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

FORM 8-K

**CURRENT REPORT
PURSUANT TO SECTION 13 OR 15(d) OF THE
SECURITIES EXCHANGE ACT OF 1934**

Date of report (Date of earliest event reported): **July 13, 2020**

Idera Pharmaceuticals, Inc.

(Exact Name of Registrant as Specified in Charter)

Delaware
(State or Other
Jurisdiction of
Incorporation)

001-31918
(Commission File
Number)

04-3072298
(I.R.S. Employer
Identification No.)

505 Eagleview Blvd., Suite 212
Exton, Pennsylvania
(Address of Principal Executive Offices)

19341
(Zip Code)

Registrant's telephone number, including area code: **(484) 348-1600**

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instruction A.2. below):

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425).
- Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12).
- Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240-14d-2(b)).
- Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240-13e-4(c)).

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

<u>Title of each class</u>	<u>Trading Symbol(s)</u>	<u>Name of each exchange on which registered</u>
Common Stock, par value \$0.001 per share	IDRA	Nasdaq Capital Market

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

Emerging growth company

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

Item 1.01. Entry into a Material Definitive Agreement.

On July 13, 2020, Idera Pharmaceuticals, Inc. (the "Company") entered into a Securities Purchase Agreement (the "Securities Purchase Agreement") with entities controlled by Pillar Invest Corporation identified therein (each a "Purchaser" and together the "Purchasers"), providing for a private placement transaction (the "Transaction") exempt from the registration requirements of the Securities Act of 1933, as amended (the "Securities Act"), pursuant to which the Company has issued and sold, for \$5.1 million of aggregate consideration (the "First Closing"), (i) 749,993 shares (the "Shares") of the Company's common stock, par value 0.001 (the "Common Stock"), (ii) pre-funded warrants (the "First Pre-Funded Warrants") to purchase up to 2,014,234 shares of Common Stock, at an exercise price of \$0.01 per share, in lieu of certain Shares to the extent that purchasing such Shares will cause the Purchasers to beneficially own in excess of 19.99% of the total number of shares of Common Stock outstanding post transaction, and (iii) warrants (the "First Closing Common Warrants") exercisable for 2,764,227 shares of Common Stock, at an exercise price of \$2.58 per share. Each Share (or First Pre-Funded Warrant) and the associated First Closing Common Warrant had a combined purchase price of 1.845 (\$1.72 per share of Common Stock of First Pre-Funded Warrant plus \$0.125 per First Closing Common Warrant).

Pursuant to the Securities Purchase Agreement, the Company has also agreed to issue and sell to the Purchasers, for \$5.1 million of aggregate consideration (the "Second Closing"), (i) pre-funded warrants to purchase up to 784,615 shares of Common Stock (the "Second Pre-Funded Warrants" and, together with the First Pre-Funded Warrants (the "Pre-Funded Warrants"), at an exercise price of \$0.01 per share, and (ii) warrants to purchase up to 274,615 shares of Common Stock (the "Second Closing Common Warrants" and, together with the First Closing Common Warrants, the "Common Warrants"), at an exercise price of \$9.75 per share. Each Pre-Funded Warrant and the 0.35 associated Second Closing Common Warrant will have a combined purchase price of \$6.50 (\$6.45625 per Pre-Funded Warrant plus \$0.04375 per 0.35 of a Second Closing Common Warrant). The Second Closing will occur on or before the tenth Business Day following the ORR Data Announcement (as defined in the Securities Purchase Agreement) and will be held on or before the fifth day following delivery of written notice by the Purchasers to the Company.

The Warrants issuable pursuant to the Securities Purchase Agreement are exercisable at any time or times, provided that the Purchasers will be prohibited, subject to certain exceptions, from exercising a Warrant for shares of Common Stock to the extent that immediately prior to or after giving effect to such exercise, the Purchasers, together with their affiliates and other attribution parties, would own more than 19.99% of the total number of shares of Common Stock then issued and outstanding, which percentage may be changed at the holder's election to a lower percentage at any time or to a higher percentage not to exceed 19.99% upon 61 days' notice to the Company. The Pre-Funded Warrants do not have an expiration date. The Common Warrants will expire three years from the date of issuance.

The securities issued and sold in connection with the Transaction are being offered pursuant to the exemption provided in Section 4(a)(2) under the Securities Act. Each Purchaser is either (i) an "accredited investor" as defined in Rule 501(a)(1), (a)(2), (a)(3), (a)(7) or (a)(8) under the Securities Act or (ii) a "qualified institutional buyer" as defined in Rule 144A(a) under the Securities Act.

In addition, concurrently with the execution of the Securities Purchase Agreement, the Company entered into a registration rights agreement (the "Registration Rights Agreement") with the Purchasers, pursuant to which the Company agreed, following demand by the Purchasers to file with the Securities and Exchange Commission a Registration Statement on Form S-3 covering the resale of all of the Registrable Securities as promptly as reasonably practicable following such demand, and in any event within 60 days of such demand.

The foregoing descriptions of the Securities Purchase Agreement, Registration Rights Agreement, and the form of the Pre-Funded Warrant and the Common Warrant do not purport to be complete and are qualified in their entirety by reference to the full text of such agreements, filed herewith as Exhibits 10.1, 4.3, 4.1 and 4.2 and are incorporated herein by reference.

Item 3.02. Unregistered Sales of Equity Securities.

The information provided in Item 1.01 of this Form 8-K is incorporated by reference into this Item 3.02.

Item 8.01. Other Events.

On July 15, 2020, the Company issued a press release announcing its entry into the Securities Purchase Agreement. A copy of the press release is attached as Exhibit 99.1 hereto and is incorporated herein by reference.

Item 9.01. Financial Statements and Exhibits.

(d) *Exhibits.*

Exhibit Number	Description
<u>4.1</u>	<u>Form of Pre-Funded Warrant.</u>
<u>4.2</u>	<u>Form of Common Warrant.</u>
<u>4.3</u>	<u>Registration Rights Agreement, dated July 13, 2020, by and among Idera Pharmaceuticals, Inc. and Pillar Partners Foundation, L.P.</u>
<u>10.1</u>	<u>Securities Purchase Agreement, dated July 13, 2020, by and among Idera Pharmaceuticals, Inc. and Pillar Partners Foundation, L.P.</u>
<u>99.1</u>	<u>Press Release of the Company, dated July 15, 2020.</u>

SIGNATURES

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

IDERA PHARMACEUTICALS, INC.

Dated: July 15, 2020

By: /s/ Bryant D. Lim
Bryant D. Lim
Senior V.P., General Counsel

NEITHER THESE SECURITIES NOR THE SECURITIES ISSUABLE UPON EXERCISE OF THESE SECURITIES HAVE BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR APPLICABLE STATE SECURITIES LAWS. THE SECURITIES MAY NOT BE OFFERED FOR SALE, SOLD, TRANSFERRED OR ASSIGNED (I) IN THE ABSENCE OF (A) AN EFFECTIVE REGISTRATION STATEMENT FOR THE SECURITIES UNDER THE SECURITIES ACT OR (B) AN AVAILABLE EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND IN ACCORDANCE WITH APPLICABLE STATE SECURITIES LAWS OR BLUE SKY LAWS AS EVIDENCED BY A LEGAL OPINION OF COUNSEL REASONABLY SATISFACTORY TO THE COMPANY AND ITS TRANSFER AGENT OR (II) UNLESS SOLD PURSUANT TO RULE 144 UNDER THE SECURITIES ACT. NOTWITHSTANDING THE FOREGOING, THE SECURITIES MAY BE PLEDGED IN CONNECTION WITH A BONA FIDE MARGIN ACCOUNT OR OTHER LOAN OR FINANCING ARRANGEMENT SECURED BY THE SECURITIES.

[FORM OF PRE-FUNDED WARRANT]

IDERA PHARMACEUTICALS, INC.

PRE-FUNDED WARRANT TO PURCHASE COMMON STOCK

Warrant No.: [Y]

Number of Shares of Common Stock: []

Date of Issuance: [Y], 2020 ("Issuance Date")

Idera Pharmaceuticals, Inc., a Delaware corporation (the "**Company**"), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, , 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, at any time or times on or after the next business day after the Issuance Date until this Pre-Funded Warrant to Purchase Common Stock (including any Pre-Funded Warrants to Purchase Common Stock issued in exchange, transfer or replacement hereof, this "**Warrant**") is exercised in full, the Warrant Shares (as defined below). Except as otherwise defined herein, capitalized terms in this, shall have the meanings set forth in Section 14. This Warrant is one of the Pre-Funded Warrants to Purchase Common Stock (the "**Warrants**") issued in connection with the transactions contemplated by that certain Securities Purchase Agreement, dated as of [], 2020 (the "**Subscription Date**") by and between the Company, the holder and the other purchasers set forth on the schedule of purchasers thereto (the "**Securities Purchase Agreement**").

1. EXERCISE OF WARRANT.

(a) Mechanics of Exercise. Subject to the terms and conditions hereof (including, without limitation, the limitations set forth in Section 1(e)), this Warrant may be exercised by the Holder at any time or times on or after the Issuance Date, in whole or in part, by delivery (whether via facsimile, electronic mail or otherwise) of a written notice, in the form attached hereto as Exhibit A (the “**Exercise Notice**”), of the Holder’s election to exercise this Warrant. Within one (1) Trading Day following the delivery of the Exercise Notice, the Holder shall make payment to the Company of an amount equal to the Exercise Price in effect on the date of such exercise multiplied by the number of Warrant Shares as to which this Warrant is being exercised (the “**Aggregate Exercise Price**”) in cash by wire transfer of immediately available funds or, if the provisions of Section 1(d) are applicable, by notifying the Company that this Warrant is being exercised pursuant to a Cashless Exercise (as defined in Section 1(d)). The Holder shall not be required to deliver the original Warrant in order to effect an exercise hereunder (until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in full), nor shall any ink-original signature or medallion guarantee (or other type of guarantee or notarization) with respect to any Exercise Notice be required. Execution and delivery of the Exercise Notice with respect to less than all of the Warrant Shares shall have the same effect as cancellation of the original Warrant and issuance of a new Warrant evidencing the right to purchase the remaining number of Warrant Shares and the Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in full, in which case, the Holder shall surrender this Warrant to the Company for cancellation within three (3) Trading Days of the date on which the final Notice of Exercise is delivered to the Company. On or before the first (1st) Trading Day following the date on which the Holder has delivered the applicable Exercise Notice, the Company shall transmit by facsimile or electronic mail an acknowledgment of confirmation of receipt of the Exercise Notice, in the form attached to the Exercise Notice, to the Holder and the Company’s transfer agent (the “**Transfer Agent**”). So long as the Holder delivers the Aggregate Exercise Price (or notice of a Cashless Exercise, if applicable) on or prior to the first (1st) Trading Day following the date on which the Exercise Notice has been delivered to the Company, then on or prior to the earlier of (i) the second (2nd) Trading Day and (ii) the number of Trading Days comprising the Standard Settlement Period, in each case following the date on which the Exercise Notice has been delivered to the Company, or, if the Holder does not deliver the Aggregate Exercise Price (or notice of a Cashless Exercise, if applicable) on or prior to the first (1st) Trading Day following the date on which the Exercise Notice has been delivered to the Company, then on or prior to the first (1st) Trading Day following the date on which the Aggregate Exercise Price (or notice of a Cashless Exercise, if applicable) is delivered (such earlier date, or if later, the earliest day on which the Company is required to deliver Warrant Shares pursuant to this Section 1(a), 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, credit such aggregate number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the Holder’s or its designee’s balance account with DTC through its Deposit / Withdrawal At Custodian system, or (Y) if the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program (“**FAST**”), issue and dispatch by overnight courier to the address as specified in the Exercise Notice, a certificate, registered in the name of the Holder or its designee, for the number of Warrant Shares to which the Holder is entitled pursuant to such exercise. The Company shall be responsible for all fees and expenses of the Transfer Agent and all fees and expenses with respect to the issuance of Warrant Shares via DTC, if any, including without limitation for same day processing. Upon delivery of the Exercise Notice, the Holder shall be deemed for all corporate purposes to have become the holder of record and beneficial owner of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date such Warrant Shares are credited to the Holder’s DTC account or the date of delivery of the certificates evidencing such Warrant Shares, as the case may be. If this Warrant is physically delivered to the Company in connection with any exercise pursuant to this Section 1(a) and the number of Warrant Shares represented by this Warrant submitted for exercise is greater than the number of Warrant Shares being acquired upon an exercise, then the Company shall as soon as practicable and in no event later than three (3) Trading Days after any exercise and at its own expense, issue and deliver to the Holder (or its designee) a new Warrant (in accordance with Section 6(d)) representing the right to purchase the number of Warrant Shares issuable immediately prior to such exercise under this Warrant, less the number of Warrant Shares with respect to which this Warrant is exercised. No fractional 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 transfer, stamp, issuance and similar taxes, costs and expenses (including, without limitation, fees and expenses of the Transfer Agent) which may be payable with respect to the issuance and delivery of Warrant Shares upon exercise of this Warrant. The Company’s obligations to issue and deliver Warrant Shares in accordance with the terms and subject to the conditions hereof are absolute and unconditional, irrespective of any action or inaction by the Holder to enforce the same, any waiver or consent with respect to any provision hereof, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination; provided, however, that the Company shall not be required to deliver Warrant Shares with respect to an exercise prior to the Holder’s delivery of the Aggregate Exercise Price (or notice of a Cashless Exercise, if applicable) with respect to such exercise.

(b) Company's Failure to Timely Deliver Securities. In addition to any other rights available to the Holder, if the Company fails to cause the Transfer Agent to transmit to the Holder the Warrant Shares in accordance with the provisions of Section 1(a) above pursuant to an exercise on or before the Share Delivery Date (other than a failure caused by incorrect or incomplete information provided by the Holder to the Company), and if after such date the Holder is required by its broker to purchase (in an open market transaction or otherwise) or the Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a "**Buy-In**"), then the Company shall (A) pay in cash to the Holder the amount, if any, by which (x) the Holder's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (y) the amount obtained by multiplying (1) the number of Warrant Shares that the Company was required to deliver to the Holder in connection with the exercise at issue times (2) the price at which the sell order giving rise to such purchase obligation was executed, and (B) at the option of the Holder, either reinstate the portion of the Warrant and equivalent number of Warrant Shares for which such exercise was not honored (in which case such exercise shall be deemed rescinded) or deliver to the Holder the number of shares of Common Stock that would have been issued had the Company timely complied with its exercise and delivery obligations hereunder. For example, if the Holder purchases Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted exercise of shares of Common Stock with an aggregate sale price giving rise to such purchase obligation of \$10,000, under clause (A) of the immediately preceding sentence, the Company shall be required to pay the Holder \$1,000. The Holder shall provide the Company written notice within three (3) Trading Days after the occurrence of a Buy-In, indicating the amounts payable to the Holder in respect of the Buy-In and, upon request of the Company, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

(c) Cashless Exercise. The Holder may, in its sole discretion, exercise this Warrant in whole or in part and, in lieu of making the cash payment otherwise contemplated to be made to the Company upon such exercise in payment of the Aggregate Exercise Price, elect instead to receive upon such exercise the “Net Number” of shares of Common Stock determined according to the following formula (a “**Cashless Exercise**”):

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

For purposes of the foregoing formula:

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

If Warrant Shares are issued in such a cashless exercise, the Company acknowledges and agrees that in accordance with Section 3(a)(9) of the Securities Act of 1933, as amended (the “**Securities Act**”), the Warrant Shares shall take on the registered characteristics of the Warrants being exercised, and the holding period of the Warrants being exercised may be tacked on to the holding period of the Warrant Shares. The Company agrees not to take any position contrary to this Section 1(c).

(d) **Disputes.** In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Company shall promptly issue to the Holder the number of Warrant Shares that are not disputed and resolve such dispute in accordance with Section 9.

(e) **Beneficial Ownership.** Notwithstanding anything to the contrary contained herein, the Company shall not effect the exercise of any portion of this Warrant, and the Holder shall not have the right to exercise any portion of this Warrant, pursuant to the terms and conditions of this Warrant and any such exercise shall be null and void and treated as if never made, to the extent that immediately prior to or after giving effect to such exercise, the Holder together with the other Attribution Parties collectively would beneficially own in excess of 19.99% (the “**Maximum Percentage**”) of the number of shares of Common Stock outstanding immediately after giving effect to such exercise. For purposes of the foregoing sentence, the aggregate number of shares of Common Stock beneficially owned by the Holder and the other Attribution Parties shall include the number of shares of Common Stock held by the Holder and all other Attribution Parties plus the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which the determination of such sentence is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (A) exercise of the remaining, unexercised portion of this Warrant beneficially owned by the Holder or any of the other Attribution Parties and (B) exercise or conversion of the unexercised or unconverted portion of any other securities of the Company (including, without limitation, any convertible notes or convertible preferred stock or warrants, including the other Warrants) beneficially owned by the Holder or any other Attribution Party subject to a limitation on conversion or exercise analogous to the limitation contained in this Section 1(e). For purposes of this Section 1(e), 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 by the Holder 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. To the extent that the limitation contained in this Section 1(e) applies, the determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable shall be in the sole discretion of the Holder, and the Company shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Warrant, in determining the number of outstanding shares of Common Stock the Holder may acquire upon the exercise of this Warrant without exceeding the Maximum Percentage, the Holder may rely on the number of outstanding shares of Common Stock as reflected in (x) the Company’s most recent Annual Report on Form 10-K, Quarterly Report on Form 10-Q and Current Reports on Form 8-K or other public filing with the Securities and Exchange Commission (the “**SEC**”), as the case may be, (y) a more recent public announcement by the Company or (z) any other written notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding (the “**Reported Outstanding Share Number**”). If the Company receives an Exercise Notice from the Holder at a time when the actual number of outstanding shares of Common Stock is less than the Reported Outstanding Share Number, the Company shall (i) notify the Holder in writing of the number of shares of Common Stock then outstanding and, to the extent that such Exercise Notice would otherwise cause the Holder’s beneficial ownership, as determined pursuant to this Section 1(e), to exceed the Maximum Percentage, the Holder must notify the Company of a reduced number of Warrant Shares to be purchased pursuant to such Exercise Notice (the number of shares by which such purchase is reduced, the “**Reduction Shares**”) and (ii) as soon as reasonably practicable, the Company shall return to the Holder any exercise price paid by the Holder for the Reduction Shares. For any reason at any time, upon the written or oral request of the Holder, the Company shall within one (1) Business Day confirm orally and in writing or by electronic mail to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder and any other Attribution Party since the date as of which the Reported Outstanding Share Number was reported. In the event that the issuance of Common Stock to the Holder upon exercise of this Warrant results in the Holder and the other Attribution Parties being deemed to beneficially own, in the aggregate, more than the Maximum Percentage of the number of outstanding shares of Common Stock (as determined under Section 13(d) of the Exchange Act), the number of shares so issued by which the Holder’s and the other Attribution Parties’ aggregate beneficial ownership exceeds the Maximum Percentage (the “**Excess Shares**”) shall be deemed null and void and shall be cancelled ab initio, and the Holder shall not have the power to vote or to transfer the Excess Shares. As soon as reasonably practicable after the issuance of the Excess Shares has been deemed null and void, the Company shall return to the Holder the exercise price paid by the Holder for the Excess Shares. Upon delivery of a written notice to the Company, the Holder may from time to time increase or decrease the Maximum Percentage to any other percentage as specified in such notice not in excess of 19.99%; provided that (i) any such increase in the Maximum Percentage will not be effective until the sixty-first (61st) day after such notice is delivered to the Company and (ii) any such increase or decrease will apply only to the Holder and not to any other holder of Warrants that is not an Attribution Party of the Holder. For purposes of clarity, the shares of Common Stock issuable pursuant to the terms of this Warrant in excess of the Maximum Percentage shall not be deemed to be beneficially owned by the Holder for any purpose including for purposes of Section 13(d) or Rule 16a-1(a)(1) of the Exchange Act. No prior inability to exercise this Warrant pursuant to this paragraph shall have any effect on the applicability of the provisions of this paragraph with respect to any subsequent determination of exercisability. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 1(e) to the extent necessary to correct this paragraph or any portion of this paragraph which may be defective or inconsistent with the intended beneficial ownership limitation contained in this Section 1(e) or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitation contained in this paragraph may not be waived and shall apply to a successor holder of this Warrant.

(f) Required Reserve Amount. Subject to Section 1(g) below, so long as this Warrant remains outstanding, the Company shall at all times keep reserved for issuance under this Warrant a number of shares of Common Stock at least equal to 100% of the maximum number of shares of Common Stock as shall be necessary to satisfy the Company's obligation to issue shares of Common Stock under the Warrants then outstanding (without regard to any limitations on exercise) (the "**Required Reserve Amount**"); provided that at no time shall the number of shares of Common Stock reserved pursuant to this Section 1(f) be reduced other than in connection with any exercise of Warrants or such other event covered by Section 2 below. The Required Reserve Amount (including, without limitation, each increase in the number of shares so reserved) shall be allocated pro rata among the holders of the Warrants based on the number of shares of Common Stock issuable upon exercise of Warrants held by each holder thereof on the Issuance Date (without regard to any limitations on exercise) (the "**Authorized Share Allocation**"). In the event that a holder shall sell or otherwise transfer any of such holder's Warrants, each transferee shall be allocated a pro rata portion of such holder's Authorized Share Allocation. Any shares of Common Stock reserved and allocated to any Person which ceases to hold any Warrants shall be allocated to the remaining holders of Warrants, pro rata based on the number of shares of Common Stock issuable upon exercise of the Warrants then held by such holders thereof (without regard to any limitations on exercise).

