus or any Prospectus Supplement 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. The Company shall not deliver to the Investor any Regular Purchase Notice or 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.

(k) Amendments to Registration Statement; Prospectus 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.

(l) Prospectus Delivery. The Company consents to the use of the Prospectus (and of each Prospectus Supplement thereto) in accordance with the provisions of the Securities Act and with the securities or "blue sky" laws of the jurisdictions in which the Securities may be sold by the Investor, in connection with the offering and sale of the Securities and for such period of time thereafter as the Prospectus is required by the Securities Act to be delivered in connection with sales of the Securities. The Company will make available to the Investor upon request, and thereafter from time to time will furnish to the Investor, as many copies of the Prospectus (and each Prospectus Supplement thereto) as the Investor may reasonably request for the purposes contemplated by the Securities Act within the time during which the Prospectus is required by the Securities Act to be delivered in connection with sales of the Securities. If during such period of time any event shall occur that in the reasonable judgment of the Company and its counsel, or in the reasonable judgment of the Investor and its counsel, is required to be set forth in the Registration Statement, the Prospectus or any Prospectus Supplement or should be set forth therein in order to make the statements made therein (in the case of the Prospectus or any Prospectus Supplement)

Supplement, in light of the circumstances under which they were made) not misleading, or if in the reasonable judgment of the Company and its counsel, or in the reasonable judgment of the Investor and its counsel, it is otherwise necessary to amend the Registration Statement or supplement the Prospectus or any Prospectus Supplement to comply with the Securities Act or any other applicable law or regulation, the Company shall forthwith prepare and, subject to Section 5(k) above, file with the SEC an appropriate amendment to the Registration Statement or an appropriate Prospectus Supplement and in each case shall expeditiously furnish to the Investor, at the Company's expense, such amendment to the Registration Statement or such Prospectus Supplement, as applicable, as may be necessary to reflect any such change or to effect such compliance. The Company shall have no obligation to separately advise the Investor of, or deliver copies to the Investor of, the SEC Documents, all of which the Investor shall be deemed to have notice of.

(m) Integration. From and after the date of this Agreement, the Company will not, and will use its reasonable best efforts to ensure that no Person acting on its 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 to be integrated 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.

(n) Use of Proceeds. The Company will use the net proceeds from the offering as described in the Prospectus.

(o) Other Transactions. The Company shall not enter into, announce or recommend to its stockholders 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 Securities to the Investor in accordance with the terms of the Transaction Documents, as applicable.

(p) Required Filings Relating to Purchases. To the extent required under the Securities Act or under interpretations by the SEC thereof, as promptly as practicable after the close of each of the Company's fiscal quarters (or on such other dates as required under the Securities Act or under interpretations by the SEC thereof), the Company shall prepare a Prospectus Supplement, which will set forth the number of Purchase Shares sold to the Investor during such quarterly period (or other relevant period), the purchase price for such Purchase Shares and the net proceeds received by the Company from such sales, and shall file such Prospectus Supplement with the SEC pursuant to Rule 424(b) under the Securities Act (and within the time periods required by Rule 424(b) and Rule 430B under the Securities Act). If any such quarterly Prospectus Supplement is not required to be filed under the Securities Act or under interpretations by the SEC thereof, the Company shall disclose the information referenced in the immediately preceding sentence in its annual report on Form 10-K or its quarterly report on Form 10-Q (as applicable) in respect of the quarterly period that ended immediately before the filing of such report in which sales of Purchase Shares were made to the Investor under this Agreement, and file such report with the SEC within the applicable time period required by the Exchange Act. The Company shall not file any Prospectus Supplement pursuant to this Section 5(p), and shall not file any report containing disclosure relating to such sales of Purchase Shares, unless a copy of such Prospectus Supplement or disclosure has been submitted to the Investor a reasonable period of time before the filing and the Investor has not reasonably objected thereto (it being acknowledged and agreed that the Company shall not submit any portion of any Form 10-K or Form 10-Q other than the specific disclosure relating to any sales of Purchase Shares). The Company shall also furnish copies of all such Prospectus Supplements to each exchange or market in the United States on which sales of the Purchase Shares may be made as may be required by the rules or regulations of such exchange or market, if applicable.

