

# ANTHERA PHARMACEUTICALS INC

## **FORM 8-K** (Current report filing)

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

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**FORM 8-K**

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

**Date of Report (Date of earliest event reported): March 13, 2017**

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**ANTHERA PHARMACEUTICALS, INC.**

(Exact Name of Registrant as Specified in Charter)

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

**001-34637**  
(Commission  
File Number)

**20-1852016**  
(I.R.S. Employer  
Identification No.)

**25801 Industrial Boulevard, Suite B, Hayward,**  
**California**  
(Address of Principal Executive Offices)

**94545**  
(Zip Code)

**Registrant's telephone number, including area code: (510) 856-5600**

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

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
  - Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
  - Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
  - Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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**Item 1.01. Entry into a Material Definitive Agreement.****Underwriting Agreement**

On March 14, 2017, Anthera Pharmaceuticals, Inc. (“Anthera”) entered into an equity underwriting agreement (the “Underwriting Agreement”) with H.C. Wainwright & Co., LLC (“H.C. Wainwright,” or the “Underwriter”), pursuant to which Anthera agreed to issue and sell an aggregate of 30,000,000 shares (the “Shares”) of its common stock, \$0.001 par value per share (the “Common Stock”), and warrants to purchase an aggregate of 60,000,000 shares of Common Stock (the “Warrants”) to the Underwriter. Under the terms of the Underwriting Agreement, Anthera granted the Underwriter a 30-day option to purchase up to an additional 4,500,000 shares of Common Stock and/or warrants to purchase up to an additional 9,000,000 shares of Common Stock.

The Shares were sold at a public offering price of \$0.48 per share. The Warrants were sold in two tranches (the “Tranche 1 Warrants” and the “Tranche 2 Warrants”), and were sold at a public offering price of \$0.01 per share. The aggregate net proceeds to Anthera from the offering are expected to be approximately \$14.1 million, after deducting the Underwriter’s discounts and commissions.

Pursuant to the Underwriting Agreement, one Tranche 1 Warrant and one Tranche 2 Warrant will be issued for every one Share sold in this offering. Each Tranche 1 Warrant will have an exercise price of \$0.55 per share of Common Stock, will become exercisable on any day on or after the date that Anthera publicly announces through the filing of a Current Report on Form 8-K that it will have sufficient authorized shares of Common Stock to cover the Warrant Shares (the “Exercisable Date”) and will expire five years following the Exercisable Date. Each Tranche 2 Warrant will have an exercise price of \$0.50 per share of Common Stock, will become exercisable on the Exercisable Date and will expire six months following the Exercisable Date.

The offering was made pursuant to Anthera’s effective registration statement on Form S-3 (No. 333-210166), which was previously filed with the Securities and Exchange Commission (“SEC”) and became effective on April 18, 2016, and a related prospectus supplement filed with the SEC.

The offering is scheduled to close on or about March 17, 2017, subject to the satisfaction of customary closing conditions. In the Underwriting Agreement, the Company agrees to indemnify the Underwriter against certain liabilities, including liabilities under the Securities Act of 1933, as amended, or to contribute to payments that the Underwriter may be required to make because of such liabilities.

The foregoing description of the Underwriting Agreement is qualified in its entirety by reference to the Underwriting Agreement, a copy of which is filed as Exhibit 1.1 to this Form 8-K and is incorporated herein by reference, and the foregoing description of the Warrants is qualified in its entirety by reference to the Form of Tranche 1 Warrant and Form of Tranche 2 Warrant, which are filed as Exhibits 4.1 and 4.2 to this Form 8-K and are incorporated by reference herein. A copy of the opinion of Goodwin Procter LLP relating to the validity of the shares issued in the offering is attached hereto as Exhibit 5.1.

**Amendment to ATM Agreement**

On April 21, 2016, Anthera entered into an At Market Issuance Sales Agreement (the “Agreement”) with H.C. Wainwright to create an at-the-market equity program under which the Company from time to time could offer and sell shares of its common stock, par value \$0.001 per share, having an aggregate offering price of up to \$25,000,000 (the “At Market Shares”) through H.C. Wainwright. On March 14, 2017, Anthera and H.C. Wainwright amended the Agreement to reduce the aggregate offering price of the At Market Shares to be offered and sold pursuant to the Agreement from \$25,000,000 to \$23,000,000 (the “Amendment”).

The foregoing description of the Amendment is qualified in its entirety by reference to the Amendment, a copy of which is filed as Exhibit 10.1 to this Form 8-K and is incorporated herein by reference.

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**Item 8.01 Other Events.**

On March 13, 2017, Anthera issued a press release announcing that it had commenced the Offering. On March 14 2017, the Company issued a press release announcing that it had priced the Offering. Copies of these press releases are attached hereto as Exhibits 99.1 and 99.2, respectively.

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

(d) Exhibits. The following documents are filed as exhibits to this report:

- 1.1 Underwriting Agreement, dated as of March 14, 2017, among Anthera Pharmaceuticals, Inc. and H.C. Wainwright & Co., LLC
- 4.1 Form of Tranche 1 Warrant
- 4.2 Form of Tranche 2 Warrant
- 5.1 Opinion of Goodwin Procter LLP
- 10.1 Amendment to ATM Agreement, between Anthera Pharmaceuticals, Inc. and H.C. Wainwright & Co., LLC, dated March 14, 2017
- 23.1 Consent of Goodwin Procter LLP (contained in Exhibit 5.1)
- 99.1 Press release dated March 13, 2017
- 99.2 Press release dated March 14, 2017

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**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.

Date: March 16, 2017

Anthera Pharmaceuticals, Inc.

By: /s/ May Liu

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May Liu

Senior Vice President of Finance and Administration

30,000,000 Shares of Common Stock (\$0.001 Par Value)

and

Warrants to Purchase up to 60,000,000 Shares of Common Stock

Anthera Pharmaceuticals, Inc.

Common Stock

EQUITY UNDERWRITING AGREEMENT

March 14, 2017

H.C. Wainwright & Co., LLC  
As Representative of the several Underwriters

430 Park Avenue  
New York, NY 10022

Ladies and Gentlemen:

Anthera Pharmaceuticals, Inc., a Delaware corporation (the “**Company**”), proposes to sell to the several underwriters (the “**Underwriters**”) named in Schedule I hereto for whom you are acting as the representative (the “**Representative**”) (i) an aggregate of 30,000,000 shares (the “**Firm Shares**”) of the Company’s common stock, \$0.001 par value (the “**Common Stock**”) and (ii) warrants of the Company to purchase an aggregate of 60,000,000 shares of Common Stock (the “**Firm Warrants**”) and, together with the Firm Shares, the “**Firm Securities**”). The respective amounts of the Firm Securities to be so purchased by the several Underwriters are set forth opposite their names in Schedule I hereto. The Company also proposes to sell at the Underwriters’ option (i) an aggregate of up to 4,500,000 additional shares of the Company’s Common Stock (the “**Option Shares**”) and, together with the Firm Shares, the “**Shares**”) and/or (ii) warrants of the Company to purchase up to an additional 9,000,000 shares of Common Stock (the “**Option Warrants**”) and, together with the Firm Warrants, the “**Warrants**”) as set forth below. Each Share is being sold together with (i) a Tranche 1 Warrant (the “**Tranche 1 Warrant**”) to purchase one share of Common Stock at an exercise price of \$0.55 per share and (ii) a Tranche 2 Warrant (the “**Tranche 2 Warrant**”) to purchase one share of Common Stock at an exercise price of \$0.50 per share. As used herein, “**Warrant Shares**” means the shares of Common Stock issuable upon exercise of the Warrants. The Option Shares and the Option Warrants are referred to herein as the “**Option Securities**.”

As the Representative, you have advised the Company (a) that you are authorized to enter into this Agreement on behalf of the several Underwriters, and (b) that the several Underwriters are willing, acting severally and not jointly, to purchase the numbers of Firm Securities set forth opposite their respective names in Schedule I, plus their pro rata portion of the Option Securities set forth opposite their respective names in Schedule II if you elect to exercise the option in whole or in part for the accounts of the several Underwriters. The Firm Securities and the Option Securities (to the extent the aforementioned option is exercised) are herein collectively called the “ **Securities** .”

In consideration of the mutual agreements contained herein and of the interests of the parties in the transactions contemplated hereby, the parties hereto agree as follows:

1. REPRESENTATIONS AND WARRANTIES OF THE COMPANY.

The Company represents and warrants to each of the Underwriters as follows:

(a) The Company meets the requirements for use of Form S-3 under the Securities Act of 1933, as amended (the “ **Securities Act** ”), and has prepared and filed with the Securities and Exchange Commission (the “ **Commission** ”) a registration statement on Form S-3 (File No. 333-210166), including a related Base Prospectus (as defined below), for registration under the Securities Act of the offering and sale of the Securities. Such Registration Statement (as defined below), including any amendments thereto filed prior to the Applicable Time (as defined below), has become effective. The Company may have filed with the Commission, as part of an amendment to the Registration Statement or pursuant to Rule 424(b), one or more preliminary prospectus supplements relating to the Securities, each of which has previously been furnished to you. The Company will file with the Commission a final prospectus supplement relating to the Securities in accordance with Rule 424(b). As filed, such final prospectus supplement shall contain all information required by the Securities Act and the rules thereunder, and, except to the extent the Representative shall agree in writing to a modification, shall be in all substantive respects in the form furnished to you prior to the Applicable Time or, to the extent not completed at the Applicable Time, shall contain only such specific additional information and other changes (beyond that contained in the Base Prospectus and any preliminary prospectus supplement) as the Company has advised you, prior to the Applicable Time, will be included or made therein. The Registration Statement, at the Applicable Time, meets the requirements set forth in Rule 415(a)(1)(x). The initial Effective Date (as defined below) of the Registration Statement was not earlier than the date three years before the Applicable Time.

(b) On each Effective Date, the Registration Statement did, and when the Prospectus (as defined below) is first filed in accordance with Rule 424(b) and on the applicable Closing Date (as defined herein), the Prospectus (and any supplement thereto) will, comply in all material respects with the applicable requirements of the Securities Act and the Securities

Exchange Act of 1934, as amended (the “**Exchange Act**”), and the respective rules thereunder; on each Effective Date and at the Applicable Time, the Registration Statement did not and will not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary in order to make the statements therein not misleading; and on the date of any filing pursuant to Rule 424(b) and on the applicable Closing Date, the Prospectus (together with any supplement thereto) will not include any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; provided, however, that the Company makes no representations or warranties as to the information contained in or omitted from the Preliminary Prospectus (as defined below) or the Prospectus (or any supplement thereto) in reliance upon, and in conformity with, written information furnished to the Company by or on behalf of any Underwriter through the Representative, specifically for use therein, it being understood and agreed that the only such information is that described in Section 13 hereof.

(c) As of the Applicable Time and as of the applicable Closing Date, neither (i) the General Use Free Writing Prospectus(es) (as defined below) issued at or prior to the Applicable Time, the Base Prospectus, the Preliminary Prospectus used most recently prior to the Applicable Time and the information included on Schedule III hereto, all considered together (collectively, the “**General Disclosure Package**”), nor (ii) any individual Limited Use Free Writing Prospectus (as defined below), when considered together with the General Disclosure Package, included or will include any untrue statement of a material fact or omitted or will omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; provided, however, that the Company makes no representations or warranties as to information contained in or omitted from any Issuer Free Writing Prospectus (as defined below) or the General Disclosure Package, in reliance upon, and in conformity with, written information furnished to the Company by or on behalf of any Underwriter through the Representative, specifically for use therein, it being understood and agreed that the only such information is that described in Section 13 hereof. As used in this Agreement:

“**Applicable Time**” means 2:30 a.m. (New York time) on the date of this Agreement or such other time as agreed to by the Company and the Representative.

“**Base Prospectus**” shall mean the base prospectus referred to in Section 1(a) above contained in the Registration Statement at the Applicable Time.

“**Effective Date**” shall mean each date and time that the Registration Statement, any post-effective amendment or amendments thereto and any Rule 462(b) Registration Statement (as defined below) became or becomes effective.

“**General Use Free Writing Prospectus**” means any Issuer Free Writing Prospectus that is identified on Schedule IV to this Agreement.