(g) Insufficient Authorized Shares. If at any time while this Warrant remains outstanding the Company does not have a sufficient number of authorized and unreserved shares of Common Stock to satisfy its obligation to reserve for issuance the Required Reserve Amount (an "**Authorized Share Failure**"), then the Company shall promptly take all action reasonably necessary to increase the Company's authorized shares of Common Stock to an amount sufficient to allow the Company to reserve the Required Reserve Amount for this Warrant then outstanding. Without limiting the generality of the foregoing sentence, as soon as practicable after the date of the occurrence of an Authorized Share Failure, but in no event later than 120 days after the occurrence of such Authorized Share Failure, the Company shall hold a meeting of its stockholders for the approval of an increase in the number of authorized shares of Common Stock. In connection with such meeting, the Company shall provide each stockholder with a proxy statement and shall use its reasonable best efforts to solicit its stockholders' approval of such increase in authorized shares of Common Stock and to cause its board of directors to recommend to the stockholders that they approve such proposal.

2. ADJUSTMENT OF EXERCISE PRICE AND NUMBER OF WARRANT SHARES UPON SUBDIVISION OR COMBINATION OF COMMON STOCK.

(a) Subdivisions or Combinations. If the Company at any time on or after the Issuance Date subdivides (by any stock split, stock dividend, recapitalization or otherwise) one or more classes of its outstanding shares of Common Stock into a greater number of shares, the applicable Exercise Price in effect immediately prior to such subdivision will be proportionately reduced and the number of the applicable Warrant Shares will be proportionately increased. If the Company at any time on or after the Subscription Date combines (by combination, reverse stock split or otherwise) one or more classes of its outstanding shares of Common Stock into a smaller number of shares, the applicable Exercise Price in effect immediately prior to such combination will be proportionately increased and the number of the applicable 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) Rights Upon Distribution of Assets. In addition to any adjustments pursuant to the other subsections of this Section 2, if, on or after the Issuance Date until this Warrant is exercised in full, the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property, options, evidence of indebtedness or any other assets by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a “**Distribution**”), at any time after the issuance of this Warrant, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations or restrictions on exercise of this Warrant, including without limitation, the Maximum Percentage) immediately before the date on which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, however, that to the extent that the Holder’s right to participate in any such Distribution would result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Distribution to such extent (and shall not be entitled to beneficial ownership of such shares of Common Stock as a result of such Distribution (and beneficial ownership) to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time or times as its right thereto would not result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be granted such Distribution (and any Distributions declared or made on such initial Distribution or on any subsequent Distribution held similarly in abeyance) to the same extent as if there had been no such limitation).

(c) Purchase Rights. In addition to any adjustments pursuant to the other subsections of Section 2 above, if at any time on or after the Issuance Date and until this Warrant is exercised in full the Company grants, issues or sells any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of Common Stock (the “**Purchase Rights**”), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations or restrictions on exercise of this Warrant, including without limitation, the Maximum Percentage) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of Common Stock are to be determined for the grant, issuance or sale of such Purchase Rights (provided, however, that to the extent that the Holder’s right to participate in any such Purchase Right would result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Purchase Right to such extent (and shall not be entitled to beneficial ownership of such Common Stock as a result of such Purchase Right (and beneficial ownership) to such extent) and such Purchase Right to such extent shall be held in abeyance for the benefit of the Holder until such time or times as its right thereto would not result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be granted such right (and any Purchase Right granted, issued or sold on such initial Purchase Right or on any subsequent Purchase Right to be held similarly in abeyance) to the same extent as if there had been no such limitation).

(d) Fundamental Transactions. At any time while this Warrant remains outstanding, the Company shall not enter into or be party to a Fundamental Transaction unless the Successor Entity assumes in writing all of the obligations of the Company under this Warrant in accordance with the provisions of this Section 3, including agreements to deliver to the Holder in exchange for this Warrant a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Warrant, including, without limitation, which is exercisable for a corresponding number of shares of capital stock equivalent to the shares of Common Stock acquirable and receivable upon exercise of this Warrant (without regard to any limitations on the exercise of this Warrant) prior to such Fundamental Transaction, and with an exercise price which applies the exercise price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such adjustments to the number of shares of capital stock and such exercise price being for the purpose of protecting the economic value of this Warrant immediately prior to the consummation of such Fundamental Transaction). Upon the consummation of each Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for the Company (so that from and after the date of the applicable Fundamental Transaction, the provisions of this Warrant and the other Transaction Documents referring to the "Company" shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant with the same effect as if such Successor Entity had been named as the Company herein. Notwithstanding the foregoing, and without limiting Section 1(e) hereof, the Holder may elect, at its sole option, by delivery of written notice to the Company to waive this Section 3 to permit the Fundamental Transaction without the assumption of this Warrant. In addition to and not in substitution for any other rights hereunder, prior to the consummation of each Fundamental Transaction pursuant to which holders of shares of Common Stock are entitled to receive securities or other assets with respect to or in exchange for shares of Common Stock (a "**Corporate Event**"), the Company shall make appropriate provision to insure that the Holder will thereafter have the right to receive upon an exercise of this Warrant at any time after the consummation of the applicable Fundamental Transaction until this Warrant is exercised in full, in lieu of the shares of the Common Stock (or other securities, cash, assets or other property) issuable upon the exercise of the Warrant prior to such Fundamental Transaction, such shares of stock, securities, cash, assets or any other property whatsoever (including warrants or other purchase or subscription rights) (collectively, the "**Corporate Event Consideration**") which the Holder would have been entitled to receive upon the happening of the applicable Fundamental Transaction had this Warrant been exercised immediately prior to the applicable Fundamental Transaction (without regard to any limitations on the exercise of this Warrant). The provision made pursuant to the preceding sentence shall be in a form and substance reasonably satisfactory to the Holder. The provisions of this Section 3 shall apply similarly and equally to successive Fundamental Transactions and Corporate Events.

3. NONCIRCUMVENTION. The Company hereby covenants and agrees that the Company will not, by amendment of its certificate of incorporation or by-laws, or through any reorganization, transfer of assets, consolidation, merger, scheme, arrangement, dissolution, issuance or sale of securities, or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, and will at all times in good faith carry out all of the provisions of this Warrant and take all action as may be required to protect the rights of the Holder. Without limiting the generality of the foregoing, the Company (i) shall not increase the par value of any shares of Common Stock receivable upon the exercise of this Warrant above the applicable Exercise Price then in effect, (ii) shall take all such actions as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable shares of Common Stock upon the exercise of this Warrant, and (iii) shall, so long as any of the Warrants are outstanding, take all action necessary to reserve and keep available out of its authorized and unissued shares of Common Stock, solely for the purpose of effecting the exercise of the Warrants, the number of shares of Common Stock as shall from time to time be necessary to effect the exercise of the Warrants then outstanding (without regard to any limitations on exercise).

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

5. REISSUANCE OF WARRANTS.

(a) Transfer of Warrant. If this Warrant is to be transferred, the Holder shall surrender this Warrant to the Company, whereupon the Company will forthwith issue and deliver upon the order of the Holder a new Warrant (in accordance with Section 5(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 5(d)) to the Holder representing the right to purchase the number of Warrant Shares not being transferred.

(b) Lost, Stolen or Mutilated Warrant. Upon receipt by the Company of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant, and, in the case of loss, theft or destruction, of any indemnification undertaking by the Holder to the Company in customary form (but without the obligation to post a bond) and, in the case of mutilation, upon surrender and cancellation of this Warrant, the Company shall execute and deliver to the Holder a new Warrant (in accordance with Section 5(d)) representing the right to purchase the Warrant Shares then underlying this Warrant.

(c) Exchangeable for Multiple Warrants. This Warrant is exchangeable, upon the surrender hereof by the Holder at the principal office of the Company, for a new Warrant or Warrants (in accordance with Section 5(d)) representing in the aggregate the right to purchase the number of Warrant Shares then underlying this Warrant, and each such new Warrant will represent the right to purchase such portion of such Warrant Shares as is designated by the Holder at the time of such surrender.

(d) Issuance of New Warrants. Whenever the Company is required to issue a new Warrant pursuant to the terms of this Warrant, such new Warrant (i) shall be of like tenor with this Warrant, (ii) shall represent, as indicated on the face of such new Warrant, the right to purchase the Warrant Shares then underlying this Warrant (or in the case of a new Warrant being issued pursuant to Section 5(a) or Section 5(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.

6. NOTICES. Whenever notice is required to be given under this Warrant, including, without limitation, an Exercise Notice, unless otherwise provided herein, such notice shall be given in writing, (i) if delivered (a) from within the domestic United States, by first-class registered or certified airmail, or nationally recognized overnight express courier, postage prepaid, electronic mail or by facsimile or (b) from outside the United States, by International Federal Express, electronic mail or facsimile, and (ii) will be deemed given (A) if delivered by first-class registered or certified mail domestic, three (3) Business Days after so mailed, (B) if delivered by nationally recognized overnight carrier, one (1) Business Day after so mailed, (C) if delivered by International Federal Express, two (2) Business Days after so mailed and (D) at the time of transmission, if delivered by electronic mail to the email address specified in this Section 6 prior to 5:00 p.m. (New York time) on a Trading Day, (E) the next Trading Day after the date of transmission, if delivered by electronic mail to the email address specified in this Section 7 on a day that is not a Trading Day or later than 5:00 p.m. (New York time) on any Trading Day and (F) if delivered by facsimile, upon electronic confirmation of delivery of such facsimile, and will be delivered and addressed as follows:

(i) If to the Company, to:

Idera Pharmaceuticals, Inc.
505 Eagleview Blvd., Suite 212
Exton, Pennsylvania 19341
Attn: Chief Financial Officer

with copies to:

Morgan, Lewis & Bockius LLP
1701 Market Street
Philadelphia, Pennsylvania 19103-2921
Attn: Joanne R. Soslow, Esq.
Email: joanne.soslow@morganlewis.com

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

The Company shall provide the Holder with prompt written notice of all actions taken pursuant to this Warrant, including in reasonable detail a description of such action and the reason therefor. Without limiting the generality of the foregoing, the Company will give written notice to the Holder (i) immediately upon any adjustment of the Exercise Price, setting forth in reasonable detail, and certifying, the calculation of such adjustment and (ii) at least fifteen (15) days prior to the date on which the Company closes its books or takes a record (A) with respect to any dividend or distribution upon the shares of Common Stock, (B) with respect to any grants, issuances or sales of any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of Common Stock or (C) for determining rights to vote with respect to any Fundamental Transaction, dissolution or liquidation; provided in each case that such information shall be made known to the public prior to or in conjunction with such notice being provided to the Holder; provided, further, that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice.

7. AMENDMENT AND WAIVER. Except as otherwise provided herein, the provisions of this Warrant may be amended or waived and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company has obtained the written consent of the Holder.

8. GOVERNING LAW; JURY TRIAL. This Warrant shall be governed by and construed and enforced in accordance with, and all questions concerning the construction, validity, interpretation and performance of this Warrant shall be governed by, the internal laws of the State of New York, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of New York or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of New York. If either party shall commence an action, suit or proceeding to enforce any provisions of this Warrant, the prevailing party in such action, suit or proceeding shall be reimbursed by the other party for their reasonable attorneys' fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding. **THE COMPANY HEREBY IRREVOCABLY WAIVES ANY RIGHT IT MAY HAVE, AND AGREES NOT TO REQUEST, A JURY TRIAL FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION WITH OR ARISING OUT OF THIS WARRANT OR ANY TRANSACTION CONTEMPLATED HEREBY.**

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

10. **REMEDIES, OTHER OBLIGATIONS, BREACHES AND INJUNCTIVE RELIEF.** The remedies provided in this Warrant shall be cumulative and in addition to all other remedies available under this Warrant and any other Transaction Documents, at law or in equity (including a decree of specific performance and/or other injunctive relief), and nothing herein shall limit the right of the Holder to pursue actual damages for any failure by the Company to comply with the terms of this Warrant. The Company acknowledges that a breach by it of its obligations hereunder will cause irreparable harm to the Holder and that the remedy at law for any such breach may be inadequate. The Company therefore agrees that, in the event of any such breach or threatened breach, the holder of this Warrant shall be entitled, in addition to all other available remedies, to seek an injunction restraining any breach, without the necessity of showing economic loss and without any bond or other security being required.

11. **TRANSFER.** Subject to compliance with applicable federal and state securities laws, this Warrant and the Warrant Shares may be offered for sale, sold, transferred, pledged or assigned without the consent of the Company.

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

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

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

(a) “**Affiliate**” means any person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a person, as such terms are used in and construed under Rule 405 under the Securities Act.

(b) “**Attribution Parties**” means, collectively, the Holder (together with the Holder’s Affiliates, and any other persons acting as a group together with the Holder or any of the Holder’s Affiliates. For clarity, the purpose of the foregoing is to subject collectively the Holder and all other Attribution Parties to the Maximum Percentage.

(c) “**Bid Price**” means, for any security as of the particular time of determination, the bid price for such security on the Principal Market as reported by Bloomberg as of such time of determination, or, if the Principal Market is not the principal securities exchange or trading market for such security, the bid price of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg as of such time of determination, or if the foregoing does not apply, the bid price of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg as of such time of determination, or, if no bid price is reported for such security by Bloomberg as of such time of determination, the average of the bid prices of any market makers for such security as reported in the “pink sheets” by OTC Markets Group Inc. (formerly Pink Sheets LLC) as of such time of determination. If the Bid Price cannot be calculated for a security as of the particular time of determination on any of the foregoing bases, the Bid Price of such security as of such time of determination shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved in accordance with the procedures in Section 9. All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination or other similar transaction during such period.

(d) “**Bloomberg**” means Bloomberg Financial Markets.

(e) “**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.

(f) **“Change of Control”** means any Fundamental Transaction other than (i) any reorganization, recapitalization or reclassification of the Common Stock in which holders of the Company’s voting power immediately prior to such reorganization, recapitalization or reclassification continue after such reorganization, recapitalization or reclassification to hold publicly traded securities and, directly or indirectly, are, in all material respects, the holders of the voting power of the surviving entity (or entities with the authority or voting power to elect the members of the board of directors (or their equivalent if other than a corporation) of such entity or entities) after such reorganization, recapitalization or reclassification, (ii) pursuant to a migratory merger effected solely for the purpose of changing the jurisdiction of incorporation of the Company or (iii) a merger in connection with a bona fide acquisition by the Company of any Person in which (x) the gross consideration paid, directly or indirectly, by the Company in such acquisition is not greater than 20% of the Company’s market capitalization as calculated on the date of the consummation of such merger and (y) such merger does not contemplate a change to the identity of a majority of the board of directors of the Company. Notwithstanding anything herein to the contrary, any transaction or series of transactions that, directly or indirectly, results in the Company or the Successor Entity not having Common Stock or common stock, as applicable, registered under the Exchange Act and listed on an Eligible Market shall be deemed a Change of Control.

(g) **“Closing Bid Price”** and **“Closing Sale Price”** means, for any security as of any date, the last closing bid price and last closing trade price, respectively, for such security on the Principal Market, as reported by Bloomberg, or, if the Principal Market begins to operate on an extended hours basis and does not designate the closing bid price or the closing trade price, as the case may be, then the last bid price or the last trade price, respectively, of such security prior to 4:00:00 p.m., New York time, as reported by Bloomberg, or, if the Principal Market is not the principal securities exchange or trading market for such security, the last closing bid price or last trade price, respectively, of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg, or if the foregoing do not apply, the last closing bid price or last trade price, respectively, of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg, or, if no closing bid price or last trade price, respectively, is reported for such security by Bloomberg, the average of the bid prices, or the ask prices, respectively, of any market makers for such security as reported in the OTC Link or “pink sheets” by OTC Markets Group Inc. (formerly Pink OTC Markets Inc.). If the Closing Bid Price or the Closing Sale Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Closing Bid Price or the Closing Sale Price, as the case may be, of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved pursuant to Section 9. All such determinations to be appropriately adjusted for any stock dividend, stock split, stock combination, reclassification or other similar transaction during the applicable calculation period.

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

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

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

(k) “**Exercise Price**” means \$0.01 per share of Common Stock, subject to adjustment as provided herein.

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

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

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

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

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

(q) “**Principal Market**” means the Nasdaq Capital Market.

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

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

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

(u) “**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.

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

(w) “Warrant Shares” means [()] shares of fully paid non-assessable shares of Common Stock (as defined above).

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

[Signature Page Follows]

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

IDERA PHARMACEUTICALS, INC.

By:
Name:
Title:

**EXERCISE NOTICE
TO BE EXECUTED BY THE REGISTERED HOLDER TO EXERCISE THIS
PRE-FUNDED WARRANT TO PURCHASE COMMON STOCK**

IDERA PHARMACEUTICALS, INC.

The undersigned holder hereby exercises the right to purchase _____ shares of Common Stock (“**Warrant Shares**”) of Idera Pharmaceuticals, Inc., a Delaware corporation (the “**Company**”), evidenced by the attached Pre-Funded 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.

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

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

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

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

Date:

Name of Registered Holder

By: _____
Name:
Title:

ACKNOWLEDGMENT

The Company hereby acknowledges this Exercise Notice and hereby directs [Transfer Agent] to issue the above indicated number of Warrant Shares on or prior to the applicable Share Delivery Date.

IDERA PHARMACEUTICALS, INC.

By:
Name:
Title:

NEITHER THESE SECURITIES NOR THE SECURITIES ISSUABLE UPON EXERCISE OF THESE SECURITIES HAVE BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED (THE “SECURITIES ACT”), OR APPLICABLE STATE SECURITIES LAWS. THE SECURITIES MAY NOT BE OFFERED FOR SALE, SOLD, TRANSFERRED OR ASSIGNED (I) IN THE ABSENCE OF (A) AN EFFECTIVE REGISTRATION STATEMENT FOR THE SECURITIES UNDER THE SECURITIES ACT OR (B) AN AVAILABLE EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND IN ACCORDANCE WITH APPLICABLE STATE SECURITIES LAWS OR BLUE SKY LAWS AS EVIDENCED BY A LEGAL OPINION OF COUNSEL REASONABLY SATISFACTORY TO THE COMPANY AND ITS TRANSFER AGENT OR (II) UNLESS SOLD PURSUANT TO RULE 144 UNDER THE SECURITIES ACT. NOTWITHSTANDING THE FOREGOING, THE SECURITIES MAY BE PLEDGED IN CONNECTION WITH A BONA FIDE MARGIN ACCOUNT OR OTHER LOAN OR FINANCING ARRANGEMENT SECURED BY THE SECURITIES.

[FORM OF WARRANT]

IDERA PHARMACEUTICALS, INC.

WARRANT TO PURCHASE COMMON STOCK

Warrant No.: [Y]

Number of Shares of Common Stock: []

Date of Issuance: [Y], 2020 (“**Issuance Date**”)

Expiration Date: [Y], 2023 (“**Expiration Date**”)

Idera Pharmaceuticals, Inc., a Delaware corporation (the “**Company**”), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, , 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, at any time or times on or after the next business day after the Issuance Date, but not after 11:59 p.m., New York time, on the Expiration Date, the Warrant Shares (as defined below). Except as otherwise defined herein, capitalized terms in this Warrant to Purchase Common Stock (including any Warrants to Purchase Common Stock issued in exchange, transfer or replacement hereof, this “**Warrant**”), shall have the meanings set forth in Section 14. This Warrant is one of the Warrants to Purchase Common Stock (the “**Warrants**”) issued in connection with the transactions contemplated by that certain Securities Purchase Agreement, dated as of [], 2020 (the “**Subscription Date**”) by and between the Company, the holder and the other purchasers set forth on the schedule of purchasers thereto (the “**Securities Purchase Agreement**”).