(q) Reservation of Shares. The Company shall take all action necessary to at all times have authorized, and reserved for the purpose of issuance, no less than the maximum number of shares of Common Stock issuable upon exercise of the Warrant in full (without regard to any limitations on the exercise of the Warrant set forth therein) (the "Required Reserved Amount"). If at any time the number of shares of Common Stock authorized and reserved for issuance is not sufficient to meet the Required Reserved Amount, the Company will promptly take all corporate action necessary to authorize and reserve a sufficient number of shares of Common Stock to meet the Required Reserved Amount.

(r) Exercise Procedures. The form of Notice of Exercise included in the Warrant sets forth the totality of the procedures required of the Investor in order to exercise the Warrant. No legal opinion, other information or instructions shall be required of the Investor to exercise the Warrant. The Company shall honor exercises of the Warrant and shall deliver the Warrant Shares in accordance with the terms, conditions and time periods set forth in the Warrant.

(s) No Variable Rate Transactions. From and after the date of this Agreement until the earlier of (i) the 18-month anniversary of the date of this Agreement and (ii) the date on which the Investor has purchased the full Available Amount of Purchase Shares pursuant to this Agreement (in either case, irrespective of any earlier termination of this Agreement), without the prior written consent of the Investor (which may be delayed, conditioned or withheld in the Investors sole discretion), the Company 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. The Investor shall be entitled to obtain 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. "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. "Variable Rate Transaction" means a transaction in which the Company (i) issues or sells any debt or equity 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 or quotations for the Common Stock at any time after the initial issuance of such debt or equity securities, 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 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 (including, without limitation, any "price reset" provisions, and any "full-ratchet" or "weighted-average" anti-dilution provisions), (ii) issues or sells any debt or equity securities, including without limitation, Common Stock or Common Stock Equivalents 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, or (iii) enters into any "at-the-market offering" or other continuous offering or similar offering of Common Stock or Common Stock Equivalents (other than an "equity line of credit" which is prohibited pursuant to the last sentence of this Section 5(s)), whereby the Company may sell Common Stock or Common Stock Equivalents at a future determined price. For the avoidance of doubt, the offering and sale by the Company of a convertible security (e.g., a warrant) with either (i) a customary "cashless exercise"

term, or (ii) a “customary” anti-dilution adjustment that is triggered only by a reorganization, recapitalization, subdivision, combination, non-cash dividend, stock split, reverse stock split or other similar transaction with respect to the Company’s securities (and not upon any subsequent sale or deemed sale of equity securities at a price that is or is deemed to be lower than the applicable conversion or exercise price) shall not be deemed to be a prohibited Variable Rate Transaction. “Exempt Issuance” means the issuance of (a) Common Stock or options to employees, officers, directors, vendors, consultants or contractors of the Company pursuant to any stock or option 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) securities upon the exercise or exchange of or conversion of any Securities issued hereunder and/or other securities exercisable or exchangeable for or convertible into Common Stock issued and outstanding on the date of this Agreement, provided that such securities have not been amended since the date of this Agreement to increase the number of such securities or to decrease the exercise price, exchange price or conversion price of such securities, and (c) securities issued pursuant to acquisitions 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 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. Anything herein to the contrary notwithstanding, from and after the date of this Agreement until the earlier of (i) 30-month anniversary of the date of this Agreement and (ii) the date on which the Investor has purchased the full Available Amount of Purchase Shares pursuant to this Agreement (in either case, irrespective of any earlier termination of this Agreement), without the prior written consent of the Investor (which may be delayed, conditioned or withheld in the Investors sole discretion), the Company 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 an “equity line of credit”, 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, other than (A) pursuant to this Agreement or another agreement or transaction between the Company and the Investor and (B) from and after the 18-month anniversary of the date of this Agreement (irrespective of any earlier termination of this Agreement), pursuant to an “at-the-market offering” of Common Stock 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.

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

On the date of this Agreement, the Company shall issue to the Transfer Agent (and any subsequent transfer agent) irrevocable instructions, in the form heretofore furnished to the Company, to issue the Purchase Shares, the Commitment Shares and the Warrant Shares in accordance with the terms of this Agreement and the Warrant, as applicable (the “Irrevocable Transfer Agent Instructions”). All Purchase Shares, Commitment Shares and Warrant Shares to be issued to or for the benefit of the Investor pursuant to this Agreement and the Warrant, as applicable, shall be issued as DWAC Shares. The Company represents and warrants to the Investor that no instruction other than the Irrevocable Transfer Agent Instructions referred to in this Section 6 will be given by the Company to the Transfer Agent with respect to the Purchase Shares, Commitment Shares and Warrant Shares, and the Securities shall otherwise be freely transferable on the books and records of the Company. Certificates and any other instruments evidencing the Securities shall not bear any restrictive or other legend. If the Investor effects a sale, assignment or transfer of the Securities, the Company shall permit the transfer and shall promptly