“ **Issuer Free Writing Prospectus** ” means any “issuer free writing prospectus,” as defined in Rule 433 under the Securities Act, relating to the Securities in the form filed or required to be filed with the Commission or, if not required to be filed, in the form retained in the Company’s records pursuant to Rule 433(g) under the Securities Act.

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

“ **Preliminary Prospectus** ” shall mean any preliminary prospectus supplement to the Base Prospectus referred to in Section 1(a) above which is used prior to the filing of the Prospectus, together with the Base Prospectus.

“ **Prospectus** ” shall mean the final prospectus supplement relating to the Securities that was first filed pursuant to Rule 424(b) after the Applicable Time, together with the Base Prospectus.

“ **Registration Statement** ” shall mean the registration statement referred to in Section 1(a) above, including exhibits and financial statements and any prospectus supplement relating to the Securities that is filed with the Commission pursuant to Rule 424(b) and deemed part of such registration statement pursuant to Rule 430B, as amended on each Effective Date and, in the event any post-effective amendment thereto or any Rule 462(b) Registration Statement becomes effective prior to the applicable Closing Date, shall also mean such registration statement as so amended or such Rule 462(b) Registration Statement, as the case may be.

“ **Rule 462(b) Registration Statement** ” shall mean a registration statement and any amendments thereto filed pursuant to Rule 462(b) relating to the offering covered by the registration statement referred to in Section 1(a) hereof.

“ **Stockholder Approval** ” shall mean the requisite approval from the Company’s stockholders to amend the Company’s Fifth Amended and Restated Certificate of Incorporation, as amended, to implement a reverse split of the Company’s Common Stock to which shall as a result increase the total number of authorized but unissued shares of Common Stock to an amount sufficient to permit the exercise of the Warrants into shares of Common Stock. For the avoidance of doubt, Stockholder Approval will not be deemed to be obtained unless and until the requisite approval from the Company’s stockholders have been obtained for each of the foregoing.

(d) The Company has been duly organized and is validly existing as a corporation in good standing under the laws of the State of Delaware, with corporate power and authority to own or lease its properties and conduct its business as described in the Registration Statement, the General Disclosure Package and the Prospectus. Each of TRX Services, Ltd. and Anthera Pharmaceuticals, Ltd. (the “ **Subsidiaries** ”) have been duly organized and is validly existing as a corporation in good standing under the laws of the United Kingdom and Ireland, respectively,

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with corporate power and authority to own or lease its properties and conduct its business as described in the Registration Statement, the General Disclosure Package and the Prospectus. The Subsidiaries are the only subsidiaries, direct or indirect, of the Company. The Company and the Subsidiaries are duly qualified to transact business in all jurisdictions in which the conduct of their business requires such qualification, except for such jurisdictions where the failure to so qualify would not (i) have a material adverse effect on the earnings, business, management, properties, assets, rights, operations, condition (financial or otherwise) or prospects of the Company and of the Subsidiaries taken as a whole or (ii) prevent the consummation of the transactions contemplated hereby (the occurrence of any such effect or any such prevention described in the foregoing clauses (i) and (ii) being referred to as a “**Material Adverse Effect**”). The outstanding shares of capital stock of each Subsidiary have been duly authorized and validly issued, are fully paid and non-assessable and are owned by the Company free and clear of all liens, encumbrances and equities and claims; and no options, warrants or other rights to purchase, agreements or other obligations to issue or other rights to convert any obligations into shares of capital stock or ownership interests in either Subsidiary are outstanding.

(e) The outstanding shares of Common Stock of the Company have been duly authorized and validly issued and are fully paid and non-assessable; the Shares have been duly authorized and when issued and paid for as contemplated herein will be validly issued, fully paid and non-assessable; and no preemptive rights of stockholders exist with respect to any of the Shares or the issue and sale thereof. Neither the filing of the Registration Statement nor the offering or sale of the Securities as contemplated by this Agreement gives rise to any rights, other than those which have been waived or satisfied, for or relating to the registration of any shares of Common Stock. Except as described in the Registration Statement, the General Disclosure Package and the Prospectus, there are no contracts, agreements or understandings between the Company and any person granting such person the right to require the Company to file a registration statement under the Securities Act with respect to any securities of the Company owned or to be owned by such person or to require the Company to include such securities in the securities registered pursuant to the Registration Statement or in any securities being registered pursuant to any other registration statement filed by the Company under the Securities Act. The Warrants have been duly authorized by the Company and, when executed and delivered by the Company, will be valid and binding agreements of the Company, enforceable against the Company in accordance with their terms, except as the enforcement thereof may be limited by bankruptcy, insolvency, reorganization, moratorium or other similar laws relating to or affecting the rights and remedies of creditors or by general equitable principles. Subject to receipt of Stockholder Approval, the Warrant Shares have been duly authorized and validly reserved for issuance upon exercise of the Warrants. The Warrant Shares, when issued and delivered upon exercise of the Warrants in accordance therewith, will be validly issued, fully paid and nonassessable, and the issuance of the Warrant Shares is not subject to any preemptive rights, rights of first refusal or other similar rights to subscribe for or purchase the Warrant Shares.

(f) The information set forth under the caption “Capitalization” in the Registration Statement and the Prospectus (and any similar section or information contained in the General Disclosure Package) is true and correct. All of the Shares (including the Warrant Shares) and the Warrants conform to the description thereof contained in the Registration Statement, the General Disclosure Package and the Prospectus. The form of certificates for the Securities conforms to the corporate law of the jurisdiction of the Company’s incorporation and to any requirements of the Company’s organizational documents. Subsequent to the respective dates as of which information is given in the Registration Statement, the General Disclosure Package and the Prospectus, except as otherwise specifically stated therein or in this Agreement, the Company has not: (i) issued any debt securities or incurred any liability or obligation, direct or contingent, for borrowed money; or (ii) declared or paid any dividend or made any other distribution on or in respect to its capital stock.

(g) The Commission has not issued an order preventing or suspending the use of any Preliminary Prospectus, any Issuer Free Writing Prospectus or the Prospectus relating to the proposed offering of the Securities, and no proceeding for that purpose or pursuant to Section 8A of the Securities Act has been instituted or, to the Company’s knowledge, threatened by the Commission. The Registration Statement contains, and the Prospectus and any amendments or supplements thereto will contain, all statements which are required to be stated therein by, and will conform to, the requirements of the Securities Act and the rules and regulations of the Commission (the “**Rules and Regulations**”).

(h) Each Issuer Free Writing Prospectus, as of its issue date and at all subsequent times through the completion of the public offer and sale of the Securities or until any earlier date that the Company notified or notifies the Representative pursuant to Section 4(c) hereof, did not, does not and will not include any information that conflicted, conflicts or will conflict with the information contained in the Registration Statement, the General Disclosure Package or the Prospectus. The foregoing does not apply to statements or omissions from any Issuer Free Writing Prospectus in reliance upon, and in conformity with, written information furnished to the Company by or on behalf of any Underwriter through the Representative, specifically for use therein.

(i) The Company has not, directly or indirectly, distributed and will not distribute any offering material in connection with the offering and sale of the Securities other than any Preliminary Prospectus, the Prospectus, any Permitted Free Writing Prospectus (as defined below) and other materials, if any, permitted under the Securities Act and consistent with Section 4(b) hereof. The Company will file with the Commission all Issuer Free Writing Prospectuses in the time required under Rule 433(d) under the Securities Act. The Company has satisfied or will satisfy the conditions in Rule 433 under the Securities Act to avoid a requirement to file with the Commission any electronic road show.

(j) (i) At the time of filing the Registration Statement and (ii) as of the date hereof (with such date being used as the determination date for purposes of this clause(ii)), the Company was not and is not an “ineligible issuer” (as defined in Rule 405 under the Securities Act, without taking into account any determination by the Commission pursuant to Rule 405 under the Securities Act that it is not necessary that the Company be considered an ineligible issuer), including, without limitation, for purposes of Rules 164 and 433 under the Securities Act with respect to the offering of the Securities as contemplated by the Registration Statement.

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(k) The financial statements of the Company, together with related notes and schedules as set forth in the Registration Statement, the General Disclosure Package and the Prospectus, present fairly the financial position and the results of operations and cash flows of the Company and the Subsidiaries, at the indicated dates and for the indicated periods. Such financial statements and related schedules have been prepared in accordance with generally accepted principles of accounting (“**GAAP**”), consistently applied throughout the periods involved, except as disclosed therein, and all adjustments necessary for a fair presentation of results for such periods have been made. The summary and selected financial and statistical data included in the Registration Statement, the General Disclosure Package and the Prospectus presents fairly in all material respects the information shown therein and such data has been compiled on a basis consistent with the financial statements presented therein and the books and records of the Company. All disclosures, if any, contained in the Registration Statement, the General Disclosure Package and the Prospectus regarding “non-GAAP financial measures” (as such term is defined by the Rules and Regulations) comply with Regulation G of the Exchange Act, and Item 10 of Regulation S-K under the Securities Act, to the extent applicable. The Company and the Subsidiaries do not have any material liabilities or obligations, direct or contingent (including any off-balance sheet obligations or any “variable interest entities” within the meaning of Financial Accounting Standards Board Interpretation No. 46R), not disclosed in the Registration Statement, the General Disclosure Package and the Prospectus. There are no financial statements (historical or pro forma) that are required to be included in the Registration Statement, the General Disclosure Package or the Prospectus that are not included as required.

(l) BDO USA, LLP, who have audited certain of the financial statements filed with the Commission as part of the Registration Statement, the General Disclosure Package and the Prospectus, is an independent registered public accounting firm with respect to the Company and the Subsidiaries within the meaning of the Securities Act and the applicable Rules and Regulations and the Public Company Accounting Oversight Board (United States) (the “**PCAOB**”).

(m) Except as disclosed in the Registration Statement, the General Disclosure Package and the Prospectus, neither the Company nor either of the Subsidiaries is aware of (i) any material weakness in the Company’s internal control over financial reporting or (ii) change in internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, the Company’s internal control over financial reporting.

(n) There is and has been no failure on the part of the Company and any of the Company’s directors or officers, in their capacities as such, to comply in all material respects with any provision of the Sarbanes-Oxley Act of 2002, as amended, including Section 402 relating to loans and Sections 302 and 906 relating to certifications.

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(o) There is no action, suit, claim or proceeding pending or, to the knowledge of the Company, threatened against the Company or the Subsidiaries before any court or administrative agency or otherwise, domestic or foreign, which if determined adversely to the Company or the Subsidiaries would have a Material Adverse Effect, except as set forth in the Registration Statement, the General Disclosure Package and the Prospectus.

(p) The Company and the Subsidiaries have good and marketable title to all of the properties and assets reflected in the financial statements hereinabove described or described in the Registration Statement, the General Disclosure Package and the Prospectus, subject to no lien, mortgage, pledge, charge or encumbrance of any kind except those reflected in such financial statements or described in the Registration Statement, the General Disclosure Package and the Prospectus or which are not material in amount. The Company and the Subsidiaries occupy their leased properties under valid and binding leases conforming in all material respects to the description thereof set forth in the Registration Statement, the General Disclosure Package and the Prospectus.

(q) The Company and the Subsidiaries have filed all Federal, State, local and foreign tax returns which have been required to be filed and have paid all taxes indicated by such returns and all assessments received by them or any of them to the extent that such taxes have become due and are not being contested in good faith and for which an adequate reserve for accrual has been established in accordance with GAAP, except as would not have a Material Adverse Effect. All material tax liabilities have been adequately provided for in the financial statements of the Company, and the Company does not know of any actual or proposed additional material tax assessments.

(r) Since the respective dates as of which information is given in the Registration Statement, the General Disclosure Package and the Prospectus, as each may be amended or supplemented, (i) there has not been a Material Adverse Effect, whether or not occurring in the ordinary course of business, and (ii) there has not been any material transaction entered into or any material transaction that is probable of being entered into by the Company or the Subsidiaries, other than transactions in the ordinary course of business and changes and transactions described in the Registration Statement, the General Disclosure Package and the Prospectus, as each may be amended or supplemented. The Company and the Subsidiaries have no material contingent obligations which are required to be disclosed in the Company's financial statements but are not so disclosed. Since the date of the latest audited financial statements included in the Registration Statement, the General Disclosure Package and the Prospectus, there has not been any change in the capital stock or long-term debt of the Company or the Subsidiaries otherwise than as set forth or contemplated in the Registration Statement, the General Disclosure Package and the Prospectus.