1. EXERCISE OF WARRANT.

(a) Mechanics of Exercise. Subject to the terms and conditions hereof (including, without limitation, the limitations set forth in Section 1(e)), this Warrant may be exercised by the Holder at any time or times on or after the Issuance Date, in whole or in part, by delivery (whether via facsimile, electronic mail or otherwise) of a written notice, in the form attached hereto as Exhibit A (the “**Exercise Notice**”), of the Holder’s election to exercise this Warrant. Within one (1) Trading Day following the delivery of the Exercise Notice, the Holder shall make payment to the Company of an amount equal to the Exercise Price in effect on the date of such exercise multiplied by the number of Warrant Shares as to which this Warrant is being exercised (the “**Aggregate Exercise Price**”) in cash by wire transfer of immediately available funds or, if the provisions of Section 1(d) are applicable, by notifying the Company that this Warrant is being exercised pursuant to a Cashless Exercise (as defined in Section 1(d)). The Holder shall not be required to deliver the original Warrant in order to effect an exercise hereunder (until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in full), nor shall any ink-original signature or medallion guarantee (or other type of guarantee or notarization) with respect to any Exercise Notice be required. Execution and delivery of the Exercise Notice with respect to less than all of the Warrant Shares shall have the same effect as cancellation of the original Warrant and issuance of a new Warrant evidencing the right to purchase the remaining number of Warrant Shares and the Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and the Warrant has been exercised in full, in which case, the Holder shall surrender this Warrant to the Company for cancellation within three (3) Trading Days of the date on which the final Notice of Exercise is delivered to the Company. On or before the first (1st) Trading Day following the date on which the Holder has delivered the applicable Exercise Notice, the Company shall transmit by facsimile or electronic mail an acknowledgment of confirmation of receipt of the Exercise Notice, in the form attached to the Exercise Notice, to the Holder and the Company’s transfer agent (the “**Transfer Agent**”). So long as the Holder delivers the Aggregate Exercise Price (or notice of a Cashless Exercise, if applicable) on or prior to the first (1st) Trading Day following the date on which the Exercise Notice has been delivered to the Company, then on or prior to the earlier of (i) the second (2nd) Trading Day and (ii) the number of Trading Days comprising the Standard Settlement Period, in each case following the date on which the Exercise Notice has been delivered to the Company, or, if the Holder does not deliver the Aggregate Exercise Price (or notice of a Cashless Exercise, if applicable) on or prior to the first (1st) Trading Day following the date on which the Exercise Notice has been delivered to the Company, then on or prior to the first (1st) Trading Day following the date on which the Aggregate Exercise Price (or notice of a Cashless Exercise, if applicable) is delivered (such earlier date, or if later, the earliest day on which the Company is required to deliver Warrant Shares pursuant to this Section 1(a), 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, credit such aggregate number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the Holder’s or its designee’s balance account with DTC through its Deposit / Withdrawal At Custodian system, or (Y) if the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program (“**FAST**”), issue and dispatch by overnight courier to the address as specified in the Exercise Notice, a certificate, registered in the name of the Holder or its designee, for the number of Warrant Shares to which the Holder is entitled pursuant to such exercise. The Company shall be responsible for all fees and expenses of the Transfer Agent and all fees and expenses with respect to the issuance of Warrant Shares via DTC, if any, including without limitation for same day processing. Upon delivery of the Exercise Notice, the Holder shall be deemed for all corporate purposes to have become the holder of record and beneficial owner of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date such Warrant Shares are credited to the Holder’s DTC account or the date of delivery of the certificates evidencing such Warrant Shares, as the case may be. If this Warrant is physically delivered to the Company in connection with any exercise pursuant to this Section 1(a) and the number of Warrant Shares represented by this Warrant submitted for exercise is greater than the number of Warrant Shares being acquired upon an exercise, then the Company shall as soon as practicable and in no event later than three (3) Trading Days after any exercise and at its own expense, issue and deliver to the Holder (or its designee) a new Warrant (in accordance with Section 6(d)) representing the right to purchase the number of Warrant Shares issuable immediately prior to such exercise under this Warrant, less the number of Warrant Shares with respect to which this Warrant is exercised. No fractional 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 transfer, stamp, issuance and similar taxes, costs and expenses (including, without limitation, fees and expenses of the Transfer Agent) which may be payable with respect to the issuance and delivery of Warrant Shares upon exercise of this Warrant. The Company’s obligations to issue and deliver Warrant Shares in accordance with the terms and subject to the conditions hereof are absolute and unconditional, irrespective of any action or inaction by the Holder to enforce the same, any waiver or consent with respect to any provision hereof, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination; provided, however, that the Company shall not be required to deliver Warrant Shares with respect to an exercise prior to the Holder’s delivery of the Aggregate Exercise Price (or notice of a Cashless Exercise, if applicable) with respect to such exercise.

(b) Company's Failure to Timely Deliver Securities. In addition to any other rights available to the Holder, if the Company fails to cause the Transfer Agent to transmit to the Holder the Warrant Shares in accordance with the provisions of Section 1(a) above pursuant to an exercise on or before the Share Delivery Date (other than a failure caused by incorrect or incomplete information provided by the Holder to the Company), and if after such date the Holder is required by its broker to purchase (in an open market transaction or otherwise) or the Holder's brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a "**Buy-In**"), then the Company shall (A) pay in cash to the Holder the amount, if any, by which (x) the Holder's total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (y) the amount obtained by multiplying (1) the number of Warrant Shares that the Company was required to deliver to the Holder in connection with the exercise at issue times (2) the price at which the sell order giving rise to such purchase obligation was executed, and (B) at the option of the Holder, either reinstate the portion of the Warrant and equivalent number of Warrant Shares for which such exercise was not honored (in which case such exercise shall be deemed rescinded) or deliver to the Holder the number of shares of Common Stock that would have been issued had the Company timely complied with its exercise and delivery obligations hereunder. For example, if the Holder purchases Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted exercise of shares of Common Stock with an aggregate sale price giving rise to such purchase obligation of \$10,000, under clause (A) of the immediately preceding sentence, the Company shall be required to pay the Holder \$1,000. The Holder shall provide the Company written notice within three (3) Trading Days after the occurrence of a Buy-In, indicating the amounts payable to the Holder in respect of the Buy-In and, upon request of the Company, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof.

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

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

For purposes of the foregoing formula:

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

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

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

If Warrant Shares are issued in such a cashless exercise, the Company acknowledges and agrees that in accordance with Section 3(a)(9) of the Securities Act of 1933, as amended (the “**Securities Act**”), the Warrant Shares shall take on the registered characteristics of the Warrants being exercised, and the holding period of the Warrants being exercised may be tacked on to the holding period of the Warrant Shares. The Company agrees not to take any position contrary to this Section 1(c).

(d) Disputes. In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Company shall promptly issue to the Holder the number of Warrant Shares that are not disputed and resolve such dispute in accordance with Section 9.

(e) **Beneficial Ownership.** Notwithstanding anything to the contrary contained herein, the Company shall not effect the exercise of any portion of this Warrant, and the Holder shall not have the right to exercise any portion of this Warrant, pursuant to the terms and conditions of this Warrant and any such exercise shall be null and void and treated as if never made, to the extent that immediately prior to or after giving effect to such exercise, the Holder together with the other Attribution Parties collectively would beneficially own in excess of 19.99% (the “**Maximum Percentage**”) of the number of shares of Common Stock outstanding immediately after giving effect to such exercise. For purposes of the foregoing sentence, the aggregate number of shares of Common Stock beneficially owned by the Holder and the other Attribution Parties shall include the number of shares of Common Stock held by the Holder and all other Attribution Parties plus the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which the determination of such sentence is being made, but shall exclude the number of shares of Common Stock which would be issuable upon (A) exercise of the remaining, unexercised portion of this Warrant beneficially owned by the Holder or any of the other Attribution Parties and (B) exercise or conversion of the unexercised or unconverted portion of any other securities of the Company (including, without limitation, any convertible notes or convertible preferred stock or warrants, including the other Warrants) beneficially owned by the Holder or any other Attribution Party subject to a limitation on conversion or exercise analogous to the limitation contained in this Section 1(e). For purposes of this Section 1(e), 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 by the Holder 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. To the extent that the limitation contained in this Section 1(e) applies, the determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable shall be in the sole discretion of the Holder, and the Company shall have no obligation to verify or confirm the accuracy of such determination. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder. For purposes of this Warrant, in determining the number of outstanding shares of Common Stock the Holder may acquire upon the exercise of this Warrant without exceeding the Maximum Percentage, the Holder may rely on the number of outstanding shares of Common Stock as reflected in (x) the Company’s most recent Annual Report on Form 10-K, Quarterly Report on Form 10-Q and Current Reports on Form 8-K or other public filing with the Securities and Exchange Commission (the “**SEC**”), as the case may be, (y) a more recent public announcement by the Company or (z) any other written notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding (the “**Reported Outstanding Share Number**”). If the Company receives an Exercise Notice from the Holder at a time when the actual number of outstanding shares of Common Stock is less than the Reported Outstanding Share Number, the Company shall (i) notify the Holder in writing of the number of shares of Common Stock then outstanding and, to the extent that such Exercise Notice would otherwise cause the Holder’s beneficial ownership, as determined pursuant to this Section 1(e), to exceed the Maximum Percentage, the Holder must notify the Company of a reduced number of Warrant Shares to be purchased pursuant to such Exercise Notice (the number of shares by which such purchase is reduced, the “**Reduction Shares**”) and (ii) as soon as reasonably practicable, the Company shall return to the Holder any exercise price paid by the Holder for the Reduction Shares. For any reason at any time, upon the written or oral request of the Holder, the Company shall within one (1) Business Day confirm orally and in writing or by electronic mail to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder and any other Attribution Party since the date as of which the Reported Outstanding Share Number was reported. In the event that the issuance of Common Stock to the Holder upon exercise of this Warrant results in the Holder and the other Attribution Parties being deemed to beneficially own, in the aggregate, more than the Maximum Percentage of the number of outstanding shares of Common Stock (as determined under Section 13(d) of the Exchange Act), the number of shares so issued by which the Holder’s and the other Attribution Parties’ aggregate beneficial ownership exceeds the Maximum Percentage (the “**Excess Shares**”) shall be deemed null and void and shall be cancelled ab initio, and the Holder shall not have the power to vote or to transfer the Excess Shares. As soon as reasonably practicable after the issuance of the Excess Shares has been deemed null and void, the Company shall return to the Holder the exercise price paid by the Holder for the Excess Shares. Upon delivery of a written notice to the Company, the Holder may from time to time increase or decrease the Maximum Percentage to any other percentage as specified in such notice not in excess of 19.99%; provided that (i) any such increase in the Maximum Percentage will not be effective until the sixty-first (61st) day after such notice is delivered to the Company and (ii) any such increase or decrease will apply only to the Holder and not to any other holder of Warrants that is not an Attribution Party of the Holder. For purposes of clarity, the shares of Common Stock issuable pursuant to the terms of this Warrant in excess of the Maximum Percentage shall not be deemed to be beneficially owned by the Holder for any purpose including for purposes of Section 13(d) or Rule 16a-1(a)(1) of the Exchange Act. No prior inability to exercise this Warrant pursuant to this paragraph shall have any effect on the applicability of the provisions of this paragraph with respect to any subsequent determination of exercisability. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 1(e) to the extent necessary to correct this paragraph or any portion of this paragraph which may be defective or inconsistent with the intended beneficial ownership limitation contained in this Section 1(e) or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitation contained in this paragraph may not be waived and shall apply to a successor holder of this Warrant.

(f) Required Reserve Amount. Subject to Section 1(g) below, so long as this Warrant remains outstanding, the Company shall at all times keep reserved for issuance under this Warrant a number of shares of Common Stock at least equal to 100% of the maximum number of shares of Common Stock as shall be necessary to satisfy the Company's obligation to issue shares of Common Stock under the Warrants then outstanding (without regard to any limitations on exercise) (the "**Required Reserve Amount**"); provided that at no time shall the number of shares of Common Stock reserved pursuant to this Section 1(f) be reduced other than in connection with any exercise of Warrants or such other event covered by Section 2 below. The Required Reserve Amount (including, without limitation, each increase in the number of shares so reserved) shall be allocated pro rata among the holders of the Warrants based on the number of shares of Common Stock issuable upon exercise of Warrants held by each holder thereof on the Issuance Date (without regard to any limitations on exercise) (the "**Authorized Share Allocation**"). In the event that a holder shall sell or otherwise transfer any of such holder's Warrants, each transferee shall be allocated a pro rata portion of such holder's Authorized Share Allocation. Any shares of Common Stock reserved and allocated to any Person which ceases to hold any Warrants shall be allocated to the remaining holders of Warrants, pro rata based on the number of shares of Common Stock issuable upon exercise of the Warrants then held by such holders thereof (without regard to any limitations on exercise).

(g) Insufficient Authorized Shares. If at any time while this Warrant remains outstanding the Company does not have a sufficient number of authorized and unreserved shares of Common Stock to satisfy its obligation to reserve for issuance the Required Reserve Amount (an "**Authorized Share Failure**"), then the Company shall promptly take all action reasonably necessary to increase the Company's authorized shares of Common Stock to an amount sufficient to allow the Company to reserve the Required Reserve Amount for this Warrant then outstanding. Without limiting the generality of the foregoing sentence, as soon as practicable after the date of the occurrence of an Authorized Share Failure, but in no event later than 120 days after the occurrence of such Authorized Share Failure, the Company shall hold a meeting of its stockholders for the approval of an increase in the number of authorized shares of Common Stock. In connection with such meeting, the Company shall provide each stockholder with a proxy statement and shall use its reasonable best efforts to solicit its stockholders' approval of such increase in authorized shares of Common Stock and to cause its board of directors to recommend to the stockholders that they approve such proposal.

2. ADJUSTMENT OF EXERCISE PRICE AND NUMBER OF WARRANT SHARES UPON SUBDIVISION OR COMBINATION OF COMMON STOCK.

(a) Subdivisions or Combinations. If the Company at any time on or after the Issuance Date subdivides (by any stock split, stock dividend, recapitalization or otherwise) one or more classes of its outstanding shares of Common Stock into a greater number of shares, the applicable Exercise Price in effect immediately prior to such subdivision will be proportionately reduced and the number of the applicable Warrant Shares will be proportionately increased. If the Company at any time on or after the Subscription Date combines (by combination, reverse stock split or otherwise) one or more classes of its outstanding shares of Common Stock into a smaller number of shares, the applicable Exercise Price in effect immediately prior to such combination will be proportionately increased and the number of the applicable 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) Rights Upon Distribution of Assets. In addition to any adjustments pursuant to the other subsections of this Section 2, if, on or after the Issuance Date and on or prior to the Expiration Date, the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property, options, evidence of indebtedness or any other assets by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a “**Distribution**”), at any time after the issuance of this Warrant, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations or restrictions on exercise of this Warrant, including without limitation, the Maximum Percentage) immediately before the date on which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, however, that to the extent that the Holder’s right to participate in any such Distribution would result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Distribution to such extent (and shall not be entitled to beneficial ownership of such shares of Common Stock as a result of such Distribution (and beneficial ownership) to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time or times as its right thereto would not result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be granted such Distribution (and any Distributions declared or made on such initial Distribution or on any subsequent Distribution held similarly in abeyance) to the same extent as if there had been no such limitation).

(c) Purchase Rights. In addition to any adjustments pursuant to the other subsections of Section 2 above, if at any time on or after the Issuance Date and on or prior to the Expiration Date the Company grants, issues or sells any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of Common Stock (the “**Purchase Rights**”), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations or restrictions on exercise of this Warrant, including without limitation, the Maximum Percentage) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of Common Stock are to be determined for the grant, issuance or sale of such Purchase Rights (provided, however, that to the extent that the Holder’s right to participate in any such Purchase Right would result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Purchase Right to such extent (and shall not be entitled to beneficial ownership of such Common Stock as a result of such Purchase Right (and beneficial ownership) to such extent) and such Purchase Right to such extent shall be held in abeyance for the benefit of the Holder until such time or times as its right thereto would not result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be granted such right (and any Purchase Right granted, issued or sold on such initial Purchase Right or on any subsequent Purchase Right to be held similarly in abeyance) to the same extent as if there had been no such limitation).

(d) **Fundamental Transactions.** At any time while this Warrant remains outstanding, the Company shall not enter into or be party to a Fundamental Transaction unless the Successor Entity assumes in writing all of the obligations of the Company under this Warrant in accordance with the provisions of this Section 3, including agreements to deliver to the Holder in exchange for this Warrant a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Warrant, including, without limitation, which is exercisable for a corresponding number of shares of capital stock equivalent to the shares of Common Stock acquirable and receivable upon exercise of this Warrant (without regard to any limitations on the exercise of this Warrant) prior to such Fundamental Transaction, and with an exercise price which applies the exercise price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such adjustments to the number of shares of capital stock and such exercise price being for the purpose of protecting the economic value of this Warrant immediately prior to the consummation of such Fundamental Transaction). Upon the consummation of each Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for the Company (so that from and after the date of the applicable Fundamental Transaction, the provisions of this Warrant and the other Transaction Documents referring to the “Company” shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant with the same effect as if such Successor Entity had been named as the Company herein. Notwithstanding the foregoing, and without limiting Section 1(e) hereof, the Holder may elect, at its sole option, by delivery of written notice to the Company to waive this Section 3 to permit the Fundamental Transaction without the assumption of this Warrant. In addition to and not in substitution for any other rights hereunder, prior to the consummation of each Fundamental Transaction pursuant to which holders of shares of Common Stock are entitled to receive securities or other assets with respect to or in exchange for shares of Common Stock (a “**Corporate Event**”), the Company shall make appropriate provision to insure that the Holder will thereafter have the right to receive upon an exercise of this Warrant at any time after the consummation of the applicable Fundamental Transaction but prior to the Expiration Date, in lieu of the shares of the Common Stock (or other securities, cash, assets or other property) issuable upon the exercise of the Warrant prior to such Fundamental Transaction, such shares of stock, securities, cash, assets or any other property whatsoever (including warrants or other purchase or subscription rights) (collectively, the “**Corporate Event Consideration**”) which the Holder would have been entitled to receive upon the happening of the applicable Fundamental Transaction had this Warrant been exercised immediately prior to the applicable Fundamental Transaction (without regard to any limitations on the exercise of this Warrant). The provision made pursuant to the preceding sentence shall be in a form and substance reasonably satisfactory to the Holder. The provisions of this Section 3 shall apply similarly and equally to successive Fundamental Transactions and Corporate Events. Notwithstanding the foregoing, in the event of a Change of Control (other than a Change of Control which was not approved by the Board of Directors, as to which this right shall not apply), at the request of the Holder delivered before the 30th day after such Change of Control, the Company (or the Successor Entity) shall purchase this Warrant from the Holder by paying to the Holder, within five (5) Business Days after such request (or, if later, on the effective date of the Change of Control), an amount equal to the Black Scholes Value of the remaining unexercised portion of this Warrant on the effective date of such Change of Control, payable in cash; provided, that if the applicable Change of Control was not approved by the Company’s Board of Directors, the Black-Scholes Value of the remaining unexercised portion of this Warrant shall be payable at the option of the Company in either (x) Common Stock, whereby the Company would be continually obligated to actively settle shares of Common Stock in the event insufficient authorized shares of Common Stock were available (or corresponding Corporate Event Consideration, as applicable) valued at the value of the consideration received by the shareholders in such Change of Control or (y) cash.

3. NONCIRCUMVENTION. The Company hereby covenants and agrees that the Company will not, by amendment of its certificate of incorporation or by-laws, or through any reorganization, transfer of assets, consolidation, merger, scheme, arrangement, dissolution, issuance or sale of securities, or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, and will at all times in good faith carry out all of the provisions of this Warrant and take all action as may be required to protect the rights of the Holder. Without limiting the generality of the foregoing, the Company (i) shall not increase the par value of any shares of Common Stock receivable upon the exercise of this Warrant above the applicable Exercise Price then in effect, (ii) shall take all such actions as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable shares of Common Stock upon the exercise of this Warrant, and (iii) shall, so long as any of the Warrants are outstanding, take all action necessary to reserve and keep available out of its authorized and unissued shares of Common Stock, solely for the purpose of effecting the exercise of the Warrants, the number of shares of Common Stock as shall from time to time be necessary to effect the exercise of the Warrants then outstanding (without regard to any limitations on exercise).

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

5. REISSUANCE OF WARRANTS.

(a) Transfer of Warrant. If this Warrant is to be transferred, the Holder shall surrender this Warrant to the Company, whereupon the Company will forthwith issue and deliver upon the order of the Holder a new Warrant (in accordance with Section 5(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 5(d)) to the Holder representing the right to purchase the number of Warrant Shares not being transferred.

(b) Lost, Stolen or Mutilated Warrant. Upon receipt by the Company of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant, and, in the case of loss, theft or destruction, of any indemnification undertaking by the Holder to the Company in customary form (but without the obligation to post a bond) and, in the case of mutilation, upon surrender and cancellation of this Warrant, the Company shall execute and deliver to the Holder a new Warrant (in accordance with Section 5(d)) representing the right to purchase the Warrant Shares then underlying this Warrant.

(c) Exchangeable for Multiple Warrants. This Warrant is exchangeable, upon the surrender hereof by the Holder at the principal office of the Company, for a new Warrant or Warrants (in accordance with Section 5(d)) representing in the aggregate the right to purchase the number of Warrant Shares then underlying this Warrant, and each such new Warrant will represent the right to purchase such portion of such Warrant Shares as is designated by the Holder at the time of such surrender.

(d) Issuance of New Warrants. Whenever the Company is required to issue a new Warrant pursuant to the terms of this Warrant, such new Warrant (i) shall be of like tenor with this Warrant, (ii) shall represent, as indicated on the face of such new Warrant, the right to purchase the Warrant Shares then underlying this Warrant (or in the case of a new Warrant being issued pursuant to Section 5(a) or Section 5(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.