instruct the Transfer Agent (and any subsequent transfer agent) to issue DWAC Shares in such name and in such denominations as specified by the Investor to effect such sale, transfer or assignment. The Company acknowledges that a breach by it of its obligations hereunder will cause irreparable harm to the Investor. Accordingly, the Company acknowledges that the remedy at law for a breach of its obligations under this Section 6 will be inadequate and agrees, in the event of a breach or threatened breach by the Company of the provisions of this Section 6, that the Investor shall be entitled, in addition to all other available remedies, to an order and/or injunction restraining any breach and requiring immediate issuance and transfer, without the necessity of showing economic loss and without any bond or other security being required. The Company shall cause its counsel to issue the legal opinion referred to in the Irrevocable Transfer Agent Instructions to the Transfer Agent (and any subsequent transfer agent) to the extent required or requested by the Transfer Agent (or any subsequent transfer agent). Any fees (with respect to the Transfer Agent, counsel to the Company or otherwise) associated with the issuance of such opinion shall be borne by the Company.

**7. CONDITIONS TO THE COMPANY'S RIGHT TO COMMENCE SALES OF SHARES OF COMMON STOCK AND WARRANT.**

The right of the Company hereunder to commence sales of the Purchase Shares and the Warrant 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 date hereof and as of the Commencement Date as though made at that time.

**8. CONDITIONS TO THE INVESTOR'S OBLIGATION TO PURCHASE SHARES OF COMMON STOCK AND WARRANT.**

The obligation of the Investor to buy Purchase Shares and the Warrant 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 on the Principal Market and all Purchase Shares, Commitment Shares and Warrant Shares to be issued by the Company to the Investor pursuant to this Agreement and the Warrant, as applicable, 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 opinion of the Company's U.S. legal counsel dated as of the Commencement Date, substantially in the form 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 shall be true and correct in all material respects (except to the extent that any of such representations and warranties is already qualified as to materiality in Section 4 above, in which case, such representations and warranties shall be true and correct as so qualified) as of the date when made 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 as of such date) and the Company shall have performed, satisfied and complied 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 B**;

(e) The Board of Directors of the Company (or a duly authorized committee thereof) shall have adopted resolutions in the form provided to the Investor, 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, (i) not less than the maximum number of Warrant Shares issuable upon exercise of the Warrant (without taking into account any limitations on the exercise of the Warrant set forth therein) and (ii) 11,000,000 shares of Common Stock solely for the purpose of effecting purchases of Purchase Shares hereunder;

(g) The Irrevocable Transfer Agent Instructions shall have been delivered to and acknowledged in writing by the Company and the Company's Transfer Agent (or any successor transfer agent), and the Commitment Shares required to be issued on the date of this Agreement in accordance with Section 5(e) hereof 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 a secretary's certificate executed by the Secretary of the Company, dated as of the Commencement Date, in the form attached hereto as **Exhibit C**;

(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 and warrants registered under the Registration Statement which is sufficient to issue to the Investor not less than the sum of (i) the full Available Amount worth of Purchase Shares, (ii) all of the Commitment Shares, (iii) the Warrant and (iv) the maximum number of Warrant Shares issuable upon exercise of the Warrant (without taking into account any limitations on the exercise of the Warrant set forth therein). 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 Section 5(m) hereof. The Prospectus shall be current and available for issuances and sales of all of the Securities by the Company to the Investor, and for the resale of all of the Securities by 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 (as defined below) 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; and

(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.

## 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, 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, or 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 D** 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 Section 5(l), (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 Section 5(l), 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. Payment under this indemnification shall be made within thirty (30) days from the date 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. 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 written opinion of such separate counsel furnished to the Company, 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 shares of Common Stock during any such suspension;

(c) the delisting of the Common Stock from The NASDAQ Capital Market, provided, however, that the Common Stock is not immediately thereafter trading on the New York Stock Exchange, The NASDAQ Global Market, The NASDAQ Global Select Market, the NYSE American, 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 (i) Purchase Shares to the Investor within three (3) Business Days after the applicable Purchase Date or Accelerated Purchase Date (as applicable) which the Investor is entitled to receive such Purchase Shares or (ii) Warrant Shares to the Investor within three (3) Business Days after the applicable date on which the Investor is entitled to receive such Warrant Shares upon exercise of the Warrant;

(e) the Company breaches any representation, warranty, covenant or other term or condition under any Transaction Document if such breach would reasonably be expected to 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 after the Company receives notice of such breach;

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

(g) if the Company, 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 Maximum Share Cap is reached (to the extent the Maximum Share Cap is applicable pursuant to Section 2(e) hereof).