(s) Neither the Company nor either of the Subsidiaries is or with the giving of notice or lapse of time or both, will be, (i) in violation of its certificate or articles of incorporation, by-laws or other organizational documents or (ii) in violation of or in default under any agreement, lease, contract, indenture or other instrument or obligation to which it is a party or by which it, or any of its properties, is bound and, solely with respect to this clause (ii), which violation or default

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would have a Material Adverse Effect. The execution and delivery of this Agreement and the consummation of the transactions herein contemplated and the fulfillment of the terms hereof will not conflict with or result in a breach of (i) any of the terms or provisions of, or constitute a default under, any indenture, mortgage, deed of trust or other agreement or instrument to which the Company or the Subsidiaries is a party or by which the Company or the Subsidiaries or any of their respective properties is bound, except for such conflicts, breaches or defaults that would not, individually or in the aggregate, have a Material Adverse Effect, (ii) the certificate or articles of incorporation or by-laws of the Company or (iii) any law, order, rule or regulation judgment, order, writ or decree applicable to the Company or the Subsidiaries of any court or of any government, regulatory body or administrative agency or other governmental body having jurisdiction, except for such conflicts or breaches that would not, individually or in the aggregate, have a Material Adverse Effect.

(t) The execution and delivery of, and the performance by the Company of its obligations under, this Agreement and the Warrants, subject to receipt of Stockholder Approval, have been duly and validly authorized by all necessary corporate action on the part of the Company, and this Agreement has been duly executed and delivered by the Company.

(u) Each approval, consent, order, authorization, designation, declaration or filing by or with any regulatory, administrative or other governmental body necessary in connection with the execution and delivery by the Company of this Agreement and the Warrants and the consummation of the transactions contemplated hereby and thereby (except such additional steps as may be required by the Commission, the Financial Industry Regulatory Authority, Inc. (“**FINRA**”) or such additional steps as may be necessary to qualify the Securities for public offering by the Underwriters under state securities or Blue Sky laws), other than the Stockholder Approval, has been obtained or made and is in full force and effect.

(v) The Company and the Subsidiaries each own or possess the right to use all patents, patent rights, trademarks, trade names, service marks, service names, copyrights, license rights, know-how (including trade secrets and other unpatented and unpatentable proprietary or confidential information, systems or procedures) and other intellectual property rights (“**Intellectual Property**”) necessary to carry on their business in all material respects; neither the Company nor either of the Subsidiaries has infringed, and neither the Company nor either of the Subsidiaries has received notice of conflict with, any Intellectual Property of any other person or entity. The Company has taken all reasonable steps necessary to secure interests in such Intellectual Property from its contractors. There are no outstanding options, licenses or agreements of any kind relating to the Intellectual Property of the Company that are required to be described in the Registration Statement, the General Disclosure Package and the Prospectus and are not described in all material respects. The Company is not a party to or bound by any options, licenses or agreements with respect to the Intellectual Property of any other person or entity that are required to be set forth in the Prospectus and are not described in all material respects. None of the technology employed by the Company has been obtained or is being used by the Company in violation of any contractual obligation binding on the Company or any of its officers, directors or employees or otherwise in

violation of the rights of any persons; the Company has not received any written or oral communications alleging that the Company has violated, infringed or conflicted with, or, by conducting its business as set forth in the Registration Statement, the General Disclosure Package and the Prospectus, would violate, infringe or conflict with, any of the Intellectual Property of any other person or entity, except to the extent such violation, infringement or conflict would not, individually or in the aggregate, have a Material Adverse Effect.

(w) Neither the Company, nor to the Company's knowledge, any of its affiliates, has taken or may take, directly or indirectly, any action designed to cause or result in, or which has constituted or which might reasonably be expected to constitute, the stabilization or manipulation of the price of the shares of Common Stock to facilitate the sale or resale of the Securities. The Company acknowledges that the Underwriters may engage in passive market making transactions in the Securities on The Nasdaq Global Market in accordance with Regulation M under the Exchange Act.

(x) Neither the Company nor either of the Subsidiaries is or, after giving effect to the offering and sale of the Securities contemplated hereunder and the application of the net proceeds from such sale as described in the Registration Statement, General Disclosure Package and the Prospectus, will be an "investment company" within the meaning of such term under the Investment Company Act of 1940 as amended (the "**1940 Act**"), and the rules and regulations of the Commission thereunder.

(y) The Company and the Subsidiaries maintain a system of internal accounting controls sufficient to provide reasonable assurances that (i) transactions are executed in accordance with management's general or specific authorization; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain accountability for assets; (iii) access to assets is permitted only in accordance with management's general or specific authorization; and (iv) the recorded accountability for assets is compared with existing assets at reasonable intervals and appropriate action is taken with respect to any differences. The Company's certifying officers have evaluated the effectiveness of the Company's disclosure controls and procedures as of the end of the period covered by the Company's most recently filed periodic report under the Exchange Act (such date, the "**Evaluation Date**"). The Company presented in its most recently filed periodic report under the Exchange Act the conclusions of the certifying officers about the effectiveness of the disclosure controls and procedures based on their evaluations as of the Evaluation Date. Since the Evaluation Date, there have been no changes in the Company's internal control over financial reporting (as such term is defined in the Exchange Act) that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

(z) The Company maintains "disclosure controls and procedures" (as defined in Rules 13a-14(c) and 15d-14(c) under the Exchange Act); the Company's "disclosure controls and procedures" are reasonably designed to ensure that all information (both financial and non-financial) required to be disclosed by the Company in the reports that it files or submits under the

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Exchange Act is recorded, processed, summarized and reported within the time periods specified in the rules and regulations of the Exchange Act, and that all such information is accumulated and communicated to the Company's management as appropriate to allow timely decisions regarding required disclosure and to make the certifications of the Chief Executive Officer and Chief Financial Officer of the Company required under the Exchange Act with respect to such reports.

(aa) The statistical, industry-related and market-related data included in the Registration Statement, the General Disclosure Package and the Prospectus are based on or derived from sources which the Company reasonably and in good faith believes are reliable and accurate, and such data agree with the sources from which they are derived.

(bb) The operations of the Company and its Subsidiaries are and have been conducted at all times in compliance with applicable financial recordkeeping and reporting requirements, including those 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 applicable rules, regulations or guidelines, issued, administered or enforced by any governmental agency (collectively, the "Money Laundering Laws") and no action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company or either of the Subsidiaries with respect to the Money Laundering Laws is pending or, to the best knowledge of the Company, threatened.

(cc) Neither the Company nor either of the Subsidiaries nor any director, officer or employee of the Company nor, to the knowledge of the Company, after due inquiry, any agent, affiliate or other person associated with or acting on behalf of the Company is currently subject to or the target of any U.S. sanctions administered by the U.S. Government (including, without limitation, the Office of Foreign Assets Control of the U.S. Department of the Treasury or the U.S. Department of State or the Bureau of Industry and security of the U.S. Department of Commerce and including, without limitation, the designation as a "specially designated national" or "blocked person"), the United Nations Security Council, the European Union, the United Kingdom (including sanctions administered or enforced by Her Majesty's Treasury) or other relevant sanctions authority (collectively, "Sanctions"), nor is the Company located, organized or resident in a country or territory that is subject to or the target of Sanctions, including, without limitation, Crimea, Cuba, Iran, North Korea, Sudan and Syria (each, a "**Sanctioned Country**"); and the Company and the Subsidiaries will not directly or indirectly use the proceeds of this offering, or lend, contribute or otherwise make available such proceeds to any joint venture partner or other person or entity, for the purpose of (i) financing or facilitating the activities of or business with any person that currently is subject to or the target of any Sanctions, (ii) financing or facilitating any activities of or business in any Sanctioned Country or (iii) or in any other manner that will result in a violation by any person (including any person participating in the transaction whether as underwriter, advisor, investor or otherwise) of Sanctions.

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(dd) Except as has been disclosed to the Underwriters or is not material to the analysis under any Sanctions, neither the Company nor either of the Subsidiaries has engaged in any dealings or transactions with or for the benefit of a Sanctioned Person, or with or in a Sanctioned Country, in the preceding 3 years, nor does the Company or either of the Subsidiaries have any plans to increase its dealings or transactions with or for the benefit of Sanctioned Persons, or with or in Sanctioned Countries.

(ee) The Company and the Subsidiaries carry, or are covered by, insurance in such amounts and covering such risks as the Company reasonably deems adequate for the conduct of their respective businesses and the value of their respective properties and as is customary for companies engaged in similar businesses and in similar industries.

(ff) Except as disclosed in the Registration Statement, the General Disclosure Package and the Prospectus, the Company and the Subsidiaries are in compliance in all material respects with all presently applicable provisions of the Employee Retirement Income Security Act of 1974, as amended, including the regulations and published interpretations thereunder (“**ERISA**”); no “reportable event” (as defined in ERISA) has occurred with respect to any “pension plan” (as defined in ERISA) for which the Company and the Subsidiaries would have any liability; the Company and the Subsidiaries have not incurred and do not expect to incur liability under (i) Title IV of ERISA with respect to termination of, or withdrawal from, any “pension plan” or (ii) Sections 412 or 4971 of the Internal Revenue Code of 1986, as amended, including the regulations and published interpretations thereunder (the “**Code**”); and each “pension plan” for which the Company or the Subsidiaries would have any liability that is intended to be qualified under Section 401(a) of the Code is so qualified in all material respects and nothing has occurred, whether by action or by failure to act, which would cause the loss of such qualification.

(gg) To the Company’s knowledge, there are no affiliations or associations between any member of FINRA and any of the Company’s officers, directors or 5%-or-greater securityholders, except as set forth in the Registration Statement, the General Disclosure Package and the Prospectus.

(hh) Neither the Company nor either of the Subsidiaries is in violation of any statute, rule, regulation, decision or order of any governmental agency or body or any court, domestic or foreign, relating to the manufacture, processing, distribution, use, treatment, storage, transport, handling, disposal or release of hazardous or toxic substances or relating to the protection or restoration of the environment or human exposure to hazardous or toxic substances (collectively, “**environmental laws**”), owns or operates any real property contaminated with any substance that is subject to environmental laws, is liable for any off-site disposal or contamination pursuant to any environmental laws, or is subject to any claim relating to any environmental laws, which violation, contamination, liability or claim would, individually or in the aggregate, have a Material Adverse Effect; and the Company is not aware of any pending investigation which could reasonably be expected to lead to such a claim.

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(ii) The Shares and the Warrant Shares have been approved for listing subject to notice of issuance on The Nasdaq Global Market.

(jj) There are no relationships or related-party transactions involving the Company or the Subsidiaries or any other person required to be described in the Registration Statement, the General Disclosure Package and the Prospectus which have not been described as required.

(kk) Neither the Company nor either of the Subsidiaries has made any contribution or other payment to any official of, or candidate for, any federal, state or foreign office in violation of any law which violation is required to be disclosed in the Registration Statement, the General Disclosure Package and the Prospectus.

(ll) As of the date of the initial filing of the Registration Statement referred to in Section 1(a) above, there were no outstanding personal loans made, directly or indirectly, by the Company to any director or executive officer of the Company.

(mm) The Subsidiaries are not currently prohibited, directly or indirectly, from paying any dividends to the Company, from making any other distribution on such Subsidiary's capital stock, from repaying to the Company any loans or advances to such Subsidiary from the Company or from transferring any of such Subsidiary's property or assets to the Company.