6. NOTICES. Whenever notice is required to be given under this Warrant, including, without limitation, an Exercise Notice, unless otherwise provided herein, such notice shall be given in writing, (i) if delivered (a) from within the domestic United States, by first-class registered or certified airmail, or nationally recognized overnight express courier, postage prepaid, electronic mail or by facsimile or (b) from outside the United States, by International Federal Express, electronic mail or facsimile, and (ii) will be deemed given (A) if delivered by first-class registered or certified mail domestic, three (3) Business Days after so mailed, (B) if delivered by nationally recognized overnight carrier, one (1) Business Day after so mailed, (C) if delivered by International Federal Express, two (2) Business Days after so mailed and (D) at the time of transmission, if delivered by electronic mail to the email address specified in this Section 6 prior to 5:00 p.m. (New York time) on a Trading Day, (E) the next Trading Day after the date of transmission, if delivered by electronic mail to the email address specified in this Section 7 on a day that is not a Trading Day or later than 5:00 p.m. (New York time) on any

Trading Day and (F) if delivered by facsimile, upon electronic confirmation of delivery of such facsimile, and will be delivered and addressed as follows:

(i) If to the Company, to:

Idera Pharmaceuticals, Inc.
505 Eagleview Blvd., Suite 212
Exton, Pennsylvania 19341
Attn: Chief Financial Officer

with copies to:

Morgan, Lewis & Bockius LLP
1701 Market Street
Philadelphia, Pennsylvania 19103-2921
Attn: Joanne R. Soslow, Esq.
Email: joanne.soslow@morganlewis.com

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

The Company shall provide the Holder with prompt written notice of all actions taken pursuant to this Warrant, including in reasonable detail a description of such action and the reason therefor. Without limiting the generality of the foregoing, the Company will give written notice to the Holder (i) immediately upon any adjustment of the Exercise Price, setting forth in reasonable detail, and certifying, the calculation of such adjustment and (ii) at least fifteen (15) days prior to the date on which the Company closes its books or takes a record (A) with respect to any dividend or distribution upon the shares of Common Stock, (B) with respect to any grants, issuances or sales of any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of Common Stock or (C) for determining rights to vote with respect to any Fundamental Transaction, dissolution or liquidation; provided in each case that such information shall be made known to the public prior to or in conjunction with such notice being provided to the Holder; provided, further, that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice.

7. AMENDMENT AND WAIVER. Except as otherwise provided herein, the provisions of this Warrant may be amended or waived and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company has obtained the written consent of the Holder.

8. GOVERNING LAW; JURY TRIAL. This Warrant shall be governed by and construed and enforced in accordance with, and all questions concerning the construction, validity, interpretation and performance of this Warrant shall be governed by, the internal laws of the State of New York, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of New York or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of New York. If either party shall commence an action, suit or proceeding to enforce any provisions of this Warrant, the prevailing party in such action, suit or proceeding shall be reimbursed by the other party for their reasonable attorneys' fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding. **THE COMPANY HEREBY IRREVOCABLY WAIVES ANY RIGHT IT MAY HAVE, AND AGREES NOT TO REQUEST, A JURY TRIAL FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION WITH OR ARISING OUT OF THIS WARRANT OR ANY TRANSACTION CONTEMPLATED HEREBY.**

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

10. REMEDIES, OTHER OBLIGATIONS, BREACHES AND INJUNCTIVE RELIEF. The remedies provided in this Warrant shall be cumulative and in addition to all other remedies available under this Warrant and any other Transaction Documents, at law or in equity (including a decree of specific performance and/or other injunctive relief), and nothing herein shall limit the right of the Holder to pursue actual damages for any failure by the Company to comply with the terms of this Warrant. The Company acknowledges that a breach by it of its obligations hereunder will cause irreparable harm to the Holder and that the remedy at law for any such breach may be inadequate. The Company therefore agrees that, in the event of any such breach or threatened breach, the holder of this Warrant shall be entitled, in addition to all other available remedies, to seek an injunction restraining any breach, without the necessity of showing economic loss and without any bond or other security being required.

11. TRANSFER. Subject to compliance with applicable federal and state securities laws, this Warrant and the Warrant Shares may be offered for sale, sold, transferred, pledged or assigned without the consent of the Company.

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

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

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

(a) “**Affiliate**” means any person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a person, as such terms are used in and construed under Rule 405 under the Securities Act.

(b) “**Attribution Parties**” means, collectively, the Holder (together with the Holder’s Affiliates, and any other persons acting as a group together with the Holder or any of the Holder’s Affiliates. For clarity, the purpose of the foregoing is to subject collectively the Holder and all other Attribution Parties to the Maximum Percentage.

(c) “**Bid Price**” means, for any security as of the particular time of determination, the bid price for such security on the Principal Market as reported by Bloomberg as of such time of determination, or, if the Principal Market is not the principal securities exchange or trading market for such security, the bid price of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg as of such time of determination, or if the foregoing does not apply, the bid price of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg as of such time of determination, or, if no bid price is reported for such security by Bloomberg as of such time of determination, the average of the bid prices of any market makers for such security as reported in the “pink sheets” by OTC Markets Group Inc. (formerly Pink Sheets LLC) as of such time of determination. If the Bid Price cannot be calculated for a security as of the particular time of determination on any of the foregoing bases, the Bid Price of such security as of such time of determination shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved in accordance with the procedures in Section 9. All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination or other similar transaction during such period.

(d) “**Black Scholes Value**” means the value of this Warrant based on the Black-Scholes Option Pricing Model obtained from the “OV” function on Bloomberg determined as of the day immediately following the first public announcement of the applicable Change of Control, or, if the Change of Control is not publicly announced, the date the Change of Control is consummated, for pricing purposes and reflecting (i) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the remaining term of this Warrant as of such date of request, (ii) an expected volatility equal to 60%, (iii) the underlying price per share used in such calculation shall be the greater of (A) the sum of the price per share being offered in cash, if any, plus the per share value of any non-cash consideration, if any, being offered in such Change of Control and (B) the greater of (x) the last Weighted Average Price immediately prior to the public announcement of such Change of Control and (y) the last Weighted Average Price immediately prior to the consummation of such Change of Control, (iv) a zero cost of borrow and (v) a 360 day annualization factor.

(e) “**Bloomberg**” means Bloomberg Financial Markets.

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

(g) “**Change of Control**” means any Fundamental Transaction other than (i) any reorganization, recapitalization or reclassification of the Common Stock in which holders of the Company’s voting power immediately prior to such reorganization, recapitalization or reclassification continue after such reorganization, recapitalization or reclassification to hold publicly traded securities and, directly or indirectly, are, in all material respects, the holders of the voting power of the surviving entity (or entities with the authority or voting power to elect the members of the board of directors (or their equivalent if other than a corporation) of such entity or entities) after such reorganization, recapitalization or reclassification, (ii) pursuant to a migratory merger effected solely for the purpose of changing the jurisdiction of incorporation of the Company or (iii) a merger in connection with a bona fide acquisition by the Company of any Person in which (x) the gross consideration paid, directly or indirectly, by the Company in such acquisition is not greater than 20% of the Company’s market capitalization as calculated on the date of the consummation of such merger and (y) such merger does not contemplate a change to the identity of a majority of the board of directors of the Company. Notwithstanding anything herein to the contrary, any transaction or series of transactions that, directly or indirectly, results in the Company or the Successor Entity not having Common Stock or common stock, as applicable, registered under the Exchange Act and listed on an Eligible Market shall be deemed a Change of Control.

(h) “**Closing Bid Price**” and “**Closing Sale Price**” means, for any security as of any date, the last closing bid price and last closing trade price, respectively, for such security on the Principal Market, as reported by Bloomberg, or, if the Principal Market begins to operate on an extended hours basis and does not designate the closing bid price or the closing trade price, as the case may be, then the last bid price or the last trade price, respectively, of such security prior to 4:00:00 p.m., New York time, as reported by Bloomberg, or, if the Principal Market is not the principal securities exchange or trading market for such security, the last closing bid price or last trade price, respectively, of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg, or if the foregoing do not apply, the last closing bid price or last trade price, respectively, of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg, or, if no closing bid price or last trade price, respectively, is reported for such security by Bloomberg, the average of the bid prices, or the ask prices, respectively, of any market makers for such security as reported in the OTC Link or “pink sheets” by OTC Markets Group Inc. (formerly Pink OTC Markets Inc.). If the Closing Bid Price or the Closing Sale Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Closing Bid Price or the Closing Sale Price, as the case may be, of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved pursuant to Section 9. All such determinations to be appropriately adjusted for any stock dividend, stock split, stock combination, reclassification or other similar transaction during the applicable calculation period.

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

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

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

(l) “**Exercise Price**” means \$[____] per share of Common Stock, subject to adjustment as provided herein.

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

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

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

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

(q) “**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.

(r) “**Principal Market**” means the Nasdaq Capital Market.

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

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

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

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

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

(x) “**Warrant Shares**” means [()] shares of fully paid non-assessable shares of Common Stock (as defined above).

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

[Signature Page Follows]

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

IDERA PHARMACEUTICALS, INC.

By:
Name:
Title:

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

IDERA PHARMACEUTICALS, INC.

The undersigned holder hereby exercises the right to purchase _____ shares of Common Stock (“**Warrant Shares**”) of Idera Pharmaceuticals, 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.

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

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

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

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

Date:

Name of Registered Holder

By: _____

Name:

Title:

ACKNOWLEDGMENT

The Company hereby acknowledges this Exercise Notice and hereby directs [Transfer Agent] to issue the above indicated number of Warrant Shares on or prior to the applicable Share Delivery Date.

IDERA PHARMACEUTICALS, INC.

By:
Name:
Title:

REGISTRATION RIGHTS AGREEMENT

This Registration Rights Agreement (this “Agreement”) is made as of July 13, 2020, by and between Idera Pharmaceuticals, Inc., a Delaware corporation (the “Company”) and entities controlled by Pillar Invest Corporation, Cayman Islands limited partnerships, set forth on Schedule A hereto (each an “Investor” and together the “Investors”). Unless otherwise defined herein, capitalized terms used in this Agreement have the respective meanings ascribed to them in Section 1.

RECITALS

WHEREAS, the Company and the Investors wish to provide for certain arrangements with respect to the registration of the Registrable Securities (as defined below) by the Company under the Securities Act (as defined below).

NOW, THEREFORE, in consideration of the mutual promises and covenants set forth herein, and other consideration, the receipt and adequacy of which are hereby acknowledged, the parties hereto agree as follows:

**Section 1.
Definitions**

1.1. Certain Definitions. In addition to the terms defined elsewhere in this Agreement, as used in this Agreement, the following terms have the respective meanings set forth below:

- (a) “Board” shall mean the Board of Directors of the Company.
 - (b) “Commission” shall mean the Securities and Exchange Commission or any other federal agency at the time administering the Securities Act.
 - (c) “Common Stock” shall mean the common stock of the Company, par value \$0.001 per share.
 - (d) “Exchange Act” shall mean the Securities Exchange Act of 1934, as amended, or any similar successor federal statute and the rules and regulations thereunder, all as the same shall be in effect from time to time.
 - (e) “Other Securities” shall mean securities of the Company, other than Registrable Securities (as defined below).
 - (f) “Person” shall mean any individual, partnership, corporation, company, association, trust, joint venture, limited liability company, unincorporated organization, entity or division, or any government, governmental department or agency or political subdivision thereof.
-

(g) “Registrable Securities” shall mean the shares of Common Stock and any Common Stock issued or issuable upon the exercise or conversion of any other securities (whether equity, debt or otherwise) of the Company now owned or hereafter acquired by any of the Investors. Registrable Securities shall cease to be Registrable Securities upon the earliest to occur of the following events: (i) such Registrable Securities have been sold pursuant to an effective Registration Statement; (ii) such Registrable Securities have been sold by the Investors pursuant to Rule 144 (or other similar rule), (iii) at any time after any of the Investors become an affiliate of the Company, such Registrable Securities may be resold by the Investor holding such Registrable Securities without limitations as to volume or manner of sale pursuant to Rule 144; or (iv) ten (10) years after the date of this Agreement. For purposes of this definition, in order to determine whether an Investor is an “affiliate” (as such term is defined and used in Rule 144, and including for determining whether volume or manner of sale limitations of Rule 144 apply) the parties will assume that all convertible securities (whether equity, debt or otherwise) have been converted into Common Stock.

(h) The terms “register,” “registered” and “registration” shall refer to a registration effected by preparing and filing a Registration Statement in compliance with the Securities Act, and such Registration Statement becoming effective under the Securities Act.

(i) “Registration Expenses” shall mean all expenses incurred by the Company in effecting any registration pursuant to this Agreement, including, without limitation, all registration, qualification, and filing fees, printing expenses, escrow fees, fees and disbursements of counsel for the Company, up to \$25,000 of reasonable legal expenses of one special counsel for Investors (if different from the Company’s counsel and if such counsel is reasonably approved by the Company) in connection with the preparation and filing of the Resale Registration Shelf (as defined below), and up to \$25,000 of reasonable legal expenses of one special counsel for Investors (if different from the Company’s counsel and if such counsel is reasonably approved by the Company) in connection with one underwritten public offering, blue sky fees and expenses, and expenses of any regular or special audits incident to or required by any such registration, but shall not include Selling Expenses.

(j) “Registration Statement” means any registration statement of the Company filed with, or to be filed with, the SEC under the Securities Act, including the related prospectus, amendments and supplements to such registration statement, including pre- and post-effective amendments, and all exhibits and all material incorporated by reference in such registration statement as may be necessary to comply with applicable securities laws other than a registration statement (and related prospectus) filed on Form S-4 or Form S-8 or any successor forms thereto.

(k) “Rule 144” shall mean Rule 144 as promulgated by the Commission under the Securities Act, as such rule may be amended from time to time, or any similar successor rule that may be promulgated by the Commission.

(l) “Securities Act” shall mean the Securities Act of 1933, as amended, or any similar successor federal statute and the rules and regulations thereunder, all as the same shall be in effect from time to time.

(m) “Selling Expenses” shall mean all underwriting discounts and selling commissions applicable to the sale of Registrable Securities, the fees and expenses of any legal counsel (except as provided in the definition of “Registration Expenses”) and any other advisors any of the Investors engage and all similar fees and commissions relating to the Investors’ disposition of the Registrable Securities.

Section 2.
Resale Registration Rights

2.1. Resale Registration Rights.

(a) Following demand by the Investors holding a majority of the Registrable Securities, the Company shall file with the Commission a Registration Statement on Form S-3 (except if the Company is not then eligible to register for resale the Registrable Securities on Form S-3, in which case such registration shall be on another appropriate form in accordance with the Securities Act) covering the resale of all of the Registrable Securities by the Investors (the “Resale Registration Shelf”), and the Company shall file such Resale Registration Shelf as promptly as reasonably practicable following such demand, and in any event within sixty (60) days of such demand. Such Resale Registration Shelf shall include a “final” prospectus, including the information required by Item 507 of Regulation S-K of the Securities Act, as provided by the Investors in accordance with Section 2.7. Notwithstanding the foregoing, before filing the Resale Registration Shelf, the Company shall furnish to the Investors a copy of the Resale Registration Shelf and afford the Investors an opportunity to review and comment on the Resale Registration Shelf. The Company’s obligation pursuant to this Section 2.1(a) is conditioned upon the Investors providing the information contemplated in Section 2.7.

(b) The Company shall use its reasonable best efforts to cause the Resale Registration Shelf and related prospectuses to become effective as promptly as practicable after filing. The Company shall use its reasonable best efforts to cause such Registration Statement to remain effective under the Securities Act until the earlier of the date (i) all Registrable Securities covered by the Resale Registration Shelf have been sold or may be sold freely without limitations or restrictions as to volume or manner of sale pursuant to Rule 144 or (ii) all Registrable Securities covered by the Resale Registration Shelf otherwise cease to be Registrable Securities pursuant to the definition of Registrable Securities. The Company shall promptly, and within two (2) business days after the Company confirms effectiveness of the Resale Registration Shelf with the Commission, notify the Investors of the effectiveness of the Resale Registration Shelf.

(c) Notwithstanding anything contained herein to the contrary, the Company shall not be obligated to effect, or to take any action to effect, a registration pursuant to Section 2.1(a):

(i) if the Company has and maintains an effective Registration Statement on Form S-3ASR that provides for the resale of an unlimited number of securities by selling stockholders (a “Company Registration Shelf”);

(ii) during the period forty-five (45) days prior to the Company’s good faith estimate of the date of filing of a Company Registration Shelf; or

(iii) if the Company has caused a Registration Statement to become effective pursuant to this Section 2.1.

(d) If the Company has a Company Registration Shelf in place at any time in which the Investors holding a majority of the Registrable Securities make a demand pursuant to Section 2.1(a), the Company shall file with the Commission, as promptly as practicable, and in any event within fifteen (15) business days after such demand, a “final” prospectus supplement to its Company Registration Shelf covering the resale of all of the Registrable Securities by the Investors (the “Prospectus”); provided, however, that the Company shall not be obligated to file more than one Prospectus pursuant to this Section 2.1(d). The Prospectus shall include the information required under Item 507 of Regulation S-K of the Securities Act, which information shall be provided by the Investors in accordance with Section 2.7. Notwithstanding the foregoing, before filing the Prospectus, the Company shall furnish to the Investors a copy of the Prospectus and afford the Investors an opportunity to review and comment on the Prospectus.

(e) Deferral and Suspension. At any time after being obligated to file a Resale Registration Shelf or Prospectus, or after any Resale Registration Shelf has become effective or a Prospectus filed with the Commission, the Company may defer the filing of or suspend the use of any such Resale Registration Shelf or Prospectus, upon giving written notice of such action to the Investors with a certificate signed by the Principal Executive Officer of the Company stating that in the good faith judgment of the Board, the filing or use of any such Resale Registration Shelf or Prospectus covering the Registrable Securities would be seriously detrimental to the Company or its stockholders at such time and that the Board concludes, as a result, that it is in the best interests of the Company and its stockholders to defer the filing or suspend the use of such Resale Registration Shelf or Prospectus at such time. The Company shall have the right to defer the filing of or suspend the use of such Resale Registration Shelf or Prospectus for a period of not more than one hundred twenty (120) days from the date the Company notifies the Investors of such deferral or suspension; provided that the Company shall not exercise the right contained in this Section 2.1(e) more than once in any twelve month period. In the case of the suspension of use of any effective Resale Registration Shelf or Prospectus, the Investors, immediately upon receipt of notice thereof from the Company, shall discontinue any offers or sales of Registrable Securities pursuant to such Resale Registration Shelf or Prospectus until advised in writing by the Company that the use of such Resale Registration Shelf or Prospectus may be resumed. In the case of a deferred Prospectus or Resale Registration Shelf filing, the Company shall provide prompt written notice to the Investors of (i) the Company’s decision to file or seek effectiveness of the Prospectus or Resale Registration Shelf, as the case may be, following such deferral and (ii) in the case of a Resale Registration Shelf, the effectiveness of such Resale Registration Shelf. In the case of either a suspension of use of, or deferred filing of, any Resale Registration Shelf or Prospectus, the Company shall not, during the pendency of such suspension or deferral, be required to take any action hereunder (including any action pursuant to Section 2.2 hereof) with respect to the registration or sale of any Registrable Securities pursuant to any such Resale Registration Shelf, Company Registration Shelf or Prospectus.

(f) Other Securities. Subject to Section 2.2(e) below, any Resale Registration Shelf or Prospectus may include Other Securities, and may include securities of the Company being sold for the account of the Company; provided such Other Securities are excluded first from such Registration Statement in order to comply with any applicable laws or request from any Government Entity, Nasdaq or any applicable listing agency. For the avoidance of doubt, no Other Securities may be included in an underwritten offering pursuant to Section 2.2 without the consent of the Investors.

2.2. Sales and Underwritten Offerings of the Registrable Securities.

(a) Notwithstanding any provision contained herein to the contrary, the Investors, collectively, shall and subject to the limitations set forth in this Section 2.2, be permitted one underwritten public offering per calendar year, but no more than two underwritten public offerings total to effect the sale or distribution of Registrable Securities.

(b) If the Investors intend to effect an underwritten public offering pursuant to a Resale Registration Shelf or Company Registration Shelf to sell or otherwise distribute Registrable Securities, they shall so advise the Company and provide as much notice to the Company as reasonably practicable (and in any event not less than fifteen (15) business days prior to the Investors' request that the Company file a prospectus supplement to a Resale Registration Shelf or Company Registration Shelf).

(c) In connection with any offering initiated by the Investors pursuant to this Section 2.2 involving an underwriting of shares of Registrable Securities, the Investors shall be entitled to select the underwriter or underwriters for such offering, subject to the consent of the Company, such consent not to be unreasonably withheld, conditioned or delayed.

(d) In connection with any offering initiated by the Investors pursuant to this Section 2.2 involving an underwriting of shares of Registrable Securities, the Company shall not be required to include any of the Registrable Securities in such underwriting unless the Investors (i) enter into an underwriting agreement in customary form with the underwriter or underwriters, (ii) accept customary terms in such underwriting agreement with regard to representations and warranties relating to ownership of the Registrable Securities and authority and power to enter into such underwriting agreement and (iii) complete and execute all questionnaires, powers of attorney, custody agreements, indemnities and other documents as may be requested by such underwriter or underwriters. Further, the Company shall not be required to include any of the Registrable Securities in such underwriting if (Y) the underwriting agreement proposed by the underwriter or underwriters contains representations, warranties or conditions that are not reasonable in light of the Company's then-current business or (Z) the underwriter, underwriters or the Investors require the Company to participate in any marketing, road show or comparable activity that may be required to complete the orderly sale of shares by the underwriter or underwriters.

(e) If the total amount of securities to be sold in any offering initiated by the Investors pursuant to this Section 2.2 involving an underwriting of shares of Registrable Securities exceeds the amount that the underwriters determine in their sole discretion is compatible with the success of the offering, then the Company shall be required to include in the offering only that number of such securities, including Registrable Securities (subject in each case to the cutback provisions set forth in this Section 2.2(e)), that the underwriters and the Company determine in their sole discretion shall not jeopardize the success of the offering. If the underwritten public offering has been requested pursuant to Section 2.2(a) hereof, the number of shares that are entitled to be included in the registration and underwriting shall be allocated in the following manner: (a) first, shares of Company equity securities that the Company desires to include in such registration shall be excluded and (b) second, Registrable Securities requested to be included in such registration by the Investors shall be excluded. To facilitate the allocation of shares in accordance with the above provisions, the Company or the underwriters may round down the number of shares allocated to any of the Investors to the nearest 100 shares.