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, or so long as the Closing Sale Price is below the Floor Price, the Company shall not deliver to the Investor any Regular Purchase Notice or Accelerated Purchase Notice, and the Investor shall not purchase any shares of 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 \_\_, 2017, 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). 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) and 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 and Accelerated Purchases and the Company and the Investor shall complete their respective obligations with respect to any pending Regular Purchases and 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, including, without limitation, the Warrant.

## 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 New York, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of New York or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of New York. Each party hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in the State of New York, County of New York, 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:

Achieve Life Sciences, Inc.  
1001 W. Broadway, Suite 400  
Vancouver, British Columbia, Canada V6H 4B1  
Telephone: 604-736-3678  
Facsimile:  
Email: jbencich@achievelifesciences.com  
Attention: John Bencich

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

Fenwick & West LLP  
1191 2nd Avenue, 10th Floor  
Seattle, Washington 98101  
Telephone: 206-389-4510  
Facsimile: 206-389-4511  
Email: acsmith@fenwick.com  
Attention: Alan Smith, Esq.

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  
Email: jscheinfeld@lpcfunds.com/jcope@lpcfunds.com  
Attention: Josh Scheinfeld/Jonathan Cope

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

Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.  
666 Third Avenue  
New York, NY 10017  
Telephone: (212) 692-6267  
Facsimile: (212) 983-3115  
E-mail: ajmarsico@mintz.com  
Attention: Anthony J. Marsico, Esq.

If to the Transfer Agent:

Computershare Trust Company, N.A.  
8742 Lucent Boulevard, Suite 225  
Highlands Ranch, Colorado 80129  
Telephone: (303) 262-0795  
Facsimile: (303) 262-0609  
Attention: Jordan Chisholm

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 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, which shall not be unreasonably withheld. 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 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 Section 12(i) constitutes a Material Adverse Effect; provided, however, that any failure of the Company to provide the Investor with (i) disclosure contained in any annual report on Form 10-K or quarterly report on Form 10-Q regarding only the number of Purchase



Shares sold to the Investor during the relevant quarterly period, the purchase price for such Purchase Shares and the net proceeds received by the Company from such sales, or (ii) any disclosure contained in any periodic report filed with the SEC under the Exchange Act the substance of which has previously been reviewed and consented to by the Investor, in each case in accordance with this Section 12(i) shall not constitute 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. Each party shall be responsible for the payment of any fees or commissions, if any, of any financial advisor, placement agent, broker or finder engaged by such party relating to or arising out of the transactions contemplated hereby. Each party shall pay, and hold the other party 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 parties' 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 parties under this Agreement, at law or in equity (including a decree of specific performance and/or other injunctive relief), no remedy of any party contained herein shall be deemed a waiver of compliance with the provisions giving rise to such remedy and nothing herein shall limit any party'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, or (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, then the Company shall pay to the Investor, as incurred by the Investor, all reasonable documented costs and expenses including reasonable documented attorneys' fees incurred in connection therewith, in addition to all other amounts due hereunder. If this Agreement is placed by the Company in the hands of an attorney for enforcement or is enforced by the Company through any legal proceeding, then the Investor shall pay to the Company, as incurred by the Company, all reasonable documented costs and expenses including reasonable documented attorneys' fees incurred in connection therewith, in addition to all other amounts due hereunder.

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(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.

\* \* \* \* \*

IN WITNESS WHEREOF, the Investor and the Company have caused this Agreement to be duly executed as of the date first written above.

**THE COMPANY:**

**ACHIEVE LIFE SCIENCES, INC.**

By: /s/ John Bencich  
Name: John Bencich  
Title: Chief Financial Officer

**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(a)      Subsidiaries  
Schedule 4(c)      Capitalization  
Schedule 4(x)      Agent Fees

**EXHIBITS**

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

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**DISCLOSURE SCHEDULES**

Schedule 4(a) – Subsidiaries

Schedule 4(c) – Capitalization

*Authorized Capital Stock*

The Company has a total of 75,000,000 authorized shares of the Company's common stock, par value of \$0.001 per share.