(nn) Neither the Company nor either of the Subsidiaries nor any director, officer or employee of the Company nor, to the knowledge of the Company, any agent, affiliate or other person associated with or acting on behalf of the Company or the Subsidiaries has, in the course of its actions for, or on behalf of, the Company (i) used any corporate funds for any unlawful contribution, gift, entertainment or other unlawful expenses relating to political activity; (ii) made or taken any act in furtherance of an offer, promise or authorization of any direct or indirect unlawful payment to any domestic government or regulatory official, "foreign official" (as defined in the U.S. Foreign Corrupt Practices Act of 1977, as amended, and the rules and regulations thereunder (collectively, the "FCPA")) or employee, including of any government-owned or controlled entity (such as a state-affiliated hospital, research lab, or university) or of a public international organization, or any person acting in an official capacity for or on behalf of any of the foregoing, or any political party or party official or candidate for political office; (iii) violated or is in violation of any provision of the FCPA, or any applicable law or regulation implementing the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions, or committed an offence under the Bribery Act 2010 of the United Kingdom, or any other applicable non-U.S. anti-bribery or anti-corruption statute or regulation; or (iv) made, offered, agreed, requested or taken an act in furtherance of any unlawful bribe, rebate, payoff, influence payment, kickback or other unlawful payment or benefit to any domestic government official, such foreign official or employee; and the Company, the Subsidiaries and their respective affiliates have conducted their respective businesses in compliance in all material respects with the FCPA and have instituted, maintain and enforce, and will continue to maintain and enforce, policies and procedures designed to ensure, and which are reasonably expected to continue to ensure, continued compliance therewith.

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(oo) Except as described in the Registration Statement, the General Disclosure Package and the Prospectus, and except for this Agreement, there are no contracts, agreements or understandings between the Company and any person that would give rise to a valid claim against the Company or any Underwriter for a brokerage commission, finder's fee or other like payment in connection with the public offer and sale of the Securities.

(pp) No material labor dispute with the employees of the Company or the Subsidiaries exists, or, to the knowledge of the Company, is imminent; and the Company is not aware of any existing, threatened or imminent labor disturbance by the employees of any of its principal suppliers, manufacturers or contractors that would be reasonably likely to have a Material Adverse Effect.

(qq) The Company has not sold or issued and will not sell or issue any securities that would be integrated with the offering of the Securities pursuant to the Securities Act, the Rules and Regulations or the interpretations thereof by the Commission.

(rr) The Company and the Subsidiaries possesses such permits, certificates, licenses, approvals, consents and other authorizations (collectively, "**Governmental Licenses**") issued by the appropriate federal, state, local or foreign regulatory agencies or bodies necessary to conduct the business of the Company as described in the Registration Statement, the General Disclosure Package and the Prospectus, including without limitation, all such registrations, approvals, certificates, authorizations and permits required by the United States Food and Drug Administration (the "**FDA**") and/or other federal, state, local or foreign agencies or bodies engaged in the regulation of clinical trials, pharmaceuticals, or biohazardous substances or materials, except where the failure so to possess would not, singly or in the aggregate, have a Material Adverse Effect; the Company is in compliance with the terms and conditions of all such Governmental Licenses, except where the failure so to comply would not, singly or in the aggregate, have 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, have a Material Adverse Effect; and the Company has not received any written notice of proceedings relating to the revocation or modification of any such Governmental Licenses which, singly or in the aggregate, if the subject of an unfavorable decision, ruling or finding, would have a Material Adverse Effect. Where required by applicable laws and regulations of the FDA, the Company has submitted to the FDA an Investigational New Drug Application or amendment or supplement thereto for a clinical trial it has conducted or sponsored or is conducting or sponsoring, except where such failure would not, singly or in the aggregate, have a Material Adverse Effect; all such submissions were in material compliance with applicable laws and rules and regulations when submitted and no material deficiencies have been asserted by the FDA with respect to any such submissions, except any deficiencies which could not, singly or in the aggregate, have a Material Adverse Effect.

(ss) The Company has operated and currently is in compliance with the United States Federal Food, Drug, and Cosmetic Act, all applicable rules and regulations of the FDA and other federal, state, local and foreign governmental bodies exercising comparable authority, except where the failure to so operate or be in compliance would not, individually or in the aggregate, have a Material Adverse Effect. The preclinical and clinical studies conducted by or, to the Company's knowledge, on behalf of the Company that are described in the Registration Statement, the General Disclosure Package and the Prospectus were, and, if still pending, are being, conducted in all material respects in accordance with the protocols submitted to the FDA, and all applicable laws and regulations; the descriptions of the preclinical and clinical studies, and results thereof, conducted by or, to the Company's knowledge, on behalf of the Company contained in the Registration Statement, the General Disclosure Package and the Prospectus are accurate and complete in all material respects; the Company is not aware of any other trials or studies, the results of which reasonably call into question the results described or referred to in the Registration Statement, the General Disclosure Package and the Prospectus; the Company is not in receipt of any written communications from the FDA or any foreign, state or local governmental body exercising comparable authority that reasonably call into question the results of the studies described or referred to in the Registration Statement, the General Disclosure Package and the Prospectus; and the Company has not received any written notice or correspondence from the FDA or any foreign, state or local governmental body exercising comparable authority requiring the termination, suspension, or clinical hold of any tests or preclinical or clinical studies, or such written notice or correspondence from any Institutional Review Board or comparable authority requiring the termination or suspension of a clinical study, conducted by or on behalf of the Company, which termination, suspension, or clinical hold would reasonably be expected to have a Material Adverse Effect.

(tt) Neither the Company nor either of the Subsidiaries nor, to the knowledge of the Company, any director, officer, agent, employee, affiliate or other person acting on behalf of the Company or either of the Subsidiaries is aware of or has taken any action, directly or indirectly, that could result in a violation or a sanction for violation by such persons of the Foreign Corrupt Practices Act of 1977 or the U.K. Bribery Act 2010, each as may be amended, or similar law of any other relevant jurisdiction, or the rules or regulations thereunder; and the Company and the Subsidiaries have instituted and maintain policies and procedures to ensure compliance therewith. No part of the proceeds of the offering will be used, directly or indirectly, in violation of the Foreign Corrupt Practices Act of 1977 or the U.K. Bribery Act 2010, each as may be amended, or similar law of any other relevant jurisdiction, or the rules or regulations thereunder.

## 2. PURCHASE, SALE AND DELIVERY OF THE SECURITIES.

(a) On the basis of the representations, warranties and covenants herein contained, and subject to the conditions herein set forth, the Company agrees to sell to the Underwriters and each Underwriter agrees, severally and not jointly, to purchase, at a price of \$0.4512 per share, a price of \$0.0094 per Tranche 1 Warrant and a price of \$0.0094 per Tranche 2 Warrant, the number of Firm Securities set forth opposite the name of each Underwriter in Schedule I hereof, subject to adjustments in accordance with Section 9 hereof.

(b) Payment for the Firm Securities to be sold hereunder is to be made in Federal (same day) funds to an account designated by the Company against delivery of book-entry positions for the Firm Shares and certificates for the Firm Warrants to the Representative for the several accounts of the Underwriters. Such payment and delivery are to be made through the facilities of The Depository Trust Company, New York, New York at 10:00 a.m., New York time, on the third business day after the date of this Agreement or at such other time and date not later than five business days thereafter as you and the Company shall agree upon, such time and date being herein referred to as the “**First Closing Date**.” (As used herein, “**business day**” means a day on which The Nasdaq Global Market is open for trading and on which banks in New York are open for business and are not permitted by law or executive order to be closed.)

(c) In addition, on the basis of the representations and warranties herein contained and subject to the terms and conditions herein set forth, the Company hereby grants an option to the several Underwriters to (i) purchase the Option Shares at the price per share as set forth in the first paragraph of this Section 2, less an amount per share equal to any dividends or distributions declared by the Company and payable on the Firm Shares but not payable on the Option Shares and/or (ii) purchase the Option Warrants at the price per warrant as set forth in the first paragraph of this Section 2. The option granted hereby may be exercised in whole or in part by giving written notice (i) at any time before the First Closing Date and (ii) at any time, and from time to time, thereafter within 30 days after the date of this Agreement, by you, as Representative of the several Underwriters, to the Company setting forth the number of Option Shares and/or Option Warrants as to which the several Underwriters are exercising the option and the time and date at which such book-entry positions and certificates are to be delivered. The time and date at which book-entry positions for the Option Shares and/or certificates for Option Warrants are to be delivered shall be determined by the Representative but shall not be earlier than three nor later than 10 full business days after the exercise of such option, nor in any event prior to the First Closing Date (any such time and date being herein referred to as an “**Option Closing Date**,” which may be the First Closing Date). The First Closing Date and any Option Closing Date, if any, are sometimes herein referred to as a “**Closing Date**.” If the date of exercise of the option is three or more days before the First Closing Date, the notice of exercise shall set the First Closing Date as an Option Closing Date. The number of Option Shares and/or Option Warrants to be purchased by each Underwriter shall be in the same proportion to the total number of Option Shares and/or Option Warrants being purchased as the number of Firm Shares and Firm Warrants being purchased by such Underwriter bears to the total number of Firm Shares and Firm Warrants, adjusted by you in such manner as to avoid fractional shares. You, as Representative of the several Underwriters, may cancel such option at any time prior to its expiration by giving written notice of such cancellation to the Company. To the extent, if any, that the option is exercised, payment for the Option Shares and/or Option Warrants shall be made on an Option Closing Date in Federal (same day funds) through the facilities of The Depository Trust Company in New York, New York drawn to the order of the Company.

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### 3. OFFERING BY THE UNDERWRITERS.

It is understood that the several Underwriters are to make a public offering of the Firm Securities as soon as the Representative deems it advisable to do so. The Firm Securities are to be initially offered to the public at the initial public offering price set forth in the Prospectus. The Representative may from time to time thereafter change the public offering price and other selling terms.

It is further understood that you will act as the Representative for the Underwriters in the offering and sale of the Securities in accordance with a Master Agreement Among Underwriters entered into by you and the several other Underwriters.

### 4. COVENANTS OF THE COMPANY.

The Company covenants and agrees with the several Underwriters that:

(a) The Company will (A) prepare and timely file with the Commission under Rule 424(b) under the Securities Act a Prospectus in a form approved by the Representative containing information previously omitted at the time of effectiveness of the Registration Statement in reliance on Rule 430B under the Securities Act and (B) not file any amendment to the Registration Statement or any Rule 462(b) Registration Statement or distribute an amendment or supplement to the General Disclosure Package or the Prospectus of which the Representative shall not previously have been advised and furnished with a copy or to which the Representative shall have reasonably objected in writing or which is not in compliance with the Rules and Regulations.

(b) The Company will (i) not make any offer relating to the Securities that would constitute an Issuer Free Writing Prospectus or that would otherwise constitute a “free writing prospectus” (as defined in Rule 405 under the Securities Act) required to be filed by the Company with the Commission under Rule 433 under the Securities Act unless the Representative approves its use in writing prior to first use (each, a “**Permitted Free Writing Prospectus**”); provided that the prior written consent of the Representative hereto shall be deemed to have been given in respect of the Issuer Free Writing Prospectus(es) included in Schedule IV hereto, (ii) treat each Permitted Free Writing Prospectus as an Issuer Free Writing Prospectus, (iii) comply with the requirements of Rules 164 and 433 under the Securities Act applicable to any Issuer Free Writing Prospectus, including the requirements relating to timely filing with the Commission, legending and record keeping and (iv) not take any action that would result in an Underwriter or the Company being required to file with the Commission pursuant to Rule 433(d) under the Securities Act a free writing prospectus prepared by or on behalf of such Underwriter that such Underwriter otherwise would not have been required to file thereunder. The Company will satisfy the conditions in Rule 433 under the Securities Act to avoid a requirement to file with the Commission any electronic road show.

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(c) The Company will advise the Representative promptly of (A) any proposal to amend or supplement the Registration Statement, any Preliminary Prospectus, the General Disclosure Package or the Prospectus, and will not effect or distribute such amendment or supplement without the Representative's consent, which shall not be unreasonably withheld or delayed, (B) when any Rule 462(b) Registration Statement shall have been filed with the Commission, (C) when any post-effective amendment to the Registration Statement shall have become effective, (D) any request of the Commission for amendment of the Registration Statement, any Rule 462(b) Registration Statement or for supplement to the General Disclosure Package or the Prospectus or for any additional information, (E) the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or any order preventing or suspending the use of any Preliminary Prospectus, any Issuer Free Writing Prospectus or the Prospectus, or of the institution of any proceedings for that purpose or pursuant to Section 8A of the Securities Act and (F) the receipt of any notice with respect to any suspension of qualification of the Securities for offer or sale in any jurisdiction or the initiation or threatening of any proceeding for such purpose. The Company will use its best efforts to prevent the issuance of any such order and to obtain as soon as possible the lifting thereof, if issued.