2.3. Fees and Expenses. All Registration Expenses incurred in connection with registrations pursuant to this Agreement shall be borne by the Company. All Selling Expenses relating to securities registered on behalf of the Investors shall be borne by the Investors.

2.4. Registration Procedures. In the case of each registration of Registrable Securities effected by the Company pursuant to Section 2.1 hereof, the Company shall keep the Investors advised as to the initiation of each such registration and as to the status thereof. The Company shall use its reasonable best efforts, within the limits set forth in this Section 2.4, to:

(a) prepare and file with the Commission such amendments and supplements to such Registration Statement and the prospectuses used in connection with such Registration Statement as may be necessary to keep such Registration Statement effective and current and comply with the provisions of the Securities Act with respect to the disposition of all securities covered by such Registration Statement;

(b) furnish to the Investors such numbers of copies of a prospectus, including preliminary prospectuses, in conformity with the requirements of the Securities Act, and such other documents as the Investors may reasonably request in order to facilitate the disposition of Registrable Securities;

(c) use its reasonable best efforts to register and qualify the Registrable Securities covered by such Registration Statement under such other securities or blue sky laws of such jurisdictions in the United States as shall be reasonably requested by the Investors, provided that the Company shall not be required in connection therewith or as a condition thereto to qualify to do business or to file a general consent to service of process in any such states or jurisdictions;

(d) in the event of any underwritten public offering, and subject to Section 2.2(d), enter into and perform its obligations under an underwriting agreement, in usual and customary form, with the managing underwriter of such offering and take such other usual and customary action as the Investors may reasonably request in order to facilitate the disposition of such Registrable Securities;

(e) notify the Investors at any time when a prospectus relating to a Registration Statement covering any Registrable Securities is required to be delivered under the Securities Act of the happening of any event as a result of which the prospectus included in such Registration Statement, as then in effect, includes an untrue statement of a material fact or omits to state a material fact required to be stated therein or necessary to make the statements therein not misleading in the light of the circumstances then existing. The Company shall use its reasonable best efforts to amend or supplement such prospectus in order to cause such prospectus not to include any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading in the light of the circumstances then existing;

(f) provide a transfer agent and registrar for all Registrable Securities registered pursuant to such Registration Statement and, if required, a CUSIP number for all such Registrable Securities, in each case not later than the effective date of such registration;

(g) if requested by an Investor, use reasonable best efforts to cause the Company's transfer agent to remove any restrictive legend from any Registrable Securities, within two business days following such request;

(h) cause to be furnished, at the request of the Investors, on the date that Registrable Securities are delivered to underwriters for sale in connection with an underwritten offering pursuant to this Agreement, (i) an opinion, dated such date, of the counsel representing the Company for the purposes of such registration, in form and substance as is customarily given to underwriters in an underwritten public offering, addressed to the underwriters, and (ii) a letter or letters from the independent certified public accountants of the Company, in form and substance as is customarily given by independent certified public accountants to underwriters in an underwritten public offering, addressed to the underwriters; and

(i) cause all such Registrable Securities included in a Registration Statement pursuant to this Agreement to be listed on each securities exchange or other securities trading markets on which Common Stock is then listed.

2.5. The Investors Obligations.

(a) Discontinuance of Distribution. The Investors agree that, upon receipt of any notice from the Company of the occurrence of any event of the kind described in Section 2.4(e) hereof, the Investors shall immediately discontinue disposition of Registrable Securities pursuant to any Registration Statement covering such Registrable Securities until the Investors' receipt of the copies of the supplemented or amended prospectus contemplated by Section 2.4(e) hereof or receipt of notice that no supplement or amendment is required and that the Investors' disposition of the Registrable Securities may be resumed. The Company may provide appropriate stop orders to enforce the provisions of this Section 2.5(a).

(b) Compliance with Prospectus Delivery Requirements. The Investors covenant and agree that they shall comply with the prospectus delivery requirements of the Securities Act as applicable to them or an exemption therefrom in connection with sales of Registrable Securities pursuant to any Registration Statement filed by the Company pursuant to this Agreement.

(c) Notification of Sale of Registrable Securities. The Investors covenant and agree that they shall notify the Company following the sale of Registrable Securities to a third party as promptly as reasonably practicable, and in any event within thirty (30) days, following the sale of such Registrable Securities.

2.6. Indemnification.

(a) To the extent permitted by law, the Company shall indemnify the Investors, and, as applicable, their officers, directors, and constituent partners, legal counsel for each Investor and each Person controlling the Investors, with respect to which registration, related qualification, or related compliance of Registrable Securities has been effected pursuant to this Agreement, and each underwriter, if any, and each Person who controls any underwriter within the meaning of the Securities Act against all claims, losses, damages, or liabilities (or actions in respect thereof) to the extent such claims, losses, damages, or liabilities arise out of or are based upon (i) any untrue statement (or alleged untrue statement) of a material fact contained in any prospectus or other document (including any related Registration Statement) incident to any such registration, qualification, or compliance, or (ii) any omission (or alleged omission) to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, or (iii) any violation or alleged violation by the Company of the Securities Act, the Exchange Act, any state securities law, or any rule or regulation promulgated under the Securities Act, the Exchange Act or any state securities law applicable to the Company and relating to action or inaction required of the Company in connection with any such registration, qualification, or compliance; and the Company shall pay as incurred to the Investors, each such underwriter, and each Person who controls the Investors or underwriter, any legal and any other expenses reasonably incurred in connection with investigating or defending any such claim, loss, damage, liability, or action; provided, however, that the indemnity contained in this Section 2.6(a) shall not apply to amounts paid in settlement of any such claim, loss, damage, liability, or action if settlement is effected without the consent of the Company (which consent shall not unreasonably be withheld); and provided, further, that the Company shall not be liable in any such case to the extent that any such claim, loss, damage, liability, or expense arises out of or is based upon any violation by such Investor of the obligations set forth in Section 2.5 hereof or any untrue statement or omission contained in such prospectus or other document based upon written information furnished to the Company by the Investors, such underwriter, or such controlling Person and stated to be for use therein.

(b) To the extent permitted by law, each Investor (severally and not jointly) shall, if Registrable Securities held by such Investor are included for sale in the registration and related qualification and compliance effected pursuant to this Agreement, indemnify the Company, each of its directors, each officer of the Company who signs the applicable Registration Statement, each legal counsel and each underwriter of the Company's securities covered by such a Registration Statement, each Person who controls the Company or such underwriter within the meaning of the Securities Act against all claims, losses, damages, and liabilities (or actions in respect thereof) arising out of or based upon (i) any untrue statement (or alleged untrue statement) of a material fact contained in any such Registration Statement, or related document, or (ii) any omission (or alleged omission) to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, or (iii) any violation or alleged violation by such Investor of Section 2.5 hereof, the Securities Act, the Exchange Act, any state securities law, or any rule or regulation promulgated under the Securities Act, the Exchange Act or any state securities law applicable to such Investor and relating to action or inaction required of such Investor in connection with any such registration and related qualification and compliance, and shall pay as incurred to such persons, any legal and any other expenses reasonably incurred in connection with investigating or defending any such claim, loss, damage, liability, or action, in each case only to the extent that such untrue statement (or alleged untrue statement) or omission (or alleged omission) is made in (and such violation pertains to) such Registration Statement or related document in reliance upon and in conformity with written information furnished to the Company by such Investor and stated to be specifically for use therein; provided, however, that the indemnity contained in this Section 2.6(b) shall not apply to amounts paid in settlement of any such claim, loss, damage, liability, or action if settlement is effected without the consent of such Investor (which consent shall not unreasonably be withheld); provided, further, that such Investor's liability under this Section 2.6(b) (when combined with any amounts such Investor is liable for under Section 2.6(d)) shall not exceed such Investor's net proceeds from the offering of securities made in connection with such registration.

(c) Promptly after receipt by an indemnified party under this Section 2.6 of notice of the commencement of any action, such indemnified party shall, if a claim in respect thereof is to be made against an indemnifying party under this Section 2.6, notify the indemnifying party in writing of the commencement thereof and generally summarize such action. The indemnifying party shall have the right to participate in and to assume the defense of such claim; provided, however, that the indemnifying party shall be entitled to select counsel for the defense of such claim with the approval of any parties entitled to indemnification, which approval shall not be unreasonably withheld; provided further, however, that if either party reasonably determines that there may be a conflict between the position of the Company and the Investors in conducting the defense of such action, suit, or proceeding by reason of recognized claims for indemnity under this Section 2.6, then counsel for such party shall be entitled to conduct the defense to the extent reasonably determined by such counsel to be necessary to protect the interest of such party. The failure to notify an indemnifying party promptly of the commencement of any such action, if prejudicial to the ability of the indemnifying party to defend such action, shall relieve such indemnifying party, to the extent so prejudiced, of any liability to the indemnified party under this Section 2.6, but the omission so to notify the indemnifying party shall not relieve such party of any liability that such party may have to any indemnified party otherwise than under this Section 2.6.

(d) If the indemnification provided for in this Section 2.6 is held by a court of competent jurisdiction to be unavailable to an indemnified party with respect to any loss, liability, claim, damage, or expense referred to therein, then the indemnifying party, in lieu of indemnifying such indemnified party hereunder, shall contribute to the amount paid or payable by such indemnified party as a result of such loss, liability, claim, damage, or expense in such proportion as is appropriate to reflect the relative fault of the indemnifying party on the one hand and of the indemnified party on the other in connection with the statements or omissions that resulted in such loss, liability, claim, damage, or expense as well as any other relevant equitable considerations. The relative fault of the indemnifying party and of the indemnified party shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission to state a material fact relates to information supplied by the indemnifying party or by the indemnified party and the parties' relative intent, knowledge, access to information, and opportunity to correct or prevent such statement or omission. In no event, however, shall (i) any amount due for contribution hereunder be in excess of the amount that would otherwise be due under Section 2.6(a) or Section 2.6(b), as applicable, based on the limitations of such provisions and (ii) a Person guilty of fraudulent misrepresentation (within the meaning of the Securities Act) be entitled to contribution from a Person who was not guilty of such fraudulent misrepresentation.

(e) Notwithstanding the foregoing, to the extent that the provisions on indemnification and contribution contained in the underwriting agreement entered into in connection with an underwritten public offering are in conflict with the foregoing provisions, the provisions in the underwriting agreement shall control; provided, however, that the failure of the underwriting agreement to provide for or address a matter provided for or addressed by the foregoing provisions shall not be a conflict between the underwriting agreement and the foregoing provisions.

(f) The obligations of the Company and the Investors under this Section 2.6 shall survive the completion of any offering of Registrable Securities in a Registration Statement under this Agreement or otherwise.

2.7. Information. The Investors shall furnish to the Company such information regarding the Investors and the distribution proposed by the Investors as the Company may reasonably request and as shall be reasonably required in connection with any registration referred to in this Agreement. The Investors agree to, as promptly as practicable (and in any event prior to any sales made pursuant to a prospectus), furnish to the Company all information required to be disclosed in order to make the information previously furnished to the Company by the Investors not misleading. The Investors agree to keep confidential the receipt of any notice received pursuant to Section 2.4(e) and the contents thereof, except as required pursuant to applicable law. Notwithstanding anything to the contrary herein, the Company shall be under no obligation to name the Investors in any Registration Statement if the Investors have not provided the information required by this Section 2.7 with respect to the Investors as a selling securityholder in such Registration Statement or any related prospectus.

2.8. Rule 144 Requirements. With a view to making available to the Investors the benefits of Rule 144 promulgated under the Securities Act and any other rule or regulation of the Commission that may at any time permit the Investors to sell Registrable Securities to the public without registration, the Company agrees to use its reasonable best efforts to:

(a) make and keep public information available, as those terms are understood and defined in Rule 144 under the Securities Act at all times after the date hereof;

(b) file with the Commission in a timely manner all reports and other documents required of the Company under the Securities Act and the Exchange Act;

(c) prior to the filing of the Registration Statement or any amendment thereto (whether pre-effective or post-effective), and prior to the filing of any prospectus or prospectus supplement related thereto, to provide the Investors with copies of all of the pages thereof (if any) that reference the Investors; and

(d) furnish to any Investor, so long as the Investor owns any Registrable Securities, forthwith upon request (i) a written statement by the Company that it has complied with the reporting requirements of Rule 144, (ii) a copy of the most recent annual or quarterly report of the Company and such other reports and documents so filed by the Company, and (iii) such other information as may be reasonably requested by an Investor in availing itself of any rule or regulation of the Commission which permits an Investor to sell any such securities without registration.

(b) Each of the Company and the Investors irrevocably and unconditionally submits, for itself and its property, to the nonexclusive jurisdiction of the courts of the State of New York sitting in the Borough of Manhattan, New York and of the United States District Court of the Southern District of New York, and any appellate court from any thereof, in any action or proceeding arising out of or relating to this Agreement and the transactions contemplated herein, or for recognition or enforcement of any judgment, and each of the Company and the Investors irrevocably and unconditionally agrees that all claims in respect of any such action or proceeding may be heard and determined in such New York state court or, to the fullest extent permitted by applicable law, in such federal court. Each of the Company and the Investors hereto agrees that a final judgment in any such action or proceeding shall be conclusive and may be enforced in other jurisdictions by suit on the judgment or in any other manner provided by law.

(c) Each of the Company and the Investors irrevocably and unconditionally waives, to the fullest extent permitted by applicable law, any objection that it may now or hereafter have to the laying of venue of any action or proceeding arising out of or relating to this Agreement and the transactions contemplated herein in any court referred to in Section 3.4(b) hereof. Each of the Company and the Investors hereby irrevocably waives, to the fullest extent permitted by applicable law, the defense of an inconvenient forum to the maintenance of such action or proceeding in any such court.

(d) EACH OF THE COMPANY AND THE INVESTORS HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY RIGHT IT MAY HAVE TO A TRIAL BY JURY IN ANY LEGAL PROCEEDING DIRECTLY OR INDIRECTLY ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED HEREBY (WHETHER BASED ON CONTRACT, TORT OR ANY OTHER THEORY). EACH OF THE COMPANY AND THE INVESTORS (A) CERTIFIES THAT NO REPRESENTATIVE, AGENT OR ATTORNEY OF ANY OTHER PERSON HAS REPRESENTED, EXPRESSLY OR OTHERWISE, THAT SUCH OTHER PERSON WOULD NOT, IN THE EVENT OF LITIGATION, SEEK TO ENFORCE THE FOREGOING WAIVER AND (B) ACKNOWLEDGES THAT EACH OF THE COMPANY AND THE INVESTORS HAS BEEN INDUCED TO ENTER INTO THIS AGREEMENT BY, AMONG OTHER THINGS, THE MUTUAL WAIVERS AND CERTIFICATIONS IN THIS SECTION.

3.5. Successors, Assigns and Transferees. Any and all rights, duties and obligations hereunder shall not be assigned, transferred, delegated or sublicensed by any party hereto without the prior written consent of the other party; provided, however, that the Investors shall be entitled to transfer Registrable Securities to one or more of their affiliates and, solely in connection therewith, may assign their rights hereunder in respect of such transferred Registrable Securities, in each case, so long as such Investor is not relieved of any liability or obligations hereunder, without the prior consent of the Company. Any transfer or assignment made other than as provided in the first sentence of this Section 3.5 shall be null and void. Subject to the foregoing and except as otherwise provided herein, the provisions of this Agreement shall inure to the benefit of, and be binding upon, the successors, permitted assigns, heirs, executors and administrators of the parties hereto. The Company shall not consummate any recapitalization, merger, consolidation, reorganization or other similar transaction whereby stockholders of the Company receive (either directly, through an exchange, via dividend from the Company or otherwise) equity (the "Other Equity") in any other entity (the "Other Entity") with respect to Registrable Securities hereunder, unless prior to the consummation thereof, the Other Entity assumes, by written instrument, the obligations under this Agreement with respect to such Other Equity as if such Other Equity were Registrable Securities hereunder.

- 3.6. Entire Agreement. This Agreement, together with any exhibits hereto, constitute the entire agreement between the parties relating to the subject matter hereof and all previous agreements or arrangements between the parties, written or oral, relating to the subject matter hereof are superseded.
- 3.7. Waiver. No failure on the part of either party hereto to exercise any power, right, privilege or remedy under this Agreement, and no delay on the part of either party hereto in exercising any power, right, privilege or remedy under this Agreement, shall operate as a waiver thereof; and no single or partial exercise of any such power, right, privilege or remedy shall preclude any other or further exercise thereof or of any other power, right, privilege or remedy.
- 3.8. Severability. If any part of this Agreement is declared invalid or unenforceable by any court of competent jurisdiction, such declaration shall not affect the remainder of the Agreement and the invalidated provision shall be revised in a manner that shall render such provision valid while preserving the parties' original intent to the maximum extent possible.
- 3.9. Titles and Subtitles. The titles and subtitles used in this Agreement are used for convenience only and are not to be considered in construing or interpreting this Agreement. All references in this Agreement to sections, paragraphs and exhibits shall, unless otherwise provided, refer to sections and paragraphs hereof and exhibits attached hereto.
- 3.10. Counterparts. This Agreement may be executed in any number of counterparts, each of which shall be enforceable against the parties that execute such counterparts (including by facsimile or other electronic means), and all of which together shall constitute one instrument.
- 3.11. Term and Termination. The Investors' rights to demand the registration of the Registrable Securities under this Agreement, as well as the Company's obligations hereunder other than pursuant to Section 2.6 hereof, shall terminate automatically once all Registrable Securities cease to be Registrable Securities pursuant to the terms of this Agreement.

[Remainder of Page Intentionally Left Blank; Signature Page Follows]

IN WITNESS WHEREOF, the parties hereto have executed this Registration Rights Agreement effective as of the day, month and year first above written.

IDERA PHARMACEUTICALS, INC.

By: /s/ Vincent J. Milano _____

Name: Vincent J. Milano

Title: Chief Executive Officer

[Signature page to Registration Rights Agreement]

IN WITNESS WHEREOF, the parties hereto have executed this Registration Rights Agreement effective as of the day, month and year first above written.

PILLAR PARTNERS FOUNDATION, L.P.

By: /s/ Abude Umari _____

Name: Abude Umari

Title: Director

PILLAR PHARMACEUTICALS 6, L.P.

By: /s/ Youssef El-Zein _____

Name: Youssef El-Zein

Title: Director

PILLAR PHARMACEUTICALS 7, L.P.

By: /s/ Youssef El-Zein _____

Name: Youssef El-Zein

Title: Director

[Signature page to Registration Rights Agreement]

Schedule A

The Investors

Pillar Partners Foundation, L.P.

Pillar Partners Foundation, L.P.
c/o Pillar Invest Offshore SAL
Starco Center, Bloc B, Third Floor
Omar Daouk Street, Beirut 2020-3313
Lebanon

With a copy to:
Goodwin Procter LLP
The New York Times Building
620 Eighth Avenue
New York, NY 10018
Attn: Michael Rosenberg, Esq.

Pillar Pharmaceuticals 6, L.P.

Pillar Pharmaceuticals 6, L.P.
c/o Pillar Invest Offshore SAL
Starco Center, Bloc B, Third Floor
Omar Daouk Street, Beirut 2020-3313
Lebanon

With a copy to:
Goodwin Procter LLP
The New York Times Building
620 Eighth Avenue
New York, NY 10018
Attn: Michael Rosenberg, Esq.

Pillar Pharmaceuticals 7, L.P.

Pillar Pharmaceuticals 7, L.P.
c/o Pillar Invest Offshore SAL
Starco Center, Bloc B, Third Floor
Omar Daouk Street, Beirut 2020-3313
Lebanon

With a copy to:
Goodwin Procter LLP
The New York Times Building
620 Eighth Avenue
New York, NY 10018
Attn: Michael Rosenberg, Esq.

SECURITIES PURCHASE AGREEMENT

This Securities Purchase Agreement (this “**Agreement**”) is made and entered into as of July 13, 2020 (the “**Effective Date**”) by and among Idera Pharmaceuticals, Inc., a Delaware corporation (the “**Company**”), and entities controlled by Pillar Invest Corporation, Cayman Islands limited partnerships, set forth on Schedule A hereto (each a “**Purchaser**” and together the “**Purchasers**”). Certain terms used and not otherwise defined in the text of this Agreement are defined in Section 11 hereof.

RECITALS

WHEREAS, the Company and the Purchasers are executing and delivering this Agreement in reliance upon the exemption from securities registration afforded by Section 4(a)(2) of the Securities Act of 1933, as amended (the “**1933 Act**”), and Rule 506 of Regulation D promulgated by the United States Securities and Exchange Commission (the “**Commission**”) under the 1933 Act; and

WHEREAS, the Company desires to sell to the Purchasers, and the Purchasers desire to purchase from the Company, (i) shares (“**Shares**”) of the Company’s common stock, par value \$0.001 per share (the “**Common Stock**”), (ii) pre-funded warrants in the form attached hereto as Exhibit A-1 (the “**Pre-Funded Warrants**”) to purchase shares of Common Stock solely in the event that the Purchasers determine, in its sole discretion, that the Purchasers (together with the Purchasers’ Affiliates, and any Person acting as a group together with the Purchasers or any of the Purchasers’ Affiliates) would beneficially own in excess of 19.99% of the number of shares of Common Stock outstanding immediately after giving effect to the issuance of the Shares on the applicable Closing Date (the “**Beneficial Ownership Limitation**”) and (iii) warrants in the form attached hereto as Exhibit A-2 (the “**Common Warrants**”) and, together with the Pre-Funded Warrants, the “**Warrants**”) to purchase shares of Common Stock.