Schedule 4(x) – Agent Fees

The Company engaged Tigress Financial Partners, a registered broker-dealer and FINRA member ("Tigress") as a placement agent. Tigress will receive \$10,000 as compensation in connection with its services in connection with the transaction contemplated by the Agreement. The Company also agreed to reimburse Tigress for reasonable out of pocket expenses incurred in connection with its services up to an aggregate of \$5,000.

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**EXHIBIT A**

**FORM OF WARRANT**

[Provided Separately]

**EXHIBIT B**

**FORM OF OFFICER'S CERTIFICATE**

This Officer's Certificate ("**Certificate**") is being delivered pursuant to Section 8(d) of that certain Purchase Agreement dated as of September 14, 2017, ("**Purchase Agreement**"), by and between **ACHIEVE LIFE SCIENCES, INC.**, a Delaware corporation (the "**Company**"), and **LINCOLN PARK CAPITAL FUND, LLC** (the "**Investor**"). Terms used herein and not otherwise defined shall have the meanings ascribed to them in the Purchase Agreement.

The undersigned, [\_\_\_\_], [\_\_\_\_] of the Company, hereby certifies, on behalf of the Company and not in his individual capacity, as follows:

1. I am the [\_\_\_\_] of the Company and make the statements contained in this Certificate;

2. The representations and warranties of the Company are true and correct in all material respects (except to the extent that any of such representations and warranties is already qualified as to materiality in Section 4 of the Purchase Agreement, in which case, such representations and warranties are true and correct as so qualified) as of the date when made and as of the Commencement Date as though made at that time (except for representations and warranties that speak as of a specific date);

3. The Company has performed, satisfied and complied in all material respects with 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.

4. 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 currently have any knowledge or reason to believe that its creditors intend to initiate involuntary bankruptcy or insolvency proceedings. The Company is currently financially solvent and is generally able to pay its debts as they become due.

IN WITNESS WHEREOF, I have hereunder signed my name on this \_\_\_\_ day of \_\_\_\_\_.

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

The undersigned as [\_\_\_\_] of Achieve Life Sciences, Inc., a Delaware corporation, hereby certifies that [\_\_\_\_] is the duly elected, appointed, qualified and acting [\_\_\_\_] of Achieve Life Sciences, Inc., and that the signature appearing above is his genuine signature.

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

**EXHIBIT C**

**FORM OF SECRETARY'S CERTIFICATE**

This Secretary's Certificate ("Certificate") is being delivered pursuant to Section 8(j) of that certain Purchase Agreement dated as of September 14, 2017, ("Purchase Agreement"), by and between **ACHIEVE LIFE SCIENCES, INC.**, a Delaware corporation (the "Company") and **LINCOLN PARK CAPITAL FUND, LLC** (the "Investor"), pursuant to which the Company may sell to the Investor (i) One Million Dollars (\$1,000,000) of the Company's Units (the "Units"), with each Unit consisting of (a) one share of common stock, par value \$0.001, of the Company (the "Common Stock") and (b) one warrant to purchase one-quarter (1/4) of a share of Common Stock (collectively, the "Warrant") and (ii) up to Ten Million Dollars (\$10,000,000) of Common Stock from time to time. Terms used herein and not otherwise defined shall have the meanings ascribed to them in the Purchase Agreement.

The undersigned, [\_\_\_\_\_] of the Company, hereby certifies, on behalf of the Company and not in his individual capacity, as follows:

1. I am the [\_\_\_\_\_] of the Company and make the statements contained in this Secretary's Certificate.
2. Attached hereto as Exhibit A and Exhibit B are true, correct and complete copies of the Company's Bylaws ("Bylaws") and Certificate of Incorporation ("Charter"), in each case, as amended through the date hereof, and no action has been taken by the Company, its directors, officers or stockholders, in contemplation of the filing of any further amendment relating to or affecting the Bylaws or Charter.
3. Attached hereto as Exhibit C are true, correct and complete copies of the resolutions duly adopted by the Board of Directors of the Company by unanimous written consent on [\_\_\_\_\_]. Such resolutions have not been materially amended, modified or rescinded and remain in full force and effect and such resolutions are the only resolutions adopted by the Company's Board of Directors, or any committee thereof, or the stockholders of the Company relating to or affecting (i) the entering into and performance of the Purchase Agreement and the Warrant, or the issuance, offering and sale of the Units, Purchase Shares, the Commitment Shares, the Warrant and the Warrant Shares and (ii) the performance of the Company of its obligation under the Transaction Documents as contemplated therein.
4. As of the date hereof, the authorized, issued and reserved capital stock of the Company is as set forth on Exhibit D hereto.