(d) The Company will cooperate with the Representative in endeavoring to qualify the Securities for sale under the securities laws of such jurisdictions as the Representative may reasonably have designated in writing and will make such applications, file such documents, and furnish such information as may be reasonably required for that purpose, provided the Company shall not be required to qualify as a foreign corporation or to file a general consent to service of process in any jurisdiction where it is not now so qualified or required to file such a consent. The Company will, from time to time, prepare and file such statements, reports, and other documents, as are or may be required to continue such qualifications in effect for so long a period as the Representative may reasonably request for distribution of the Securities.

(e) The Company will deliver to, or upon the order of, the Representative, from time to time, as many copies of any Preliminary Prospectus as the Representative may reasonably request. The Company will deliver to, or upon the order of, the Representative, from time to time, as many copies of any Issuer Free Writing Prospectus as the Representative may reasonably request. The Company will deliver to, or upon the order of, the Representative during the period when delivery of a Prospectus (or, in lieu thereof, the notice referred to under Rule 173(a) under the Securities Act) is required under the Securities Act, as many copies of the Prospectus in final form, or as thereafter amended or supplemented, as the Representative may reasonably request.

(f) The Company will comply with the Securities Act and the Rules and Regulations, and the Exchange Act and the rules and regulations of the Commission thereunder, so as to permit the completion of the distribution of the Securities as contemplated in this Agreement and the Prospectus. If during the period in which a prospectus (or, in lieu thereof, the notice referred to under Rule 173(a) under the Securities Act) is required by law to be delivered by an Underwriter or dealer, any event shall occur as a result of which, in the judgment of the Company or in the reasonable opinion of the Underwriters, it becomes necessary to amend or supplement the

Prospectus in order to make the statements therein, in the light of the circumstances existing at the time the Prospectus is delivered to a purchaser, not misleading, or, if it is necessary at any time to amend or supplement the Prospectus to comply with any law, the Company promptly will prepare and file with the Commission an appropriate amendment to the Registration Statement or supplement to the Prospectus so that the Prospectus as so amended or supplemented will not, in the light of the circumstances when it is so delivered, be misleading, or so that the Prospectus will comply with the applicable law.

(g) If the General Disclosure Package is being used to solicit offers to buy the Securities at a time when the Prospectus is not yet available to prospective purchasers and any event shall occur as a result of which, in the judgment of the Company or in the reasonable opinion of the Underwriters, it becomes necessary to amend or supplement the General Disclosure Package in order to make the statements therein, in the light of the circumstances, not misleading, or to make the statements therein not conflict with the information contained in the Registration Statement then on file, or if it is necessary at any time to amend or supplement the General Disclosure Package to comply with any law, the Company promptly will prepare, file with the Commission (if required) and furnish to the Underwriters and any dealers an appropriate amendment or supplement to the General Disclosure Package so that the General Disclosure Package as so amended or supplemented will not, in the light of the circumstances, be misleading or conflict with the Registration Statement then on file, or so that the General Disclosure Package will comply with law.

(h) The Company will make generally available to its security holders, as soon as it is practicable to do so, an earnings statement (which need not be audited) in reasonable detail, covering a period of at least 12 consecutive months beginning after the effective date of the Registration Statement, which earnings statement shall satisfy the requirements of Section 11(a) of the Securities Act and Rule 158 under the Securities Act.

(i) Prior to the First Closing Date, the Company will furnish to the Underwriters, as soon as they have been prepared by or are available to the Company, a copy of any unaudited interim financial statements of the Company for any period subsequent to the period covered by the most recent financial statements appearing in the Registration Statement, the General Disclosure Package and the Prospectus.

(j) No offering, sale, short sale or other disposition of any shares of Common Stock of the Company or other securities convertible into or exchangeable or exercisable for shares of Common Stock or derivative of Common Stock (or agreement for such) will be made for a period of 90 days after the date of the Prospectus, directly or indirectly, by the Company otherwise than hereunder or with the prior written consent of the Representative, except for the (i) Securities to be sold hereunder, (ii) shares of Common Stock issued by the Company upon the exercise of an option, warrant or similar security or the conversion of a security outstanding on the date hereof and referred to in the Prospectus and (iii) shares of Common Stock issued or options to purchase Common Stock granted to the Company's employees pursuant to existing employee benefit plans of the Company referred to in the Prospectus.

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(k) The Company will use its best efforts to list the Securities for quotation on The Nasdaq Global Market.

(l) The Company has caused each officer and director of the Company set forth on Schedule V to furnish to you, on or prior to the date of this Agreement, a letter or letters, substantially in the form attached hereto as **Exhibit A** (the “**Lockup Agreement**”).

(m) The Company shall apply the net proceeds of its sale of the Securities as set forth in the Registration Statement, General Disclosure Package and the Prospectus.

(n) The Company shall not invest, or otherwise use the proceeds received by the Company from its sale of the Securities in such a manner as would require the Company or either Subsidiary to register as an investment company under the 1940 Act.

(o) The Company will not take, directly or indirectly, any action designed to cause or result in, or that has constituted or might reasonably be expected to constitute, the stabilization or manipulation of the price of any securities of the Company.

(p) The Company shall, at all times while any Warrants are outstanding, use its best efforts to maintain a registration statement covering the issue and sale of the Warrant Shares upon exercise of the Warrants such that the Warrant Shares, when issued, will not be subject to resale restrictions under the Securities Act except to the extent that the Warrant Shares are owned by affiliates.

(q) Upon and following the Stockholder Approval, the Company shall, at all times while any Warrants are outstanding, reserve and keep available out of the aggregate of its authorized but unissued and otherwise unreserved Common Stock, solely for the purpose of enabling it to issue Warrant Shares upon exercise of such Warrants, the number of Warrant Shares that are initially issuable and deliverable upon the exercise of the then-outstanding Warrants.

(r) The Company shall use its reasonable best efforts to obtain Stockholder Approval.

#### 5. COSTS AND EXPENSES.

The Company will pay all costs, expenses and fees incident to the performance of the obligations of the Company under this Agreement, including, without limiting the generality of the foregoing, the following: accounting fees of the Company; the fees and disbursements of counsel for the Company; any roadshow expenses; the cost of printing and delivering to, or as requested by, the Underwriters copies of the Registration Statement, Preliminary Prospectuses, the Issuer Free Writing Prospectuses, the Prospectus, this Agreement, the Blue Sky Survey and any

supplements or amendments thereto; the filing fees of the Commission; the filing fees and reasonable expenses (including reasonable legal fees and disbursements) incident to securing any required review by FINRA of the terms of the sale of the Securities; costs and expenses incident to listing the Securities on The Nasdaq Global Market; the costs and expenses (including without limitation any damages or other amounts payable in connection with legal or contractual liability) associated with the reforming of any contracts for sale of the Securities made by the Underwriters caused by a breach of the representation in Section 1(c) hereof; the reasonable expenses, including the reasonable fees and disbursements of counsel for the Underwriters, incurred in connection with the qualification of the Securities under State securities or Blue Sky laws; and all other reasonable costs and out-of-pocket expenses of the Underwriters (including reasonable fees and disbursements of counsel) incident to the performance of its obligations hereunder not otherwise specifically provided for here, provided however such costs and expenses shall not exceed \$150,000. The Company shall not, however, be required to pay for any of the Underwriters' expenses (other than those related to qualification under FINRA regulation and State securities or Blue Sky laws) except that, if this Agreement shall not be consummated because the conditions in Section 6 hereof are not satisfied (unless such failure is due primarily to the default or omission of any Underwriter), or because this Agreement is terminated by the Representative pursuant to Section 11 hereof, or by reason of any failure, refusal or inability on the part of the Company to perform any undertaking or satisfy any condition of this Agreement or to comply with any of the terms hereof on its part to be performed, unless such failure, refusal or inability is due primarily to the default or omission of any Underwriter, the Company shall reimburse the several Underwriters for reasonable and documented out-of-pocket expenses, including reasonable fees and disbursements of counsel, reasonably incurred in connection with investigating, marketing and proposing to market the Securities or in contemplation of performing their obligations hereunder; but the Company shall not in any event be liable to any of the several Underwriters for damages on account of loss of anticipated profits from the sale by them of the Securities.

6. CONDITIONS OF OBLIGATIONS OF THE UNDERWRITERS.

The several obligations of the Underwriters to purchase the Firm Securities on the First Closing Date and the Option Securities, if any, on any Option Closing Date are subject to the accuracy, as of the Applicable Time and the applicable Closing Date, as the case may be, of the representations and warranties of the Company contained herein, and to the performance by the Company of its covenants and obligations hereunder and to the following additional conditions:

(a) The Prospectus, and any supplement thereto, and each Issuer Free Writing Prospectus required shall have been filed as required by Rules 424, 430B or 433 under the Securities Act, as applicable, within the time period prescribed by, and in compliance with, the Rules and Regulations, and any request of the Commission for additional information (to be included in the Registration Statement or otherwise) shall have been disclosed to the Representative and complied with to its reasonable satisfaction. No stop order suspending the effectiveness of the Registration Statement, as amended from time to time, shall have been issued and no proceedings for that purpose or pursuant to Section 8A under the Securities Act shall have been taken or, to the knowledge of the Company, shall be contemplated or threatened by the Commission and no injunction, restraining order or order of any nature by a Federal or state court of competent jurisdiction shall have been issued as of the applicable Closing Date which would prevent the issuance of the Securities.

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(b) The Representative shall have received on the applicable Closing Date the opinion of Goodwin Procter LLP, counsel for the Company, dated such Closing Date, addressed to the Underwriters in form and substance satisfactory to counsel for the Underwriters to the effect substantially set forth in **Exhibit B** attached hereto.

(c) The Representative shall have received on the applicable Closing Date the opinion of Perkins Coie LLP, special counsel for the Company with respect to intellectual property matters, dated such Closing Date, addressed to the Underwriters in form and substance satisfactory to counsel for the Underwriters to the effect substantially set forth in **Exhibit C** attached hereto.

(d) The Representative shall have received from Cooley LLP, counsel for the Underwriters, an opinion dated as of the applicable Closing Date with respect to such matters as you may require, and the Company shall have furnished to such counsel such documents as they reasonably request for the purpose of enabling them to pass upon such matters.

(e) The Representative shall have received, on each of the date hereof, the First Closing Date and, if applicable, any Option Closing Date, a letter dated the date hereof and such Closing Date, as the case may be, in form and substance satisfactory to you, of BDO USA, LLP confirming that they are an independent registered public accounting firm with respect to the Company and the Subsidiaries within the meaning of the Securities Act and the applicable Rules and Regulations and the PCAOB and stating that in their opinion the financial statements and schedules examined by them and included in the Registration Statement, the General Disclosure Package and the Prospectus comply in form in all material respects with the applicable accounting requirements of the Securities Act and the related Rules and Regulations, and containing such other statements and information as is ordinarily included in accountants' "comfort letters" to Underwriters with respect to the financial statements and certain financial and statistical information contained in the Registration Statement, the General Disclosure Package and the Prospectus.