NOW, THEREFORE, in consideration of the foregoing and the mutual representations, warranties and covenants herein contained, the parties hereto hereby agree as follows:

SECTION 1. Authorization of Securities.

1.01 The Company has authorized the sale and issuance of the Shares and the Warrants on the terms and subject to the conditions set forth in this Agreement. The Shares and the Warrants sold hereunder at each Closing shall be referred to as the “**Securities**.”

SECTION 2. Sale and Purchase of the Securities.

2.01 (a) First Closing Securities. Upon the terms and subject to the conditions herein contained, the Company agrees to sell to the Purchasers, and the Purchasers agree to purchase from the Company, for an aggregate purchase price of \$5,100,000, (i) 749,993 Shares, (ii) 2,014,234 Pre-Funded Warrants, and (iii) Common Warrants accompanying the Shares which shall be exercisable for 2,764,227 Warrant Shares and shall have an exercise price of \$2.58 per Warrant Share, subject to adjustment as provided in the Common Warrants. The number of Warrant Shares exercisable from the Pre-Funded Warrants issued in the First Closing equals to the difference of subtracting (A) the number of Shares purchased in the First Closing from (B) the number of shares of Common Stock that would have been purchased by the Purchasers in the First Closing absent the Beneficial Ownership Limitation, and shall have a nominal exercise price of \$0.01 per Warrant Share, subject to adjustment as provided in the Pre-Funded Warrants.

(b) Second Closing Securities. Upon the terms and subject to the conditions herein contained, the Company agrees to sell to the Purchasers, and the Purchasers agree to purchase from the Company, for an aggregate purchase price of \$5,100,000, (i) 784,615 Pre-Funded Warrants and (ii) Common Warrants accompanying the Pre-Funded Warrants which shall be exercisable for 274,615 Warrant Shares (collectively, the “**Second Closing Securities**”) and shall have an exercise price of \$9.75 per Warrant Share, subject to adjustment as provided in the Common Warrants. The number of Warrant Shares exercisable from the Pre-Funded Warrants issued in the Second Closing equals to the number of shares of Common Stock that would have been purchased by the Purchasers in the Second Closing absent the Beneficial Ownership Limitation, and shall have a nominal exercise price of \$0.01 per Warrant Share, subject to adjustment as provided in the Pre-Funded Warrants.

For the avoidance of doubt, the aggregate exercise price for the Pre-Funded Warrants as provided in Sections 2.01(a) and 2.01(b) above, except for the nominal exercise price of \$0.01 per Warrant Share, shall be pre-funded to the Company (the “**Pre-paid Aggregate Exercise Price**”) on or prior to the date of the applicable Closing and, consequently, no additional consideration (other than the nominal exercise price of \$0.01 per Warrant Share) shall be required to be paid by the Purchasers to effect any exercise of a Pre-Funded Warrant. The Purchasers shall not be entitled to the return or refund of all, or any portion, of such Pre-paid Aggregate Exercise Price under any circumstance or for any reason whatsoever.

2.02 At or prior to each Closing, the Purchasers will pay the applicable purchase price set forth in Section 2.01 by wire transfer of immediately available funds in accordance with wire instructions provided by the Company to the Purchasers prior to such Closing.

2.03 To the extent that the Company does not receive payments of the First Closing purchase price from the Purchasers as set forth in Section 2.02 above within two (2) business days of the Effective Date, then (i) this Agreement shall be null and void with respect to any and all covenants and obligations binding on the Company and (ii) the Purchasers shall reimburse the Company up to \$50,000 for the Company’s costs incurred in negotiating and executing this Agreement and other related transaction documents, in the case of each of (i) and (ii) above, without prejudice to other remedies the Company may have at law or equity.

2.04 Uncertificated Securities. The Securities and Warrant Shares issuable upon exercise of the Warrants will be uncertificated. In lieu of certificates, such uncertificated shares of the Securities and Warrant Shares issuable upon exercise of the Warrants shall be credited to a book entry account maintained by the Company (or its designee).

SECTION 3. Closings. Subject to the satisfaction of the closing conditions set forth in Section 7:

3.01 (a) The closing with respect to the transactions contemplated in Section 2.01(a) hereof (the “**First Closing**”) shall occur upon the satisfaction of the closing conditions set forth in Section 7 (the “**First Closing Date**”).

3.02 (b) The closing(s) with respect to the transactions contemplated in Section 2.01(b) hereof (the “**Second Closing**” and, together with the First Closing, each a “**Closing**”) shall occur on or before the tenth Business Day following the ORR Data Announcement (as defined below) and shall be held on or before the fifth day following delivery of written notice by the Purchasers to the Company, including the allocation of the Second Closing Securities among the Purchasers, and upon the satisfaction of the closing conditions set forth in Section 7 (the “**Second Closing Date**” and, together with the First Closing Date, each a “**Closing Date**”). For purposes of this agreement, “**ORR Data Announcement**” means the Company’s public announcement of the overall response rate primary endpoint of the tilsotolimod ILLUMINATE-301 study, as defined in the final statistical analysis plan of the study protocol, as agreed with the FDA prior to unblinding (the “**ORR Data**”).

SECTION 4. Representations and Warranties of the Purchasers. Each Purchaser, severally and not jointly, represents and warrants to the Company that the statements contained in this Section 4 are true and correct as of the Effective Date, and will be true and correct as of each Closing Date:

4.01 Validity. The execution, delivery and performance of this Agreement and the consummation by the Purchasers of the transactions contemplated hereby have been duly authorized by all necessary corporate, partnership, limited liability or similar actions, as applicable, on the part of the Purchasers. This Agreement has been duly executed and delivered by the Purchasers and constitutes a valid and binding obligation of the Purchasers, enforceable against it in accordance with its terms, except as limited by applicable bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance, and any other laws of general application affecting enforcement of creditors’ rights generally, and as limited by laws relating to the availability of specific performance, injunctive relief, or other equitable remedies.

4.02 Brokers. There is no broker, investment banker, financial advisor, finder or other person which has been retained by or is authorized to act on behalf of the Purchasers who might be entitled to any fee or commission for which the Company will be liable in connection with the execution of this Agreement and the consummation of the transactions contemplated hereby.

4.03 Investment Representations and Warranties. The Purchasers understand and agree that the offering and sale of the Securities has not been registered under the 1933 Act or any applicable state securities laws and is being made in reliance upon federal and state exemptions for transactions not involving a public offering which depend upon, among other things, the bona fide nature of the investment intent and the accuracy of the Purchasers’ representations as expressed herein.

4.04 Acquisition for Own Account; No Control Intent. Each Purchaser is acquiring the Securities for its own account for investment and not with a view towards distribution in a manner which would violate the 1933 Act or any applicable state or other securities laws. The Purchasers are not party to any agreement providing for or contemplating the distribution of any of the Securities. The Purchasers have no present intent to effect a “change of control” of the Company as such term is understood under the rules promulgated pursuant to Section 13(d) of the 1934 Act.

4.05 No General Solicitation. The Purchasers are not purchasing the Securities as a result of any advertisement, article, notice or other communication regarding the Securities published in any newspaper, magazine or similar media or broadcast over television, radio or the internet or presented at any seminar or any other general solicitation or general advertisement. The purchase of the Securities has not been solicited by or through anyone other than the Company.

4.06 Ability to Protect Its Own Interests and Bear Economic Risks. The Purchasers have the capacity to protect its own interests in connection with the transactions contemplated by this Agreement and is capable of evaluating the merits and risks of the investment in the Securities. The Purchasers are able to bear the economic risk of an investment in the Securities and is able to sustain a loss of all of its investment in the Securities without economic hardship, if such a loss should occur.

4.07 Accredited Investor; No Bad Actor. Each Purchaser is an “accredited investor” as that term is defined in Rule 501(a) under the 1933 Act. Such Purchaser has not taken any of the actions set forth in, and is not subject to, the disqualification provisions of Rule 506(d)(1) of the 1933 Act.

4.08 Access to Information. The Purchasers have been given access to Company documents, records, and other information, and has had adequate opportunity to ask questions of, and receive answers from, the Company’s officers, employees, agents, accountants and representatives concerning the Company’s business, operations, financial condition, assets, liabilities and all other matters relevant to its investment in the Securities. The Purchasers understand that an investment in the Securities bears significant risk and represents that it has reviewed the SEC Reports, which serve to qualify certain of the Company representations set forth below.

4.09 Restricted Securities. The Purchasers understand that the Securities will be characterized as “restricted securities” under the federal securities laws inasmuch as they are being acquired from the Company in a private placement under Section 4(a)(2) of the 1933 Act and that under such laws and applicable regulations such Securities may be resold without registration under the 1933 Act only in certain limited circumstances.

4.10 Short Sales. Between the time the Purchasers learned about the offering contemplated by this Agreement and the public announcement of the offering, the Purchasers have not engaged in any short sales (as defined in Rule 200 of Regulation SHO under the 1934 Act (“**Short Sales**”)) or similar transactions with respect to the Common Stock or any securities exchangeable or convertible for Common Stock, nor have the Purchasers, directly or indirectly, caused any person to engage in any Short Sales or similar transactions with respect to the Common Stock.

4.11 Tax Advisors. Each Purchaser has had the opportunity to review with the Purchaser's own tax advisors the federal, state and local tax consequences of its purchase of the Securities, where applicable, and the transactions contemplated by this Agreement. Each Purchaser is relying solely on the Purchaser's own determination as to tax consequences or the advice of such tax advisors and not on any statements or representations of the Company or any of its agents and understands that the Purchaser (and not the Company) shall be responsible for the Purchaser's own tax liability that may arise as a result of the transactions contemplated by this Agreement.

4.12 OFAC. The Purchasers are not identified on the specially designated nationals or other blocked person list or otherwise currently subject to any U.S. sanctions administered by the Office of Foreign Assets Control of the U.S. Treasury Department ("**OFAC**"), and the Purchasers have not, directly or indirectly, used any funds, or loaned, contributed or otherwise made available such funds to any subsidiary of the Company, joint venture partner or other Person (defined below), in connection with any sales or operations in Cuba, Iran, Syria, Sudan, Myanmar or any other country sanctioned by OFAC or for the purpose of financing the activities of any Person currently subject to, or otherwise in violation of, any U.S. sanctions administered by OFAC in the last five (5) fiscal years. The Purchasers' purchase of the Shares hereunder will not violate any money laundering or similar statutes of any Governmental Entity (defined below).

SECTION 5. Representations and Warranties by the Company. Assuming the accuracy of the representations and warranties of the Purchasers set forth in Section 4 and except as set forth in the reports, schedules, forms, statements and other documents filed by the Company with the Commission pursuant to the 1934 Act (collectively, the "**SEC Reports**"), which disclosures serve to qualify these representations and warranties in their entirety, the Company represents and warrants to the Purchasers that the statements contained in this Section 5 are true and correct as of the Effective Date and will be true and correct as of each Closing Date:

5.01 SEC Reports. The Company has timely filed all of the reports, schedules, forms, statements and other documents required to be filed by the Company with the Commission pursuant to the reporting requirements of the 1934 Act. The SEC Reports, at the time they were filed with the Commission, (i) complied as to form in all material respects with the requirements of the 1934 Act and the 1934 Act Regulations and (ii) did not include an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

5.02 Independent Accountants. The accountants who certified the audited consolidated financial statements of the Company included in the SEC Reports are independent public accountants as required by the 1933 Act, the 1933 Act Regulations, the 1934 Act and the 1934 Act Regulations, and the Public Company Accounting Oversight Board.

5.03 Financial Statements; Non-GAAP Financial Measures. The consolidated financial statements included or incorporated by reference in the SEC Reports, together with the related notes, present fairly, in all material respects, the financial position of the Company and its consolidated subsidiaries at the dates indicated and the statement of operations, stockholders' equity and cash flows of the Company and its consolidated subsidiaries for the periods specified; said financial statements have been prepared in conformity with U.S. generally accepted accounting principles ("**GAAP**") applied on a consistent basis throughout the periods involved, except in the case of unaudited, interim financial statements, subject to normal year-end audit adjustments and the exclusion of certain footnotes.

5.04 No Material Adverse Change in Business. Except as otherwise stated therein, since the respective dates as of which information is given in the SEC Reports, there has been no material adverse change in the condition, financial or otherwise, or in the earnings, business affairs or business prospects of the Company and its subsidiaries considered as one enterprise, whether or not arising in the ordinary course of business (a "**Material Adverse Effect**"), there have been no transactions entered into by the Company or any of its subsidiaries, other than those in the ordinary course of business and except as contemplated in this Agreement, which are material with respect to the Company and its subsidiaries considered as one enterprise, and there has been no dividend or distribution of any kind declared, paid or made by the Company on any class of its capital stock.

5.05 Good Standing of the Company. The Company has been duly incorporated and is validly existing as a corporation in good standing under the laws of the State of Delaware and has corporate power and authority to own, lease and operate its properties and to conduct its business as disclosed in the SEC Reports and to enter into and perform its obligations under this Agreement; and the Company is duly qualified as a foreign corporation to transact business and is in good standing in each other jurisdiction in which such qualification is required, whether by reason of the ownership or leasing of property or the conduct of business, except where the failure so to qualify or to be in good standing would not result in a Material Adverse Effect.

5.06 Good Standing of Subsidiaries. Each "significant subsidiary" of the Company, as such term is defined in Rule 1-02 of Regulation S-X (each, a "**Subsidiary**" and, collectively, the "**Subsidiaries**") has been duly incorporated or organized and is validly existing in good standing under the laws of the jurisdiction of its incorporation or organization, has corporate or similar power and authority to own, lease and operate its properties and to conduct its business as described in the SEC Reports and is duly qualified to transact business and is in good standing in each jurisdiction in which such qualification is required, whether by reason of the ownership or leasing of property or the conduct of business, except where the failure to so qualify or to be in good standing would not result in a Material Adverse Effect. All of the issued and outstanding capital stock of each Subsidiary has been duly authorized and validly issued, is fully paid and non-assessable and is owned by the Company, directly or through subsidiaries, free and clear of any security interest, mortgage, pledge, lien, encumbrance, claim or equity. None of the outstanding shares of capital stock of any Subsidiary were issued in violation of the preemptive or similar rights of any securityholder of such Subsidiary.

5.07 Capitalization. The Company has an authorized capitalization as set forth in the SEC Reports. The outstanding shares of capital stock of the Company have been duly authorized and validly issued and are fully paid and non-assessable. None of the outstanding shares of capital stock of the Company were issued in violation of the preemptive or other similar rights of any securityholder of the Company which have not been waived.

5.08 Validity. This Agreement has been duly authorized, executed and delivered by the Company and constitutes a valid and binding obligation of the Company, enforceable against it in accordance with its terms, except as limited by applicable bankruptcy, insolvency, reorganization, moratorium, fraudulent conveyance, and any other laws of general application affecting enforcement of creditors' rights generally, and as limited by laws relating to the availability of specific performance, injunctive relief, or other equitable remedies.

5.09 Authorization and Description of Securities. The Shares have been duly and validly authorized and, when issued and paid for pursuant to this Agreement, will be validly issued, fully paid and nonassessable, and shall be free and clear of all encumbrances and restrictions, except for restrictions on transfer set forth in this Agreement or imposed by applicable securities laws, and shall not be subject to preemptive or similar rights of stockholders. The Warrants have been duly authorized and, when issued and paid for in accordance with the terms of this Agreement, will be duly and validly issued, free and clear of all encumbrances and restrictions, except for restrictions on transfer set forth in this Agreement or imposed by applicable securities laws, and shall not be subject to preemptive or similar rights of stockholders. Each Warrant Share issuable upon exercise of the Warrants has been duly authorized and, when issued and paid for in accordance with the terms of this Agreement and the Warrants, will be duly and validly issued, fully paid and nonassessable, free and clear of all encumbrances and restrictions, except for restrictions on transfer set forth in this Agreement or imposed by applicable securities laws, and shall not be subject to preemptive or similar rights of stockholders. The Common Stock conforms, in all material respects, to all statements relating thereto contained in the SEC Reports and such description conforms, in all material respects, to the rights set forth in the instruments defining the same. No holder of the Securities or Warrant Shares will be subject to personal liability solely by reason of being such a holder.

5.10 Absence of Violations, Defaults and Conflicts. Neither the Company nor any of its subsidiaries is (A) in violation of its charter, bylaws or similar organizational document, except, in the case of the Company's subsidiaries, for such violations that would not, singly or in the aggregate, result in a Material Adverse Effect, (B) in default in the performance or observance of any obligation, agreement, covenant or condition contained in any contract, indenture, mortgage, deed of trust, loan or credit agreement, note, lease or other agreement or instrument to which the Company or any of its subsidiaries is a party or by which it or any of them may be bound or to which any of the properties or assets of the Company or any subsidiary is subject (collectively, "**Agreements and Instruments**"), except for such defaults that would not, singly or in the aggregate, result in a Material Adverse Effect, or (C) in violation of any law, statute, rule, regulation, judgment, order, writ or decree of any arbitrator, court, governmental body, regulatory body, administrative agency or other authority, body or agency having jurisdiction over the Company or any of its subsidiaries or any of their respective properties, assets or operations (each, a "**Governmental Entity**"), except for such violations that would not, singly or in the aggregate, result in a Material Adverse Effect. The execution, delivery and performance of this Agreement and the consummation of the transactions contemplated herein (including the issuance and sale of the Securities and Warrant Shares) and compliance by the Company with its obligations hereunder do not and will not, whether with or without the giving of notice or passage of time or both, conflict with or constitute a breach of, or default or Repayment Event (as defined below) under, or result in the creation or imposition of any lien, charge or encumbrance upon any properties or assets of the Company or any subsidiary pursuant to, the Agreements and Instruments (except for such conflicts, breaches, defaults or Repayment Events or liens, charges or encumbrances that would not, singly or in the aggregate, result in a Material Adverse Effect), nor will such action result in any violation of (i) the provisions of the Restated Certificate of Incorporation of the Company, as amended (the "**Certificate of Incorporation**"), the Amended and Restated Bylaws of the Company (the "**Bylaws**") or similar organizational document of the Company or any of its subsidiaries or (ii) any applicable law, statute, rule, regulation, judgment, order, writ or decree of any Governmental Entity, and except in the case of clause (ii) for such violations as would not, singly or in the aggregate, result in a Material Adverse Effect. As used herein, a "**Repayment Event**" means any event or condition which gives the holder of any note, debenture or other evidence of indebtedness (or any person acting on such holder's behalf) the right to require the repurchase, redemption or repayment of all or a portion of such indebtedness by the Company or any of its subsidiaries.

5.11 Absence of Labor Dispute. No labor dispute with the employees of the Company or any of its subsidiaries exists or, to the knowledge of the Company, is imminent, and the Company is not aware of any existing or imminent labor disturbance by the employees of any of its or any subsidiary's principal suppliers, manufacturers, customers or contractors, which, in either case, would result in a Material Adverse Effect.

5.12 Absence of Proceedings. There is no action, suit, proceeding, inquiry or investigation before or brought by any Governmental Entity now pending or, to the knowledge of the Company, threatened, against or affecting the Company or any of its subsidiaries, which would reasonably be expected to result in a Material Adverse Effect, or which would reasonably be expected to materially and adversely affect the consummation of the transactions contemplated in this Agreement or the performance by the Company of its obligations hereunder.

5.13 Absence of Further Requirements. No filing with, or authorization, approval, consent, license, order, registration, qualification or decree of, any Governmental Entity is necessary or required for the performance by the Company of its obligations hereunder, in connection with the offering, issuance, or sale of the Securities hereunder or the consummation of the transactions contemplated by this Agreement, except such as have been already obtained or as may be required to list the Shares and Warrant Shares on the Principal Trading Market, as may be required under state securities laws or the filings required pursuant to Section 6.03 of this Agreement.

5.14 Possession of Licenses and Permits. The Company and its subsidiaries possess such permits, licenses, approvals, consents and other authorizations (collectively, "**Governmental Licenses**") issued by the appropriate Governmental Entities necessary to conduct the business now operated by them, except where the failure so to possess would not, singly or in the aggregate, result in a Material Adverse Effect. The Company and its subsidiaries are in compliance with the terms and conditions of all Governmental Licenses, except where the failure so to comply would not, singly or in the aggregate, result in a Material Adverse Effect. All of the Governmental Licenses are valid and in full force and effect, except when the invalidity of such Governmental Licenses or the failure of such Governmental Licenses to be in full force and effect would not, singly or in the aggregate, result in a Material Adverse Effect. Neither the Company nor any of its subsidiaries has received any notice of proceedings relating to the revocation or modification of any Governmental Licenses which, singly or in the aggregate, if the subject of an unfavorable decision, ruling or finding, would result in a Material Adverse Effect.