**IN WITNESS WHEREOF**, I have hereunder signed my name on this \_\_\_\_ day of \_\_\_\_\_.

\_\_\_\_\_  
Secretary

The undersigned as [\_\_\_\_\_] of Achieve Life Sciences, Inc., a Delaware corporation, hereby certifies that [\_\_\_\_\_] is the duly elected, appointed, qualified and acting [\_\_\_\_\_] of Achieve Life Sciences, Inc., and that the signature appearing above is his genuine signature.

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



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**EXHIBIT D**

**Information About The Investor Furnished To The Company By The Investor  
Expressly For Use In Connection With The Initial Prospectus Supplement**

**Information With Respect to Lincoln Park Capital**

As of the date of the Purchase Agreement, Lincoln Park Capital Fund, LLC, beneficially owned 534,700 shares of our common stock. Josh Scheinfeld and Jonathan Cope, the Managing Members of Lincoln Park Capital, LLC, the manager of Lincoln Park Capital Fund, LLC, are deemed to be beneficial owners of all of the shares of common stock owned by Lincoln Park Capital Fund, LLC. Messrs. Cope and Scheinfeld have shared voting and investment power over the shares being offered under the prospectus supplement filed with the SEC in connection with the transactions contemplated under the Purchase Agreement. Lincoln Park Capital, LLC is not a licensed broker dealer or an affiliate of a licensed broker dealer.

CONSENT OF INDEPENDENT ACCOUNTANTS

We hereby consent to the incorporation by reference in the Registration Statement on Form S-3 (File No. 333-207670) of Achieve Life Sciences, Inc. of our report dated March 27, 2017 relating to the consolidated financial statements, which is incorporated by reference in Achieve Life Sciences, Inc. Current Report on Form 8-K dated August 2, 2017. We also consent to the reference to us under the heading "Experts" in such Registration Statement.

/s/ PricewaterhouseCoopers LLP

**Chartered Professional Accountants**  
Vancouver, British Columbia  
September 14, 2017



**Achieve Announces Share Purchase Agreement with  
Lincoln Park Capital Fund, LLC**

**BOTHELL, Wash and VANCOUVER, British Columbia, Sept. 14, 2017** — Achieve Life Sciences, Inc. (NASDAQ: ACHV), a clinical-stage pharmaceutical company committed to the global development and commercialization of cytisine for smoking cessation, today announced that it has entered into a share purchase agreement with Lincoln Park Capital Fund, LLC pursuant to which Achieve may sell up to \$11.0 million of shares of common stock over the 30 month term of the Purchase Agreement. The agreement includes an initial purchase of \$1.0 million for 328,947 shares of common stock and a warrant to purchase 82,237 shares of common stock.

Following completion of the initial \$1.0 million purchase, Achieve has the right, at its sole discretion, to sell up to an additional \$10.0 million worth of shares to Lincoln Park, from time to time in amounts and on such terms and conditions as are described in the Purchase Agreement. Under the terms of the Purchase Agreement, Achieve has control over the timing and amount of any future sale of shares which are subject to certain conditions, and Lincoln Park is obligated to make such purchases in accordance with the terms of the agreement.

Achieve intends to use the net proceeds it receives from this offering for working capital and general corporate purposes, including to advance the clinical development of cytisine.

There are no upper price limitations Lincoln Park may pay to purchase common stock from the Company, and the purchase price of any future shares will be based on the prevailing market prices of the Company's shares at the time of each sale. In consideration for entering into the agreement and committing to fund up to \$11.0 million, Achieve has issued shares of common stock to Lincoln Park as a commitment fee. Lincoln Park has also agreed not to cause or engage in any manner whatsoever, any direct or indirect short selling or hedging of the shares. Achieve may terminate the Purchase Agreement at any time, at its sole discretion, without any cost or penalty.

The financing is being conducted pursuant to an effective shelf registration statement filed with the SEC. A prospectus supplement and the accompanying prospectus describing the terms of the financing will be filed with the SEC. Electronic copies of the prospectus supplement and accompanying prospectus will be available on the SEC's website at <http://www.sec.gov>.

This press release does not constitute an offer to sell or the solicitation of an offer to buy securities of Achieve, 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 jurisdiction.

**Achieve Contact**

Hershel Berry

[hberry@bplifescience.com](mailto:hberry@bplifescience.com)

(415) 375-3340 ext. 1