(g) The Representative shall have received on the applicable Closing Date, a certificate of the Chief Executive Officer and the Senior Vice President, Finance and Administration of the Company to the effect that, as of such Closing Date each of them severally represents as follows:

(i) The Registration Statement has become effective under the Securities Act and no stop order suspending the effectiveness of the Registration Statement or no order preventing or suspending the use of any Preliminary Prospectus, any Issuer Free Writing Prospectus or the Prospectus has been issued, and no proceedings for such purpose or pursuant to Section 8A of the Securities Act have been taken or are, to his or her knowledge, contemplated or threatened by the Commission;

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(ii) The representations and warranties of the Company contained in Section 1 hereof are true and correct as of the applicable Closing Date;

(iii) All filings required to have been made pursuant to Rules 424 and 430B under the Securities Act have been made as and when required by such rules;

(iv) He or she has carefully examined the General Disclosure Package and any individual Limited Use Free Writing Prospectus and, in his opinion, as of the Applicable Time, the statements contained in the General Disclosure Package and any individual Limited Use Free Writing Prospectus did not contain any untrue statement of a material fact, and such General Disclosure Package and any individual Limited Use Free Writing Prospectus, when considered together with the General Disclosure Package, did not omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading;

(v) He or she has carefully examined the Registration Statement and, in his opinion, as of the Effective Date, the Registration Statement and any amendments thereto did not contain any untrue statement of a material fact and did not omit to state a material fact necessary in order to make the statements therein not misleading, and since the Effective Date, no event has occurred which should have been set forth in a supplement to or an amendment of the Prospectus which has not been so set forth in such supplement or amendment;

(vi) He or she has carefully examined the Prospectus and, in his opinion, as of its date and the applicable Closing Date, the Prospectus and any amendments and supplements thereto did not contain any untrue statement of a material fact and did not omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; and

(vii) Since the respective dates as of which information is given in the Registration Statement, the General Disclosure Package and Prospectus, there has not been any Material Adverse Effect, whether or not arising in the ordinary course of business.

(h) The Representative shall have received on the applicable Closing Date, a certificate of the Secretary of the Company having attached thereto (A) the Company's certificate of incorporation as in effect at the time of such Closing Date, (B) the Company's bylaws as in effect at the time of such Closing Date, (C) resolutions approved by the Company's Board of Directors authorizing the offer, sale and issuance of the Securities and the transactions contemplated hereby and (D) good standing certificates (including tax good standing) with respect to the Company from the applicable authorities in Delaware and any other jurisdiction in which the Company is qualified to do business.

(i) The Representative shall have received on each of the date hereof and the applicable Closing Date, a certificate of the Company's Senior Vice President, Finance and Administration substantially in the form attached hereto as **Exhibit D**.

(j) The Company shall have furnished to the Representative such further certificates and documents confirming the representations and warranties, covenants and conditions contained herein and related matters as the Representative may reasonably have requested.

(k) The Firm Securities and Option Securities, if any, have been approved for listing on The Nasdaq Global Market.

(l) The Lockup Agreements described in Section 4(l) hereof shall have been delivered to the Representative.

The opinions and certificates mentioned in this Agreement shall be deemed to be in compliance with the provisions hereof only if they are in all material respects satisfactory to the Representative and to Cooley LLP, counsel for the Underwriters.

If any of the conditions hereinabove provided for in this Section 6 shall not have been fulfilled when and as required by this Agreement to be fulfilled, the obligations of the Underwriters hereunder may be terminated by the Representative by notifying the Company of such termination in writing or by telegram at or prior to the applicable Closing Date.

In such event, the Company and the Underwriters shall not be under any obligation to each other (except to the extent provided in Sections 5 and 8 hereof).

7. C ONDITIONS OF THE O BLIGATIONS OF THE C OMPANY.

The obligations of the Company to sell and deliver the portion of the Securities required to be delivered as and when specified in this Agreement are subject to the conditions that at the applicable Closing Date, no stop order suspending the effectiveness of the Registration Statement shall have been issued and in effect or proceedings therefor initiated or threatened.

8. I NDEMNIFICATION.

(a) The Company agrees:

(1) to indemnify and hold harmless each Underwriter, the directors, officers, employees and agents of each Underwriter and each person, if any, who controls any Underwriter within the meaning of either Section 15 of the Securities Act or Section 20 of the Exchange Act, against any losses, claims, damages or liabilities to which such Underwriter or any such controlling person may become subject under the Securities Act or otherwise, insofar as such losses, claims, damages or liabilities (or actions or proceedings in

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respect thereof) arise out of or are based upon (i) any untrue statement or alleged untrue statement of any material fact contained in the Registration Statement, any Preliminary Prospectus, the General Disclosure Package, any Issuer Free Writing Prospectus or the Prospectus, or any amendment or supplement thereto, (ii) with respect to the Registration Statement or any amendment or supplement thereto, the 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) with respect to any Preliminary Prospectus, the General Disclosure Package, any Issuer Free Writing Prospectus or the Prospectus, or any amendment or supplement thereto, the omission or alleged omission to state therein a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; provided, however, that the Company will not be liable in any such case to the extent that any such loss, claim, damage or liability arises out of or is based upon an untrue statement or alleged untrue statement, or omission or alleged omission made in the Registration Statement, any Preliminary Prospectus, the General Disclosure Package, any Issuer Free Writing Prospectus or the Prospectus, or any amendment or supplement thereto, in reliance upon and in conformity with written information furnished to the Company by or through the Representative specifically for use therein, it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in Section 13 hereof; and

(2) to reimburse each Underwriter, each Underwriter's directors, officers, employees and agents, and each such controlling person upon demand for any legal or other out-of-pocket expenses reasonably incurred by such Underwriter or such controlling person in connection with investigating or defending any such loss, claim, damage or liability, action or proceeding or in responding to a subpoena or governmental inquiry related to the offering of the Securities, whether or not such Underwriter or controlling person is a party to any action or proceeding. In the event that it is finally judicially determined that the Underwriters were not entitled to receive payments for legal and other expenses pursuant to this subparagraph, the Underwriters will promptly return all sums that had been advanced pursuant hereto.

(b) Each Underwriter severally and not jointly will indemnify and hold harmless the Company, each of its directors, each of its officers who have signed the Registration Statement and each person, if any, who controls the Company within the meaning of either Section 15 of the Securities Act or Section 20 of the Exchange Act, against any losses, claims, damages or liabilities to which the Company or any such director, officer or controlling person may become subject under the Securities Act or otherwise, insofar as such losses, claims, damages or liabilities (or actions or proceedings in respect thereof) arise out of or are based upon (i) any untrue statement or alleged untrue statement of any material fact contained in the Registration Statement, any Preliminary Prospectus, the General Disclosure Package, any Issuer Free Writing Prospectus or the Prospectus, or any amendment or supplement thereto, (ii) with respect to the Registration Statement, the omission or alleged omission to state therein a material fact required to be stated therein or

necessary in order to make the statements therein not misleading or (iii) with respect to any Preliminary Prospectus, the General Disclosure Package, any Issuer Free Writing Prospectus or the Prospectus, or any amendment or supplement thereto, the omission or alleged omission to state therein a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; and will reimburse any legal or other expenses reasonably incurred by the Company or any such director, officer or controlling person in connection with investigating or defending any such loss, claim, damage, liability, action or proceeding; provided, however, that each Underwriter will be liable in each case to the extent, but only to the extent, that such untrue statement or alleged untrue statement or omission or alleged omission has been made in the Registration Statement, any Preliminary Prospectus, the General Disclosure Package, any Issuer Free Writing Prospectus or the Prospectus, or any amendment or supplement thereto, in reliance upon and in conformity with written information furnished to the Company by or through the Representative specifically for use therein, it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in Section 13 hereof.

(c) In case any proceeding (including any governmental investigation) shall be instituted involving any person in respect of which indemnity may be sought pursuant to this Section 8, such person (the “ **indemnified party** ”) shall promptly notify the person against whom such indemnity may be sought (the “ **indemnifying party** ”) in writing. No indemnification provided for in Section 8(a) or (b) shall be available to any party who shall fail to give notice as provided in this Section 8(c) if the party to whom notice was not given was unaware of the proceeding to which such notice would have related and was materially prejudiced by the failure to give such notice, but the failure to give such notice shall not relieve the indemnifying party or parties from any liability which it or they may have to the indemnified party for contribution or otherwise than on account of the provisions of Section 8(a) or (b). In case any such proceeding shall be brought against any indemnified party and it shall notify the indemnifying party of the commencement thereof, the indemnifying party shall be entitled to participate therein and, to the extent that it shall wish, jointly with any other indemnifying party similarly notified, to assume the defense thereof, with counsel satisfactory to such indemnified party and shall pay as incurred the fees and disbursements of such counsel related to such proceeding. In any such proceeding, any indemnified party shall have the right to retain its own counsel at its own expense. Notwithstanding the foregoing, the indemnifying party shall pay as incurred (or within 30 days of presentation) the reasonable fees and expenses of the counsel retained by the indemnified party in the event (i) the indemnifying party and the indemnified party shall have mutually agreed to the retention of such counsel, (ii) the named parties to any such proceeding (including any impleaded parties) include both the indemnifying party and the indemnified party and representation of both parties by the same counsel would be inappropriate due to actual or potential differing interests between them or (iii) the indemnifying party shall have failed to assume the defense and employ counsel acceptable to the indemnified party within a reasonable period of time after notice of commencement of the action. It is understood that the indemnifying party shall not, in connection with any proceeding or related proceedings in the same jurisdiction, be liable for the reasonable fees and expenses of more than one separate firm for all such indemnified parties. Such firm shall be designated in writing by

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you in the case of parties indemnified pursuant to Section 8(a) and by the Company in the case of parties indemnified pursuant to Section 8(b). The indemnifying party shall not be liable for any settlement of any proceeding effected without its written consent but if settled with such consent or if there be a final judgment for the plaintiff, the indemnifying party agrees to indemnify the indemnified party from and against any loss or liability by reason of such settlement or judgment. In addition, the indemnifying party will not, without the prior written consent of the indemnified party, settle or compromise or consent to the entry of any judgment in any pending or threatened claim, action or proceeding of which indemnification may be sought hereunder (whether or not any indemnified party is an actual or potential party to such claim, action or proceeding) unless such settlement, compromise or consent includes an unconditional release of each indemnified party from all liability arising out of such claim, action or proceeding, and does not include a statement as to or an admission of fault, culpability or a failure to act by or on behalf of any indemnified party.

(d) To the extent the indemnification provided for in this Section 8 is unavailable to or insufficient to hold harmless an indemnified party under Section 8(a) or (b) above in respect of any losses, claims, damages or liabilities (or actions or proceedings in respect thereof) referred to therein, then each indemnifying party shall contribute to the amount paid or payable by such indemnified party as a result of such losses, claims, damages or liabilities (or actions or proceedings in respect thereof) in such proportion as is appropriate to reflect the relative benefits received by the Company on the one hand and the Underwriters on the other from the offering of the Securities. If, however, the allocation provided by the immediately preceding sentence is not permitted by applicable law then each indemnifying party shall contribute to such amount paid or payable by such indemnified party in such proportion as is appropriate to reflect not only such relative benefits but also the relative fault of the Company on the one hand and the Underwriters on the other in connection with the statements or omissions which resulted in such losses, claims, damages or liabilities (or actions or proceedings in respect thereof), as well as any other relevant equitable considerations. The relative benefits received by the Company on the one hand and the Underwriters on the other shall be deemed to be in the same proportion as the total net proceeds from the offering (before deducting expenses) received by the Company bear to the total underwriting discounts and commissions received by the Underwriters, in each case as set forth in the table on the cover page of the Prospectus. The relative fault shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Company on the one hand or the Underwriters on the other and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission.

The Company and the Underwriters agree that it would not be just and equitable if contributions pursuant to this Section 8(d) were determined by pro rata allocation (even if the Underwriters were treated as one entity for such purpose) or by any other method of allocation which does not take account of the equitable considerations referred to above in this Section 8(d). The amount paid or payable by an indemnified party as a result of the losses, claims, damages or liabilities (or actions or proceedings in respect thereof) referred to above in this Section 8(d) shall be

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deemed to include any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim. Notwithstanding the provisions of this subsection (d), (i) no Underwriter shall be required to contribute any amount in excess of the underwriting discounts and commissions applicable to the Securities purchased by such Underwriter and (ii) no person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The Underwriters' obligations in this Section 8(d) to contribute are several in proportion to their respective underwriting obligations and not joint.

(e) In any proceeding relating to the Registration Statement, any Preliminary Prospectus, the General Disclosure Package, any Issuer Free Writing Prospectus or the Prospectus, or any supplement or amendment thereto, each party against whom contribution may be sought under this Section 8 hereby consents to the jurisdiction of any court having jurisdiction over any other contributing party, agrees that process issuing from such court may be served upon it by any other contributing party and consents to the service of such process and agrees that any other contributing party may join it as an additional defendant in any such proceeding in which such other contributing party is a party.