5.15 Title to Property. The Company and its subsidiaries do not own any real property. The Company and its subsidiaries have title to all tangible personal property owned by them, in each case, free and clear of all mortgages, pledges, liens, security interests, claims, restrictions or encumbrances of any kind except such as (A) are described in the SEC Reports or (B) do not, singly or in the aggregate, 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 or any of its subsidiaries; and all of the leases and subleases material to the business of the Company and its subsidiaries, considered as one enterprise, and under which the Company or any of its subsidiaries holds properties described in the SEC Reports, are in full force and effect, and neither the Company nor any such subsidiary has any notice of any material claim of any sort that has been asserted by anyone adverse to the rights of the Company or any subsidiary under any of the leases or subleases mentioned above, or affecting or questioning the rights of the Company or such subsidiary to the continued possession of the leased or subleased premises under any such lease or sublease.

5.16 Intellectual Property. The Company and its subsidiaries own or possess the right to use all patents, patent applications, inventions, licenses, know-how (including trade secrets and other unpatented and/or unpatentable proprietary or confidential information or procedures), trademarks, service marks, trade names, domain names, copyrights, and other intellectual property, and registrations and applications for registration of any of the foregoing (collectively, "**Intellectual Property**") necessary to conduct their business as presently conducted and currently contemplated to be conducted in the future as described in the SEC Reports and, to the knowledge of the Company, neither the Company nor any of its subsidiaries, whether through their respective products and services or the conduct of their respective businesses, has infringed, misappropriated, conflicted with or otherwise violated, or is currently infringing, misappropriating, conflicting with or otherwise violating, and none of the Company or its subsidiaries have received any heretofore unresolved communication or notice of infringement of, misappropriation of, conflict with or violation of, any Intellectual Property of any other person or entity, other than as described in the SEC Reports. Neither the Company nor any of its subsidiaries has received any communication or notice (in each case that has not been resolved) alleging that by conducting their business as described in the SEC Reports, such parties would infringe, misappropriate, conflict with, or violate, any of the Intellectual Property of any other person or entity. The Company knows of no infringement, misappropriation or violation by others of Intellectual Property owned by or licensed to the Company or its subsidiaries which would reasonably be expected to result in a Material Adverse Effect. The Company and its subsidiaries have taken all reasonable steps necessary to secure their interests in such Intellectual Property from their employees and contractors and to protect the confidentiality of all of their confidential information and trade secrets. None of the Intellectual Property employed by the Company or its subsidiaries has been obtained or is being used by the Company or its subsidiaries in violation of any contractual obligation binding on the Company or any of its subsidiaries or, to the knowledge of the Company, any of their respective officers, directors or employees, except as would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect. All Intellectual Property owned or exclusively licensed by the Company or its subsidiaries is free and clear of all liens, encumbrances, defects or other restrictions (other than non-exclusive licenses granted in the ordinary course of business), except those that would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect. The Company and its subsidiaries are not subject to any judgment, order, writ, injunction or decree of any court or any Governmental Entity, nor has the Company or any of its subsidiaries entered into or become a party to any agreement made in settlement of any pending or threatened litigation, which materially restricts or impairs their use of any Intellectual Property.

5.17 Company IT Systems. The Company and its subsidiaries own or have a valid right to access and use all computer systems, networks, hardware, software, databases, websites, and equipment used to process, store, maintain and operate data, information, and functions used in connection with the business of the Company and its subsidiaries (the “**Company IT Systems**”), except as would not, individually or in the aggregate, have a Material Adverse Effect. The Company IT Systems are adequate for, and operate and perform in all material respects as required in connection with, the operation of the business of the Company and its subsidiaries as currently conducted, except as would not, individually or in the aggregate, have a Material Adverse Effect. The Company and its subsidiaries have implemented commercially reasonable backup, security and disaster recovery technology consistent in all material respects with applicable regulatory standards and customary industry practices.

5.18 Cybersecurity. Except as would not reasonably be expected to have a Material Adverse Effect, (A) there has been no security breach or other compromise of or relating to the Company IT Systems; (B) the Company has not been notified of, and has no knowledge of any event or condition that would reasonably be expected to result in, any such security breach or other compromise of the Company IT Systems; (C) the Company and its subsidiaries have implemented policies and procedures with respect to the Company IT Systems that are reasonably consistent with industry standards and practices, or as required by applicable regulatory standards; and (D) the Company and its subsidiaries are presently in material compliance with all applicable laws or statutes, judgments, orders, rules and regulations of any court or arbitrator or governmental or regulatory authority and contractual obligations relating to the privacy and security of the Company IT Systems and to the protection of the Company IT Systems from unauthorized use, access, misappropriation or modification.

5.19 Environmental Laws. Except as would not, singly or in the aggregate, result in a Material Adverse Effect, (A) neither the Company nor any of its subsidiaries is in violation of any applicable federal, state, local or foreign statute, law, rule, regulation, ordinance, code, policy or rule of common law or any judicial or administrative interpretation thereof, including any judicial or administrative order, consent, decree or judgment, relating to pollution or protection of human health, the environment (including, without limitation, ambient air, surface water, groundwater, land surface or subsurface strata) or wildlife, including, without limitation, laws and regulations relating to the release or threatened release of chemicals, pollutants, contaminants, wastes, toxic substances, hazardous substances, petroleum or petroleum products, asbestos-containing materials or mold (collectively, “**Hazardous Materials**”) or to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of Hazardous Materials (collectively, “**Environmental Laws**”), (B) the Company and its subsidiaries have all permits, authorizations and approvals required for their operations under any applicable Environmental Laws and are each in compliance with their requirements, (C) there are no pending or, to the knowledge of the Company, threatened administrative, regulatory or judicial actions, suits, demands, demand letters, claims, liens, notices of noncompliance or violation, investigations or proceedings relating to any Environmental Law against the Company or any of its subsidiaries and (D) to the knowledge of the Company, there are no events or circumstances existing as of the date hereof that would reasonably be expected to form the basis of an order for clean-up or remediation, or an action, suit or proceeding by any private party or Governmental Entity, against or affecting the Company or any of its subsidiaries relating to Hazardous Materials or any Environmental Laws.

5.20 Accounting Controls and Disclosure Controls. The Company and its subsidiaries maintain effective internal control over financial reporting (as defined under Rule 13a-15 and 15d-15 under the 1934 Act Regulations) and a system of internal accounting controls sufficient to provide reasonable assurances that (A) transactions are executed in accordance with management's general or specific authorization; (B) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain accountability for assets; (C) access to assets is permitted only in accordance with management's general or specific authorization; and (D) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences. Since the end of the Company's most recent audited fiscal year, there has been (1) no material weakness in the Company's internal control over financial reporting (whether or not remediated) and (2) no change in the Company's internal control over financial reporting that has materially adversely affected, or is reasonably likely to materially adversely affect, the Company's internal control over financial reporting.

5.21 Compliance with the Sarbanes-Oxley Act. The Company is in compliance in all material respects with all provisions of the Sarbanes-Oxley Act of 2002 and all rules and regulations promulgated thereunder or implementing the provisions thereof that are in effect and with which the Company is required to comply.

5.22 Payment of Taxes. All United States federal income tax returns of the Company and its subsidiaries required by law to be filed have been filed and all taxes shown by such returns or otherwise assessed, which are due and payable, have been paid, except assessments against which appeals have been or will be promptly taken and as to which adequate reserves have been provided. No assessment in connection with United States federal tax returns has been made against the Company. The Company and its subsidiaries have filed all other tax returns that are required to have been filed by them through the date hereof or have timely requested extensions thereof pursuant to applicable foreign state, local or other law except insofar as the failure to file such returns would not result in a Material Adverse Effect and has paid all taxes due pursuant to such returns or all taxes due and payable pursuant to any assessment received by the Company and its subsidiaries, except for such taxes, if any, as are being contested in good faith and as to which adequate reserves have been established by the Company or its subsidiaries and except where the failure to pay such taxes would not result in a Material Adverse Effect. The charges, accruals and reserves on the books of the Company in respect of any income and corporation tax liability for any years not finally determined are adequate to meet any assessments or reassessments for additional income tax for any years not finally determined, except to the extent of any inadequacy that would not result in a Material Adverse Effect.

5.23 **ERISA**. Except as would not reasonably be expected to have a Material Adverse Effect: (i) at no time in the past six years has the Company or any ERISA Affiliate maintained, sponsored, participated in, contributed to or had any liability or obligation in respect of any Employee Benefit Plan subject to Title IV of ERISA or Section 412 of the Code, any “multiemployer plan” as defined in Section 3(37) of ERISA or any multiple employer plan for which the Company or any ERISA Affiliate has incurred or could incur material liability under Section 4063 or 4064 of ERISA, (ii) no “welfare benefit plan” as defined in Section 3(1) of ERISA provides or promises, or at any time provided or promised, retiree health, or other post-termination benefits except to the extent such benefit is fully insured or as may be required by the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended, or similar state law and (iii) each Employee Benefit Plan is and has been operated in compliance with its terms and all applicable laws, including but not limited to ERISA and the Code. Each Employee Benefit Plan intended to be qualified under Code Section 401(a) has a favorable determination or opinion letter from the Internal Revenue Service (the “**IRS**”) upon which it can rely, and any such determination or opinion letter remains in effect and has not been revoked and no event has occurred and no facts or circumstances exist that could reasonably be expected to result in the loss of qualification or tax exemption of any such Employee Benefit Plan. With respect to each Foreign Benefit Plan, such Foreign Benefit Plan (1) if intended to qualify for special tax treatment, meets, in all material respects, the requirements for such treatment, and (2) if required to be funded, is funded to the extent required by applicable law. The Company does not have any obligations under any collective bargaining agreement with any union. As used in this Section 5.23, “**Code**” means the Internal Revenue Code of 1986, as amended; “**Employee Benefit Plan**” means any “employee benefit plan” within the meaning of Section 3(3) of ERISA, including, without limitation, all equity and equity-based, severance, employment, change-in-control, medical, disability, fringe benefit, bonus, incentive, deferred compensation, employee loan and all other employee benefit plans, agreements, programs, policies or other arrangements, whether or not subject to ERISA, under which (x) any current or former employee, director, independent contractor or other service provider of the Company or its subsidiaries has any present or future right to benefits and which are contributed to, sponsored by or maintained by the Company or any of the Subsidiaries or (y) the Company or any of the Subsidiaries has had or has any present or future direct or contingent obligation or liability; “**ERISA**” means the Employee Retirement Income Security Act of 1974, as amended; “**ERISA Affiliate**” means any member of the company’s controlled group as determined pursuant to Code Section 414(b), (c), (m) or (o), with respect to any Person, each business or entity under “common control” with such Person within the meaning of Section 4001(a)(14) of ERISA; and “**Foreign Benefit Plan**” means any Employee Benefit Plan established, maintained or contributed to outside of the United States of America and which is not subject to United States law.

5.24 Insurance. The Company and the Subsidiaries carry or are entitled to the benefits of insurance, with what the Company reasonably believes to be financially sound and reputable insurers, in such amounts and covering such risks as is adequate for the conduct of their respective businesses and the value of their respective properties and assets, and all such insurance is in full force and effect. The Company has no reason to believe that it or any of the Subsidiaries will not be able (A) to renew its existing insurance coverage as and when such policies expire or (B) to obtain comparable coverage from similar institutions as may be necessary or appropriate to conduct its business as now conducted and at a cost that would not result in a Material Adverse Effect.

5.25 Investment Company Act. The Company is not required, and upon the issuance and sale of the Securities will not be required, to register as an “investment company” under the Investment Company Act of 1940, as amended (the “**1940 Act**”).

5.26 No Unlawful Payments. None of the Company, any of its subsidiaries or, to the knowledge of the Company, any director, officer, agent, employee, Affiliate or other person acting on behalf of the Company or any of its subsidiaries has taken any action, directly or indirectly, that would result in a violation by such persons of any applicable anti-corruption laws, including, without limitation, making use of the mails or any means or instrumentality of interstate commerce corruptly in furtherance of an offer, payment, promise to pay or authorization of the payment of any money, or other property, gift, promise to give, or authorization of the giving of anything of value to any “government official” (including any officer or employee of a government or government-owned or controlled entity or of a public international organization, or any person acting in an official capacity for or on behalf of any of the foregoing, or any political party or party official or candidate for political office) in violation of any applicable anti-corruption laws, and the Company and its subsidiaries have conducted their businesses in compliance with applicable anti-corruption laws and have instituted and maintain policies and procedures designed to ensure continued compliance therewith.

5.27 Compliance with Anti-Money Laundering Laws. The operations of the Company and its subsidiaries are and have been conducted at all times in compliance in all material respects with applicable financial recordkeeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the money laundering statutes of all applicable jurisdictions, the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any Governmental Entity (collectively, the “**Anti-Money Laundering Laws**”); and no action, suit or proceeding by or before any Governmental Entity involving the Company or any of its subsidiaries with respect to the Anti-Money Laundering Laws is pending or, to the knowledge of the Company, threatened.

5.28 No Conflicts with Sanctions Laws. None of the Company, any of its subsidiaries or, to the knowledge of the Company, any director, officer, agent, employee, Affiliate or other person acting on behalf of the Company or any of its subsidiaries is an individual or entity (“**Person**”) currently the subject or target of any sanctions administered or enforced by the United States Government, including, without limitation, the U.S. Department of the Treasury’s Office of Foreign Assets Control (OFAC), the United Nations Security Council (“**UNSC**”), the European Union, Her Majesty’s Treasury (“**HMT**”), or other relevant sanctions authority (collectively, “**Sanctions**”), nor is the Company or any of its subsidiaries located, organized or resident in a country or territory that is the subject of Sanctions; and the Company will not knowingly directly or indirectly use the proceeds of the sale of the Securities, or lend, contribute or otherwise make available such proceeds to any subsidiaries, joint venture partners or other Person, to fund any activities of or the business with any Person, or in any country or territory, that, at the time of such funding, is the subject of Sanctions or in any other manner that will result in violation by any Person of Sanctions.

5.29 Regulatory Matters. Except as would not, singly or in the aggregate, result in a Material Adverse Effect: (i) neither the Company nor any of its subsidiaries has received any FDA Form 483, notice of adverse finding, warning letter or other correspondence or notice from the U.S. Food and Drug Administration (“**FDA**”) or any other Governmental Entity alleging or asserting noncompliance with any Applicable Laws (as defined in clause (ii) below) or Authorizations (as defined in clause (iii) below); (ii) the Company and each of its subsidiaries is and has been in compliance with statutes, laws, ordinances, rules and regulations applicable to the Company and its subsidiaries for the ownership, testing, development, manufacture, packaging, processing, use, distribution, marketing, labeling, promotion, sale, offer for sale, storage, import, export or disposal of any product manufactured or distributed by the Company, including without limitation, the Federal Food, Drug, and Cosmetic Act, 21 U.S.C. § 301, et seq., similar laws of other Governmental Entities and the regulations promulgated pursuant to such laws (collectively, “**Applicable Laws**”); (iii) the Company and each of its subsidiaries possesses all licenses, certificates, approvals, clearances, authorizations, permits and supplements or amendments thereto required by any such Applicable Laws and/or to carry on its businesses as now conducted (“**Authorizations**”) and such Authorizations are valid and in full force and effect and the Company is not in violation of any term of any such Authorizations; (iv) neither the Company nor any of its subsidiaries has received notice of any ongoing claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from any Governmental Entity or third party alleging that any product, operation or activity is in violation of any Applicable Laws or Authorizations or has any knowledge that any such Governmental Entity or third party is considering any such claim, litigation, arbitration, action, suit, investigation or proceeding, nor, to the Company’s knowledge, has there been any noncompliance with or violation of any Applicable Laws by the Company or any of its subsidiaries that could reasonably be expected to require the issuance of any such communication or result in an investigation, corrective action, or enforcement action by FDA or similar Governmental Entity; (v) neither the Company nor any of its subsidiaries has received notice that any Governmental Entity has taken, is taking or intends to take action to limit, suspend, modify or revoke any Authorizations or has any knowledge that any such Governmental Entity is threatening or is considering such action; and (vi) the Company and each of its subsidiaries has filed, obtained, maintained or submitted all reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Applicable Laws or Authorizations and that all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were complete, correct and not misleading on the date filed (or were corrected or supplemented by a subsequent submission). Neither the Company, any subsidiary nor, to the Company’s knowledge, any of their respective directors, officers, employees or agents has been convicted of any crime under any Applicable Laws or has been the subject of an FDA debarment proceeding. Neither the Company nor any subsidiary has been nor is now subject to FDA’s Application Integrity Policy. To the Company’s knowledge, neither the Company, any subsidiary nor any of its directors, officers, employees or agents, has made, or caused the making of, any false statements on, or material omissions from, any other records or documentation prepared or maintained to comply with the requirements of the FDA or any other Governmental Entity. Neither the Company, any subsidiary nor, to the Company’s knowledge, any of their respective directors, officers, employees or agents, have with respect to each of the following statutes, or regulations promulgated thereto, as applicable: (i) engaged in activities under 42 U.S.C. §§ 1320a-7b or 1395nn; (ii) knowingly engaged in any activities under 42 U.S.C. § 1320a-7b or the Federal False Claims Act, 31 U.S.C. § 3729; or (iii) knowingly and willfully engaged in any activities under 42 U. S.C.§ 1320a-7b, which are prohibited, cause for civil penalties, or constitute a mandatory or permissive exclusion from Medicare, Medicaid, or any other State Health Care Program or Federal Health Care Program.

5.30 Research, Studies and Tests. The research, nonclinical and clinical studies and tests conducted by, or to the knowledge of the Company, or on behalf of the Company and its subsidiaries have been and, if still pending, are being conducted with reasonable care and in all material respects in accordance with experimental protocols, procedures and controls pursuant to all Applicable Laws and Authorizations; the descriptions of the results of such research, nonclinical and clinical studies and tests contained in the SEC Reports are accurate and complete in all material respects and fairly present in all material respects the data derived from such research, nonclinical and clinical studies, and tests; the Company is not aware of any research, nonclinical or clinical studies or tests, the results of which the Company believes reasonably call into question the research, nonclinical or clinical study or test results described or referred to in the SEC Reports when viewed in the context in which such results are described; and neither the Company nor, to the knowledge of the Company, any of its subsidiaries has received any notices or correspondence from any Governmental Entity that will require the termination, suspension or material modification of any research, nonclinical or clinical study or test conducted by or on behalf of the Company or its subsidiaries, as applicable.

5.31 Private Placement. Neither the Company nor its subsidiaries, 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 any circumstances that would require registration under the 1933 Act of the Securities being sold pursuant to this Agreement. Assuming the accuracy of the representations and warranties of the Purchasers contained in Section 4 hereof, the issuance of the Securities, including the issuance of Warrant Shares, is exempt from registration under the 1933 Act.

5.32 Registration Rights. Except as required pursuant to Section 8 of this Agreement, the Company is presently not under any obligation, and has not granted any rights, to register under the 1933 Act any of the Company's presently outstanding securities or any of its securities that may hereafter be issued that have not expired or been satisfied.

SECTION 6. Covenants.

6.01 Reasonable Best Efforts. Each party shall use its reasonable best efforts to timely satisfy each of the conditions to be satisfied by it as provided in Section 7 of this Agreement and to respond and resolve any comments received by Nasdaq.

6.02 Use of Proceeds. The Company shall use the proceeds from the sale of the Securities for working capital and general corporate purposes.

6.03 Disclosure of Transactions and Other Material Information.

(a) Within the applicable period of time required by the 1934 Act, the Company shall file a Current Report on Form 8-K describing the terms and conditions of the transactions contemplated by this Agreement in the form required by the 1934 Act and attaching this Agreement and the Warrants as exhibits to such filing (including all attachments, the “**8-K Filing**”). The Company shall be permitted to issue a press release or other public statement with respect to the transactions contemplated hereby.

(b) Within the applicable period of time required by the 1934 Act, each Purchaser shall file an ownership report on Form 4 (the “**Form 4**”) reporting the acquisition of the securities in the First Closing as contemplated by this Agreement. The Purchasers shall provide the Company with a reasonable opportunity to review and provide comments on the draft of the Form 4.

6.04 Pledge of Securities. The Company acknowledges and agrees that the Securities may be pledged by a Purchaser in connection with a bona fide margin agreement or other loan or financing arrangement that is secured by the Securities. The pledge of Securities shall not be deemed to be a transfer, sale or assignment of the Securities hereunder, and the Purchaser effecting a pledge of Securities shall not be required to provide the Company with any notice thereof or otherwise make any delivery to the Company pursuant to this Agreement, including, without limitation, Section 9.01 of this Agreement; *provided that* a Purchaser and its pledgee shall be required to comply with the provisions of Section 9.01 of this Agreement in order to effect a sale, transfer or assignment of Securities to such pledgee. The Company hereby agrees to execute and deliver such documentation as a pledgee of the Securities may reasonably request in connection with a pledge of the Securities to such pledgee by a Purchaser; *provided that* any and all costs to effect the pledge of the Securities are borne by the pledgor and/or pledgee and not the Company.

6.05 Expenses. The Company and each Purchaser is liable for, and will pay, its own expenses incurred in connection with the negotiation, preparation, execution and delivery of this Agreement, including, without limitation, attorneys’ and consultants’ fees and expenses, except that the Company has agreed to reimburse the Purchasers in an amount of up to \$25,000 for the Purchasers’ reasonable legal fees at the time of execution of this Agreement.

6.06 Listing. The Company shall use its best efforts to take all steps necessary to (i) cause all of the Shares and the Warrant Shares exercisable from the Warrants to be approved for listing on the Principal Trading Market and (ii) maintain the listing of its Common Stock on the Principal Trading Market.