(f) Any losses, claims, damages, liabilities or expenses for which an indemnified party is entitled to indemnification or contribution under this Section 8 shall be paid by the indemnifying party to the indemnified party as such losses, claims, damages, liabilities or expenses are incurred. The indemnity and contribution agreements contained in this Section 8 and the representations and warranties of the Company set forth in this Agreement shall remain operative and in full force and effect, regardless of (i) any investigation made by or on behalf of any Underwriter, its directors, officers, employees and agents or any person controlling any Underwriter, the Company, its directors or officers or any persons controlling the Company, (ii) delivery and acceptance of any Securities and payment therefor hereunder, and (iii) any termination of this Agreement. A successor to any Underwriter, its directors or officers or any person controlling any Underwriter, or to the Company, its directors or officers, or any person controlling the Company, shall be entitled to the benefits of the indemnity, contribution and reimbursement agreements contained in this Section 8.

(g) The obligations of the Company under this Section 8 shall be in addition to any liability which the Company may otherwise have and shall extend, upon the same terms and conditions, to each person, if any, who controls any Underwriter within the meaning of the Securities Act or the Exchange Act; and the obligations of the Underwriters under this Section 8 shall be in addition to any liability which the respective Underwriter may otherwise have and shall extend, upon the same terms and conditions, to each person, if any, who controls the Company within the meaning of either Section 15 of the Securities Act or Section 20 of the Exchange Act.

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9. DEFAULT BY UNDERWRITERS.

If on the applicable Closing Date, any Underwriter shall fail to purchase and pay for the portion of the Securities which such Underwriter has agreed to purchase and pay for on such date (otherwise than by reason of any default on the part of the Company), you, as Representative of the Underwriters, shall use your reasonable efforts to procure within 36 hours thereafter one or more of the other Underwriters, or any others, to purchase from the Company such amounts as may be agreed upon and upon the terms set forth herein, the Securities which the defaulting Underwriter or Underwriters failed to purchase. If during such 36 hours you, as such Representative, shall not have procured such other Underwriters, or any others, to purchase the Securities agreed to be purchased by the defaulting Underwriter or Underwriters, then (a) if the aggregate number of Securities with respect to which such default shall occur does not exceed 10% of the Securities to be purchased on the applicable Closing Date, the other Underwriters shall be obligated, severally, in proportion to the respective numbers of Shares and Warrants which they are obligated to purchase hereunder, to purchase the Shares and Warrants which such defaulting Underwriter or Underwriters failed to purchase, or (b) if the aggregate number of Securities with respect to which such default shall occur exceeds 10% of the Securities to be purchased on the applicable Closing Date, the Company or you, as the Representative of the Underwriters, will have the right, by written notice given within the next 36-hour period to the parties to this Agreement, to terminate this Agreement without liability on the part of the non-defaulting Underwriters or of the Company except to the extent provided in Sections 5 and 8 hereof. In the event of a default by any Underwriter or Underwriters, as set forth in this Section 9, the applicable Closing Date may be postponed for such period, not exceeding seven days, as you, as Representatives, may determine in order that the required changes in the Registration Statement, the General Disclosure Package or in the Prospectus or in any other documents or arrangements may be effected. The term "Underwriter" includes any person substituted for a defaulting Underwriter. Any action taken under this Section 9 shall not relieve any defaulting Underwriter from liability in respect of any default of such Underwriter under this Agreement.

10. NOTICES.

All communications hereunder shall be in writing and, except as otherwise provided herein, will be mailed, delivered, telecopied or telegraphed and confirmed as follows: if to the Underwriters, to c/o H.C. Wainwright & Co., LLC, 430 Park Avenue, New York, NY 10022, Attention: General Counsel; if to the Company, to 25801 Industrial Blvd, Suite B, Hayward, California 94545, Attention: Craig Thompson, with a copy to Goodwin Procter LLP, Three Embarcadero Center, San Francisco, California 94111, Attention: Bradley A. Bugdanowitz, Esq.

11. TERMINATION.

This Agreement may be terminated by you, as Representatives, by notice to the Company (a) at any time prior to the First Closing Date or, if applicable, any Option Closing Date (if different from the First Closing Date and then only as to Option Securities), if any of the following has occurred: (i) since the respective dates as of which information is given in the Registration Statement, the General Disclosure Package and the Prospectus, any Material Adverse Effect (in the judgment of the Representative), whether or not arising in the ordinary course of

business, (ii) any outbreak or escalation of hostilities or declaration of war or national emergency or other national or international calamity or crisis (including, without limitation, an act of terrorism) or change in economic or political conditions if the effect of such outbreak, escalation, declaration, emergency, calamity, crisis or change on the financial markets of the United States would, in your judgment, make it impractical or inadvisable to market the Securities or to enforce contracts for the sale of the Securities, (iii) suspension of trading in securities generally on the New York Stock Exchange, the NYSE Amex, The Nasdaq Global Market or limitation on prices (other than limitations on hours or numbers of days of trading) for securities on such trading market, (iv) the enactment, publication, decree or other promulgation of any statute, regulation, rule or order of any court or other governmental authority which in your opinion materially and adversely affects or may materially and adversely affect the business or operations of the Company, (v) the declaration of a banking moratorium by United States or New York State authorities, (vi) any downgrading, or placement on any watch list for possible downgrading, in the rating of any of the Company's debt securities by any "nationally recognized statistical rating organization" (as defined for purposes of Rule 436(g) under the Exchange Act); (vii) the suspension of trading of the Company's common stock by The Nasdaq Global Market, the Commission, or any other governmental authority, or (viii) the taking of any action by any governmental body or agency in respect of its monetary or fiscal affairs which in your opinion has a Material Adverse Effect on the securities markets in the United States; or (b) as provided in Sections 6 and 9 of this Agreement.

12. SUCCESSORS.

This Agreement has been and is made solely for the benefit of the Underwriters and the Company and their respective successors, executors, administrators, heirs and assigns, and the officers, directors and controlling persons referred to herein, and no other person will have any right or obligation hereunder. No purchaser of any of the Securities from any Underwriter shall be deemed a successor or assign merely because of such purchase.

13. INFORMATION PROVIDED BY UNDERWRITERS.

The Company and the Underwriters acknowledge and agree that the only information furnished or to be furnished by any Underwriter to the Company for inclusion in the Registration Statement, any Preliminary Prospectus, the General Disclosure Package, any Issuer Free Writing Prospectus or the Prospectus consists of the information set forth in the third, ninth, tenth and eleventh paragraphs under the caption "Underwriting" in the Prospectus.

14. MISCELLANEOUS.

The reimbursement, indemnification and contribution agreements contained in this Agreement and the representations, warranties and covenants in this Agreement shall remain in full force and effect regardless of (a) any termination of this Agreement, (b) any investigation made by or on behalf of any Underwriter or controlling person thereof, or by or on behalf of the Company or its directors or officers and (c) delivery of and payment for the Securities under this Agreement.

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The Company hereby acknowledges that (a) the purchase and sale of the Securities pursuant to this Agreement is an arm's-length commercial transaction between the Company, on the one hand, and the Underwriters and any affiliate through which it may be acting, on the other, (b) the Underwriters are acting as principal and not as an agent or fiduciary of the Company and (c) the Company's engagement of the Underwriters in connection with the offering and the process leading up to the offering is as independent contractors and not in any other capacity. Furthermore, the Company agrees that it is solely responsible for making its own judgments in connection with the offering (irrespective of whether any of the Underwriters has advised or is currently advising the Company on related or other matters). The Company agrees that it will not claim that the Underwriters have rendered advisory services of any nature or respect, or owe an agency, fiduciary or similar duty to the Company, in connection with such transaction or the process leading thereto.

This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

This Agreement shall be governed by, and construed in accordance with, the laws of the State of New York, including, without limitation, Section 5-1401 of the New York General Obligations Law.

The Underwriters, on the one hand, and the Company (on its own behalf and, to the extent permitted by law, on behalf of its stockholders), on the other hand, waive any right to trial by jury in any action, claim, suit or proceeding with respect to your engagement as underwriter or your role in connection herewith.

*[signature page follows]*

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If the foregoing is in accordance with your understanding of our agreement, please sign and return to us the enclosed duplicates hereof, whereupon it will become a binding agreement among the Company and the several Underwriters in accordance with its terms.

Very truly yours,

ANTHERA PHARMACEUTICALS, INC.

By: /s/ John Craig Thompson

Name: John Craig Thompson

Title: Chief Executive Officer

The foregoing Underwriting Agreement is hereby confirmed and accepted as of the date first above written.

**H.C. WAINWRIGHT & CO., LLC**  
Acting individually and as Representative  
of the several Underwriters named in  
the attached Schedule I.

**H.C. WAINWRIGHT & CO., LLC**

By: /s/ Mark W. Viklund

Name: Mark W. Viklund

Title: Chief Executive Officer

SCHEDULE I

SCHEDULE OF UNDERWRITERS

Underwriter	Number of Firm Shares to be Purchased	Number of Firm Warrants to be Purchased
H.C. Wainwright & Co., LLC	30,000,000	60,000,000
Total	30,000,000	60,000,000

SCHEDULE II

SCHEDULE OF OPTION SECURITIES

<b>Underwriter</b>	<b>Maximum Number of Option Shares to be Purchased</b>	<b>Maximum Number of Option Warrants to be Purchased</b>
H.C. Wainwright & Co., LLC	4,500,000	9,000,000
Total	4,500,000	9,000,000

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SCHEDULE III

Number of Firm Securities:	30,000,000 Shares and Warrants to purchase up to 60,000,000 Shares
Number of Option Securities:	4,500,000 additional Shares and/or Warrants to purchase up to 9,000,000 Shares
Public price per Share :	\$0.48
Public price per Warrant:	\$0.01 per Tranche 1 Warrant and \$0.01 per Tranche 2 Warrant
Gross spread:	\$0.0288 per Share, \$0.0006 per Tranche 1 Warrant and \$0.0006 per Tranche 2 Warrant
Initial Warrant exercise price:	\$0.55 for Tranche 1 Warrant and \$0.50 for Tranche 2 Warrant, subject to adjustment as described in the Prospectus
Exercisability Date:	Each Tranche 1 Warrant and Tranche 2 Warrant will become exercisable on any day on or after the date that we publicly announce through the filing of a Current Report on Form 8-K that the Company will have sufficient authorized shares of common stock (the "Exercisable Date").
Expiration:	Each Tranche 1 Warrant will expire five years following the Exercisable Date. Each Tranche 2 Warrant will expire six months following the Exercisable Date.
Going Concern:	The amount of cash and other sources of capital available to us, together with the net proceeds of this offering, will cause our independent registered public accounting firm to include an explanatory paragraph to the effect that there is substantial doubt about our ability to continue as a going concern in its report included in its opinion to our consolidated financial statements for the fiscal year ended December 31, 2016. The going concern statement from our independent registered public accounting firm may discourage some investors from purchasing our stock or from providing alternative capital financing to us. The failure to satisfy our capital requirements could adversely affect our business, financial condition, results of operations and prospects.

None

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SCHEDULE V

Paul F. Truex  
Craig Thompson  
William Shanahan, M.D.  
Chuck Olson, D.Sc.  
Klara Dickinson  
May Liu  
Renee Martin, PhD  
Christopher S. Henney, PhD  
Philip T. Sager, M.D.  
Brian R. Mueller  
David E. Thompson  
Brent Furse  
Steven B. Engle

S-V

EXHIBIT A

LOCK-UP AGREEMENT

March , 2017

H.C. Wainwright & Co., LLC  
As Representative of the several Underwriters  
430 Park Avenue  
New York, NY 10022

RE: Anthera Pharmaceuticals, Inc.

Ladies and Gentlemen:

The undersigned understands that H.C. Wainwright & Co., LLC, as representative (the "Representative") of the several underwriters (the "Underwriters"), proposes to enter into an Underwriting Agreement (the "Underwriting Agreement") with Anthera Pharmaceuticals, Inc., a Delaware corporation (the "Company"), providing for the public offering by the Underwriters, including the Representative, of common stock, par value \$0.001 (the "Common Stock"), of the Company (the "Public Offering").