6.07 Reservation of Common Stock. The Company shall take all actions necessary to at all times have authorized, and reserved for the purpose of issuance the number of Warrant Shares issuable upon exercise of the Warrants (without taking into account any limitations on exercise of the Warrants set forth in the applicable Warrant).

6.08 Non-Public Information. Except with respect to the material terms and conditions of the transactions contemplated by the this Agreement, which shall be disclosed pursuant to Section 6.03, the Company covenants and agrees that it shall not provide the Purchasers with any information that constitutes material non-public information, unless (i) such information will be disclosed as of the earlier of (A) the public announcement of this transaction or (ii) the Company's next filing of a Form 10-K or Form 10-Q, or (ii) prior thereto the Purchasers shall have consented to the receipt of such information and agreed with the Company to keep such information confidential.

SECTION 7. Conditions of Parties' Obligations.

7.01 Conditions of the Purchasers' Obligations at each Closing. The obligations of the Purchasers under Section 2 hereof are subject to the fulfillment, at or prior to the applicable Closing, of all of the following conditions, any of which may be waived in whole or in part by the Purchasers in their absolute discretion.

(a) Representations and Warranties. The representations and warranties of the Company contained in this Agreement shall be true and correct on and as of each Closing Date with the same effect as though such representations and warranties had been made on and as of such Closing Date (except to the extent expressly made as of an earlier date in which case as of such earlier date).

(b) Performance. The Company shall have performed and complied with all covenants, agreements, obligations and conditions contained in this Agreement that are required to be performed or complied with by it on or prior to the applicable Closing Date.

(c) Opinion of Company Counsel. The Company shall have delivered to the Purchasers the opinion of Morgan, Lewis & Bockius LLP, counsel for the Company, or such other counsel for the Company acceptable to the Purchasers in their sole discretion, dated as of the applicable Closing Date in form and substance satisfactory to the Purchasers.

(d) Compliance Certificate. The Chief Executive Officer of the Company shall have delivered to the Purchasers at each Closing Date a certificate certifying that the conditions specified in Sections 7.01(a) and 7.01(b) of this Agreement have been fulfilled.

(e) Secretary's Certificate. The Secretary of the Company shall have delivered to the Purchasers at each Closing Date a certificate certifying (i) the Certificate of Incorporation; (ii) the Bylaws; and (iii) resolutions of the Board of Directors (or an authorized committee thereof) of the Company approving this Agreement and the transactions contemplated by this Agreement.

(f) Listing Requirements. The shares of Common Stock (including the Shares and the Warrant Shares exercisable from the Warrants) (i) shall be listed on the Principal Trading Market and (ii) shall not have been suspended, as of the applicable Closing Date, by the Commission or the Principal Trading Market from trading on the Principal Trading Market nor shall suspension by the Commission or the Principal Trading Market have been threatened, as of the applicable Closing Date, either (A) in writing by the Commission or the Principal Trading Market or (B) by falling below the minimum listing maintenance requirements of the Principal Trading Market.

(g) Qualification under State Securities Laws. All registrations, qualifications, permits and approvals, if any, required under applicable state securities laws shall have been obtained for the lawful execution, delivery and performance of this Agreement.

7.02 Conditions of the Company's Obligations. The obligations of the Company under Section 2 hereof are subject to the fulfillment, at or prior to the applicable Closing, of all of the following conditions, any of which may be waived in whole or in part by the Company in its absolute discretion.

(a) Representations and Warranties. The representations and warranties of the Purchasers contained in this Agreement shall be true and correct on and as of each Closing Date with the same effect as though such representations and warranties had been made on and as of such Closing Date (except to the extent expressly made as of an earlier date in which case as of such earlier date).

(b) Performance. The Purchasers shall have performed and complied with all covenants, agreements, obligations and conditions contained in this Agreement that are required to be performed or complied with by it on or prior to the applicable Closing Date.

SECTION 8. Registration Rights. Concurrently with the execution of this Agreement, the Company shall enter into the registration rights agreement with the Purchasers in the form attached hereto as Exhibit B.

SECTION 9. Transfer Restrictions.

9.01 Transfer Restrictions. The Purchasers understand that the Company may, as a condition to the transfer of any of the Securities or Warrant Shares, require that the request for transfer be accompanied by a certificate and/or an opinion of counsel reasonably satisfactory to the Company, to the effect that the proposed transfer does not result in a violation of the 1933 Act, unless such transfer is covered by an effective registration statement or by Rule 144 or Rule 144A under the 1933 Act. It is understood that the Company will notify the transfer agent that the uncertificated shares evidencing the Securities and Warrant Shares:

“THE SECURITIES AND THE WARRANT SHARES HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR ANY APPLICABLE STATE SECURITIES LAWS. THEY MAY NOT BE SOLD, OFFERED FOR SALE, PLEDGED OR HYPOTHECATED IN THE ABSENCE OF A REGISTRATION STATEMENT IN EFFECT WITH RESPECT TO THE SECURITIES UNDER SUCH ACT OR APPLICABLE STATE SECURITIES LAWS OR A CERTIFICATE AND/OR AN OPINION OF COUNSEL SATISFACTORY TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED.”

9.02 Unlegended Securities. A Purchaser may request that the Company remove, and the Company agrees to authorize the removal of, any restriction from such Securities or Warrant Shares, following the delivery by Purchaser to the Company or the Company's transfer agent of a written request to remove the restriction: (i) in connection with any sale (which for the avoidance of doubt includes any planned sale within a reasonable period of time) of such Securities or Warrant Shares pursuant to Rule 144 (*provided that* any restriction would only be removed in connection with the consummation of any such sale) or (ii) following the time the restriction is no longer required with respect to such Securities or Warrant Shares. If the restriction is no longer required pursuant to the foregoing, the Company will, no later than five Business Days following the delivery by a Purchaser to the Company or the Company's transfer agent of a written request to remove the restriction (and such other documents as the Company or the Company's transfer agent may reasonably request, including an opinion of counsel), deliver or cause to be delivered to such Purchaser documentation representing that such Securities or Warrant Shares are free from all restrictions. Securities or Warrant Shares free from all restrictions may be transmitted by the Company's transfer agent to the Purchasers as directed by such Purchaser. The Company warrants that the Securities or Warrant Shares shall otherwise be freely transferable on the books and records of the Company as and to the extent provided in this Agreement.

SECTION 10. Stock Register; Ownership of Securities. The Company will keep at its principal office, or will cause its transfer agent to keep, a register in which the Company will provide for the registration of transfers of the Securities. The Company may treat the person in whose name any of the Securities are registered on such register as the owner thereof and the Company shall not be affected by any notice to the contrary. All references in this Agreement to a "holder" of any Securities shall mean the person in whose name such Securities are at the time registered on such register.

SECTION 11. Definitions. Unless the context otherwise requires, the terms defined in this Section 11 shall have the meanings specified for all purposes of this Agreement. All accounting terms used in this Agreement, whether or not defined in this Section 11, shall be construed in accordance with GAAP and such accounting terms shall be determined on a consolidated basis for the Company and each of its subsidiaries, and the financial statements and other financial information to be furnished by the Company pursuant to this Agreement shall be consolidated and presented with consolidating financial statements of the Company and each of its subsidiaries.

"**1933 Act Regulations**" means the rules and regulations promulgated under the 1933 Act.

"**1934 Act**" means the Securities Exchange Act of 1934, as amended.

"**1934 Act Regulations**" means the rules and regulations promulgated under the 1934 Act.

"**Affiliate**" shall have the meaning ascribed to such term in Rule 12b-2 of the General Rules and Regulations under the 1934 Act.

"**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.

"**Common Stock Equivalents**" means any securities of the Company or the Subsidiaries which would entitle the holder thereof to acquire at any time Common Stock, including, without limitation, any debt, preferred stock, right, option, warrant 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.

“**Principal Trading Market**” means the Nasdaq Capital Market or such other Trading Market on which the Common Stock is primarily listed for trading.

“**Rule 144**” means Rule 144 promulgated by the Commission pursuant to the 1933 Act, as such Rule may be amended from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same effect as such Rule.

“**Trading Market**” means whichever of the Nasdaq Global Select Market, the Nasdaq Global Market, the Nasdaq Capital Market, the New York Stock Exchange, or the NYSE American on which the Common Stock is listed for trading on the date in question.

“**Warrant Shares**” means the shares of Common Stock issuable upon exercise of the Common Warrants and the Pre-Funded Warrants, as applicable.

SECTION 12. Miscellaneous.

12.01 Waivers and Amendments. Upon the approval of the Company and the written consent of the Purchasers, the obligations of the Company and the rights of the Purchasers under this Agreement may be waived (either generally or in a particular instance, either retroactively or prospectively and either for a specified period of time or indefinitely). Neither this Agreement, nor any provision hereof, may be changed, waived, discharged or terminated orally or by course of dealing, but only by an instrument in writing executed by the Company and the Purchasers.

12.02 Notices. All notices, requests, consents, and other communications under this Agreement shall be in writing and shall be deemed delivered: (a) when delivered, if delivered personally, (b) four Business Days after being sent by registered or certified mail, return receipt requested, postage prepaid, (c) one Business Day after being sent via a reputable nationwide overnight courier service guaranteeing next Business Day delivery, or (d) when receipt is acknowledged, in the case of email, in each case to the intended recipient as set forth below, with respect to the Company, and to the addresses set forth on Schedule A with respect to the Purchasers.

If to the Company:

Idera Pharmaceuticals, Inc.
505 Eagleview Blvd., Suite 212
Exton, Pennsylvania 19341
Attn: General Counsel
Attn: Chief Financial Officer

with copies to:

Morgan, Lewis & Bockius LLP
1701 Market Street
Philadelphia, Pennsylvania 19103-2921
Attn: Joanne R. Soslow, Esq.

or at such other address as the Company or each Purchaser may specify by written notice to the other parties hereto in accordance with this Section 12.02.

12.03 Cumulative Remedies. None of the rights, powers or remedies conferred upon the Purchasers on the one hand or the Company on the other hand shall be mutually exclusive, and each such right, power or remedy shall be cumulative and in addition to every other right, power or remedy, whether conferred by this Agreement or now or hereafter available at law, in equity, by statute or otherwise.

12.04 Successors and Assigns. All the terms and provisions of this Agreement shall be binding upon and inure to the benefit of and be enforceable by the respective parties hereto, the successors and permitted assigns of each Purchaser and the successors of the Company, whether so expressed or not. None of the parties hereto may assign its rights or obligations hereof without the prior written consent of the Company, except that a Purchaser may, without the prior consent of the Company, assign its rights to purchase the Securities hereunder to any of its Affiliates (provided each such Affiliate agrees to be bound by the terms of this Agreement and makes the same representations and warranties set forth in Section 4 hereof). This Agreement shall not inure to the benefit of or be enforceable by any other person.

12.05 Headings. The headings of the Sections and paragraphs of this Agreement have been inserted for convenience of reference only and do not constitute a part of this Agreement.

12.06 Governing Law; Jurisdiction. This Agreement shall be governed by and construed in accordance with the laws of the State of New York without regard to its conflict of law principles. Any suit, action or proceeding seeking to enforce any provision of, or based on any matter arising out of or in connection with, this Agreement or the transactions contemplated hereby may be brought in any federal or state court located in the City of New York and State of New York, and each of the parties hereby consents to the jurisdiction of such courts (and of the appropriate appellate courts therefrom) in any such suit, action or proceeding and irrevocably waives, to the fullest extent permitted by law, any objection which it may now or hereafter have to the laying of the venue of any such suit, action or proceeding in any such court or that any such suit, action or proceeding which is brought in any such court has been brought in an inconvenient forum. Process in any such suit, action or proceeding may be served on any party anywhere in the world, whether within or without the jurisdiction of any such court.

12.07 Survival. The representations and warranties of the Company and the Purchasers contained in Sections 4 and 5, and the agreements and covenants set forth in Sections 6, 8 and 12 shall survive each Closing in accordance with their respective terms. Each Purchaser shall be responsible only for its own representations, warranties, agreements and covenants hereunder.

12.08 Counterparts; Effectiveness. This Agreement may be executed in any number of counterparts and by different parties hereto in separate counterparts, with the same effect as if all parties had signed the same document. All such counterparts (including counterparts delivered by facsimile or other electronic format) shall be deemed an original, shall be construed together and shall constitute one and the same instrument. This Agreement shall become effective when each party hereto shall have received counterparts hereof signed by all of the other parties hereto.

12.09 Entire Agreement. This Agreement contains the entire agreement among the parties hereto with respect to the subject matter hereof and, except as set forth below, this agreement supersedes and replaces all other prior agreements, written or oral, among the parties hereto with respect to the subject matter hereof. Notwithstanding the foregoing or anything to the contrary in this Agreement, this Agreement shall not supersede any confidentiality or other non-disclosure agreements that may be in place between the Company and any Purchaser.

12.10 Severability. If any provision of this Agreement shall be found by any court of competent jurisdiction to be invalid or unenforceable, the parties hereby waive such provision to the extent that it is found to be invalid or unenforceable. Such provision shall, to the maximum extent allowable by law, be modified by such court so that it becomes enforceable, and, as modified, shall be enforced as any other provision hereof, all the other provisions hereof continuing in full force and effect.

[Signature page follows]

IN WITNESS WHEREOF, the parties hereto have caused this Securities Purchase Agreement to be duly executed as of the Effective Date.

IDERA PHARMACEUTICALS, INC.

By: /s/ Vincent J. Milano

Name: Vincent J. Milano

Title: Chief Executive Officer

[Signature page to Securities Purchase Agreement]

IN WITNESS WHEREOF, the parties hereto have caused this Securities Purchase Agreement to be duly executed as of the Effective Date.

PILLAR PARTNERS FOUNDATION, L.P.

By: /s/ Abude Umari

Name: Abude Umari

Title: Director

PILLAR PHARMACEUTICALS 6, L.P.

By: /s/ Youssef El-Zein

Name: Youssef El-Zein

Title: Director

PILLAR PHARMACEUTICALS 7, L.P.

By: /s/ Youssef El-Zein

Name: Youssef El-Zein

Title: Director

[Signature page to Securities Purchase Agreement]

Schedule A

The Purchasers

Pillar Partners Foundation, L.P.

Pillar Partners Foundation, L.P.
c/o Pillar Invest Offshore SAL
Starco Center, Bloc B, Third Floor
Omar Daouk Street, Beirut 2020-3313
Lebanon

With a copy to:
Goodwin Procter LLP
The New York Times Building
620 Eighth Avenue
New York, NY 10018
Attn: Michael Rosenberg, Esq.

Pillar Pharmaceuticals 6, L.P.

Pillar Pharmaceuticals 6, L.P.
c/o Pillar Invest Offshore SAL
Starco Center, Bloc B, Third Floor
Omar Daouk Street, Beirut 2020-3313
Lebanon

With a copy to:
Goodwin Procter LLP
The New York Times Building
620 Eighth Avenue
New York, NY 10018
Attn: Michael Rosenberg, Esq.

Pillar Pharmaceuticals 7, L.P.

Pillar Pharmaceuticals 7, L.P.
c/o Pillar Invest Offshore SAL
Starco Center, Bloc B, Third Floor
Omar Daouk Street, Beirut 2020-3313
Lebanon

With a copy to:
Goodwin Procter LLP
The New York Times Building
620 Eighth Avenue
New York, NY 10018
Attn: Michael Rosenberg, Esq.

IDERA PHARMACEUTICALS Contacts:

Jill Conwell
Investor Relations &
Corporate Communications
Phone (484) 348-1675
JCONWELL@IDERAPHARMA.COM

John J. Kirby
Chief Financial Officer
Phone (484) 348-1627
JKIRBY@IDERAPHARMA.COM



Idera Pharmaceuticals Announces Private Placement of up to \$20.0 Million

EXTON, PA, July 15, 2020 — Idera Pharmaceuticals, Inc. (Nasdaq: IDRA) today announced entering into an agreement with a fund affiliated with institutional investors providing for a private placement exempt from the registration requirements of the Securities Act of 1933, as amended, pursuant to which Idera has sold shares of common stock (or common stock equivalents), together with accompanying warrants to purchase additional shares of common stock, for aggregate gross proceeds of \$5.1 million (Tranche 1). The combined purchase price per share of common stock (or common stock equivalent) and accompanying full warrant was \$1.845. The common stock warrants have an exercise price of \$2.58 per share and a term of three years and are exercisable at any time or times, provided that the investors will be prohibited from exercising a common warrant for shares of common stock to the extent that the investors would beneficially own in excess of 19.99% of the total number of shares of common stock then issued and outstanding (Beneficial Ownership Limitation).

Pursuant to the agreement, the investors may, at their option, make a further investment of an additional \$5.1 million to purchase shares of common stock equivalents, together with accompanying common stock warrants to purchase additional shares of common stock with 35% warrant coverage (Tranche 2). The combined purchase price per share of common stock (or common stock equivalent) and accompanying 0.35 warrant will be \$6.50 per share. The common stock warrants, if issued, will have an exercise price of \$9.75 per share, a term of three years and are exercisable at any time or times, provided that the investors will be prohibited from exercising a common warrant for shares of common stock to the extent that the investors would beneficially own in excess of the Beneficial Ownership Limitation.

The investors' option to invest in Tranche 2 must occur no later than the tenth business day following the announcement of overall response rate data from the Company's ILLUMINATE-301 trial of its lead product, tilsotolimod, in combination with ipilimumab for the treatment of anti-PD-1 refractory advanced melanoma. To the extent Tranche 2 is closed and inclusive of proceeds from the exercise of warrants issuable in this private placement, the Company may receive up to \$20.0 million in gross proceeds.

The Company plans to use the initial proceeds and, if exercised, subsequent proceeds from the financing for the ongoing clinical development of tilsotolimod, its potential NDA filing and commercial launch, and for general corporate purposes.

The shares of common stock (or common stock equivalents) and warrants sold in the private placement have not been registered under the Securities Act of 1933, as amended, or under any state securities laws and, unless so registered, may not be offered or sold in the United States except pursuant to an exemption from, or in a transaction not subject to, the registration requirements of the Securities Act and applicable state securities laws.

This press release shall not constitute an offer to sell or the solicitation of an offer to buy these securities, nor shall there be any sale of these securities in any state or jurisdiction in which such offer, solicitation, or sale would be unlawful prior to registration or qualification under the securities laws of any such state or jurisdiction.

About Tilsotolimod (IMO-2125)

Tilsotolimod is an investigational, synthetic Toll-like receptor 9 agonist. Intratumoral injection of tilsotolimod has been shown to promote both innate (Type-I IFN, antigen presentation) and adaptive (T cells) immune activation. Tumors with an active immune response appear to respond better to CPIs than those that exclude or inhibit anti-tumor immune cells. Tilsotolimod in combination with CPIs may cause regression of locally injected and distant tumor lesions and increase the number of patients who benefit from immunotherapy.

Tilsotolimod has received both Fast Track designation and Orphan Drug designation from the FDA and is being evaluated in multiple tumor types and in combination with multiple checkpoint inhibitors. For more information on tilsotolimod trials, please visit www.clinicaltrials.gov.

About Idera Pharmaceuticals

Harnessing the approach of the earliest researchers in immunotherapy and the company's vast experience in developing proprietary immunology platforms, Idera's development program is focused on priming the immune system to play a more powerful role in fighting cancer, ultimately increasing the number of people who can benefit from immunotherapy. Idera also continues to focus on the acquisition, development, and ultimate commercialization of drug candidates for both oncology and rare disease indications characterized by small, well-defined patient populations with serious unmet needs. To learn more about Idera, visit www.iderapharma.com.

Forward Looking Statements

This press release contains forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. All statements, other than statements of historical fact, included or incorporated in this press release, including statements regarding Tranche 2, the use of proceeds, the Company's strategy, future operations, collaborations, intellectual property, cash resources, financial position, future revenues, projected costs, prospects, clinical trials, plans, and objectives of management, are forward-looking statements. The words "believes," "anticipates," "estimates," "plans," "expects," "intends," "may," "could," "should," "potential," "likely," "projects," "continue," "will," and "would" and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Idera cannot guarantee that it will actually achieve the plans, intentions or expectations disclosed in its forward-looking statements and you should not place undue reliance on the Company's forward-looking statements. There are a number of important factors that could cause Idera's actual results to differ materially from those indicated or implied by its forward-looking statements. Factors that may cause such a difference include: factors affecting Tranche 2 closing, whether the Company's cash resources will be sufficient to fund the Company's continuing operations and the further development of the Company's programs for the period anticipated; whether interim results from a clinical trial will be predictive of the final results of the trial; whether results obtained in preclinical studies and clinical trials will be indicative of the results that will be generated in future clinical trials, including in clinical trials in different disease indications; whether products based on Idera's technology will advance into or through the clinical trial process when anticipated or at all or warrant submission for regulatory approval; whether such products will receive approval from the U.S. Food and Drug Administration or equivalent foreign regulatory agencies; whether, if the Company's products receive approval, they will be successfully distributed and marketed; whether the Company's collaborations will be successful; and such other important factors as are set forth under the caption "Risk factors" in the Company's filings with the Securities and Exchange Commission. While Idera may elect to do so at some point in the future, the Company does not assume any obligation to update any forward-looking statements and it disclaims any intention or obligation to update or revise any forward-looking statement, whether as a result of new information, future events or otherwise.