To induce the Underwriters that may participate in the Public Offering to continue their efforts in connection with the Public Offering, the undersigned agrees that, commencing on the date hereof and continuing until and including the date that is 90 days after the date of the final prospectus supplement relating to the Public Offering (the "Lock-Up Period"), without the prior written consent of the Representative, the undersigned will not, directly or indirectly, offer, sell, pledge, contract to sell (including any short sale), grant any option to purchase or otherwise dispose of any shares of Common Stock (including, without limitation, shares of Common Stock of the Company which may be deemed to be beneficially owned by the undersigned on the date hereof in accordance with the rules and regulations of the Securities and Exchange Commission, shares of Common Stock which may be issued upon exercise of a stock option or warrant and any other security convertible into or exchangeable for Common Stock) or enter into any Hedging Transaction (as defined below) relating to the Common Stock (each of the foregoing referred to as a "Disposition") during the Lock-Up Period. The foregoing restriction is expressly intended to preclude the undersigned from engaging in any Hedging Transaction or other transaction which is designed to or reasonably expected to lead to or result in a Disposition during the Lock-Up Period even if the securities would be disposed of by someone other than the undersigned. "Hedging Transaction" means any short sale (whether or not against the box) or any purchase, sale or grant of any right (including, without limitation, any put or call option) with respect to any security (other than a broad-based market basket or index) that includes, relates to or derives any significant part of its value from the Common Stock.

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Notwithstanding the foregoing, the undersigned may transfer (a) shares of Common Stock acquired in open market transactions by the undersigned after the completion of the Public Offering, (b) any or all of the shares of Common Stock or other Company securities if the transfer is by gift, will or intestacy, and (c) shares of Common Stock (i) as forfeitures of Common Stock to satisfy tax withholding obligations of the undersigned in connection with the vesting or exercise of equity awards by the undersigned pursuant to the Company's equity plans, (ii) pursuant to a net exercise or cashless exercise by the undersigned of outstanding equity awards pursuant to the Company's equity plans, provided that any Common Stock acquired upon the net exercise or cashless exercise of equity awards described in this clause (ii) above shall be subject to the restrictions set forth in this Agreement or (iii) pursuant to the conversion or sale of, or an offer to purchase, all or substantially all of the outstanding Common Stock, whether pursuant to a merger, tender offer or otherwise; provided, however, that in the case of a transfer pursuant to clause (b) above, it shall be a condition to the transfer that the transferee execute an agreement stating that the transferee is receiving and holding the securities subject to the provisions of this Lock-Up Agreement; provided, further, that in the case of a transfer pursuant to clauses (b), (c)(i) or (c)(ii) above, no filing under Section 16(a) of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), shall be required or shall be voluntarily made in connection with such transactions.

Furthermore, notwithstanding anything herein to the contrary, the undersigned may enter into an agreement to allow brokerage sales of all or a portion of the undersigned's shares of Common Stock pursuant to Rule 10b5-1 of the Exchange Act; provided, however, that (i) no public announcement or disclosure of entry into such agreement is made or required to be made during the Lock-Up Period and (ii) any such brokerage sales may not occur prior to the expiration of the Lock-Up Period.

The undersigned agrees that the Company may, and that the undersigned will, (i) with respect to any shares of Common Stock or other Company securities for which the undersigned is the record holder, cause the transfer agent for the Company to note stop transfer instructions with respect to such securities on the transfer books and records of the Company and (ii) with respect to any shares of Common Stock or other Company securities for which the undersigned is the beneficial holder but not the record holder, cause the record holder of such securities to cause the transfer agent for the Company to note stop transfer instructions with respect to such securities on the transfer books and records of the Company.

In addition, the undersigned hereby waives any and all notice requirements and rights with respect to registration of securities pursuant to any agreement, understanding or otherwise setting forth the terms of any security of the Company held by the undersigned, including any registration rights agreement to which the undersigned and the Company may be party; provided that such waiver shall apply only to the proposed Public Offering, and any other action taken by the Company in connection with the proposed Public Offering.

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The undersigned hereby agrees that, to the extent that the terms of this Lock-Up Agreement conflict with or are in any way inconsistent with any registration rights agreement to which the undersigned and the Company may be a party, this Lock-Up Agreement supersedes such registration rights agreement.

The undersigned hereby represents and warrants that the undersigned has full power and authority to enter into this Lock-Up Agreement. All authority herein conferred or agreed to be conferred shall survive the death or incapacity of the undersigned and any obligations of the undersigned shall be binding upon the heirs, personal representatives, successors and assigns of the undersigned.

Notwithstanding anything herein to the contrary, if (i) the closing of the Public Offering has not occurred prior to April 30, 2017, (ii) the Company notifies you in writing that it does not intend to proceed with the Public Offering or (iii) the Underwriting Agreement shall be terminated (other than the provisions that survive termination thereof) prior to payment for and delivery of the Common Stock to be sold pursuant thereto, this agreement shall be of no further force or effect.

By: \_\_\_\_\_  
*Signature*

*If not signing in an individual capacity:*

\_\_\_\_\_  
*Name of Authorized Signatory (Print)*

\_\_\_\_\_  
*Title of Authorized Signatory (Print)*

*(indicate capacity of person signing if signing as custodian, trustee, or on behalf of an entity)*

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EXHIBIT B

OPINION OF GOODWIN PROCTER LLP PURSUANT TO  
SECTION 6(B) OF THE UNDERWRITING AGREEMENT

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EXHIBIT C

OPINION OF PERKINS COIE LLP PURSUANT TO  
SECTION 6(C) OF THE UNDERWRITING AGREEMENT

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EXHIBIT D

PFO CERTIFICATE

**PRINCIPAL FINANCIAL OFFICER'S CERTIFICATE**

## [FORM OF WARRANT – 5 YEAR TRANCHE]

THE NUMBER OF SHARES OF COMMON STOCK ISSUABLE UPON EXERCISE OF THIS WARRANT MAY BE LESS THAN THE AMOUNTS SET FORTH ON THE FACE HEREOF PURSUANT TO SECTION 1(a) OF THIS WARRANT.

ANTHERA PHARMACEUTICALS, INC.

WARRANT TO PURCHASE COMMON STOCK

Warrant No.:

Date of Issuance: March [17], 2017 (“**Issuance Date**”)

CUSIP: [ ]

Anthera Pharmaceuticals, Inc., a Delaware corporation (the “**Company**”), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, [BUYER], the registered holder hereof or its permitted assigns (the “**Holder**”), is entitled, subject to the terms set forth below, to purchase from the Company, at the Exercise Price (as defined below) then in effect, upon exercise of this Warrant to Purchase Common Stock (including any Warrants to Purchase Common Stock issued in exchange, transfer or replacement hereof, the “**Warrant**”), at any time or times on or after the Exercise Date (as defined below), but not after 11:59 p.m., New York time, on the Expiration Date (as defined below),<sup>1</sup> (subject to adjustment as provided herein) fully paid and non-assessable shares of Common Stock (as defined below) (the “**Warrant Shares**”, and such number of Warrant Shares, the “**Warrant Number**”). Except as otherwise defined herein, capitalized terms in this Warrant shall have the meanings set forth in Section 17. This Warrant is one of the Warrants to Purchase Common Stock (the “**Registered Warrants**”) issued pursuant to (i) that certain Equity Underwriting Agreement, dated as of March 14, 2017, by and among the Company and the several underwriters (the “**Underwriters**”) referred to therein, as amended from time to time (the “**Underwriting Agreement**”) and (ii) the Company’s Registration Statement on Form S-3 (File number 333-210166), as supplemented by one or more prospectus supplements (the “**Registration Statement**”).

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(f)), this Warrant may be exercised by the Holder on any day on or after the date that the Company publicly announces through the filing of a Current Report on Form 8-K that the Company has sufficient authorized shares of Common Stock reserved for issuance of the Warrant Shares upon the exercise in full of the Registered Warrants (an “**Exercise 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

100% Warrant coverage

“ **Exercise Notice** ”), of the Holder’s election to exercise this Warrant and (ii) (A) 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 (B) 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, 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 an Exercise Notice with respect to less than all of the Warrant Shares shall have the same effect as cancellation of the original of this Warrant and issuance of a new Warrant evidencing the right to purchase the remaining number of Warrant Shares. Execution and delivery of an Exercise Notice for all of the then-remaining Warrant Shares shall have the same effect as cancellation of the original of this Warrant after delivery of the Warrant Shares in accordance with the terms hereof. On or before the first (1<sup>st</sup>) Trading Day following the date on which the Company has received 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) on or prior to the second (2<sup>nd</sup>) Trading Day following the date on which the Exercise Notice has been delivered to the Company, then on or prior to the third (3<sup>rd</sup>) Trading Day 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) on or prior to the second (2<sup>nd</sup>) Trading Day following the date on which the Exercise Notice has been delivered to the Company, then on or prior to the second (2<sup>nd</sup>) Trading Day following the date on which the Aggregate Exercise Price (or notice of a Cashless Exercise) is delivered (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, issue and dispatch by overnight courier to the address as specified in the Exercise Notice, a certificate, registered in the Company’s share register in the name of the Holder or its designee, for the number of 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 7(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 Warrant Shares are to be issued upon the exercise of this Warrant, but rather the number of Warrant Shares to be issued shall be rounded up 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) with respect to such exercise. From the Issuance Date through and including the Expiration Date, the Company shall maintain a transfer agent that participates in the DTC's Fast Automated Securities Transfer Program.

(b) Exercise Price. For purposes of this Warrant, "**Exercise Price**" means \$0.55, subject to adjustment as provided herein.

(c) Company's Failure to Timely Deliver Securities. If either (I) the Company shall fail for any reason or for no reason to issue to the Holder on or prior to the applicable Share Delivery Date, if (x) the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program, a certificate for the number of shares of Common Stock to which the Holder is entitled and register such Common Stock on the Company's share register or (y) if the Transfer Agent is participating in the DTC Fast Automated Securities Transfer Program, to credit the Holder's balance account with DTC, for such number of shares of Common Stock to which the Holder is entitled upon the Holder's exercise of this Warrant or (II) a registration statement (which may be the Registration Statement) covering the issuance or resale of the Warrant Shares that are the subject of the Exercise Notice (the "**Exercise Notice Warrant Shares**") is not available for the issuance or resale, as applicable, of such Exercise Notice Warrant Shares and (x) the Company fails to promptly, but in no event later than one (1) Business Day after such registration statement becomes unavailable, to so notify the Holder and (y) the Company is unable to deliver the Exercise Notice Warrant Shares electronically without any restrictive legend by crediting such aggregate number of Exercise Notice Warrant Shares to the Holder's or its designee's balance account with DTC through its Deposit / Withdrawal At Custodian system (the event described in the immediately foregoing clause (II) is hereinafter referred to as a "**Notice Failure**" and together with the event described in clause (I) above, an "**Exercise Failure**"), then, in addition to all other remedies available to the Holder, if on or prior to the applicable Share Delivery Date either (I) if the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program, the Company shall fail to issue and deliver a certificate to the Holder and register such shares of Common Stock on the Company's share register or, if the Transfer Agent is participating in the DTC Fast Automated Securities Transfer Program, credit the Holder's balance account with DTC for the number of shares of Common Stock to which the Holder is entitled upon the Holder's exercise hereunder or pursuant to the Company's obligation pursuant to clause (ii) below or (II) a Notice Failure occurs, and if on or

after such Trading Day the Holder purchases (in an open market transaction or otherwise) Common Stock to deliver in satisfaction of a sale by the Holder of shares of Common Stock issuable upon such exercise that the Holder anticipated receiving from the Company (a “**Buy-In**”), then the Company shall, within three (3) Trading Days after the Holder’s request and in the Holder’s discretion, either (i) pay cash to the Holder in an amount equal to the Holder’s total purchase price (including brokerage commissions and other out-of-pocket expenses, if any) for the shares of Common Stock so purchased (the “**Buy-In Price**”), at which point the Company’s obligation to deliver such certificate (and to issue such shares of Common Stock) or credit such Holder’s balance account with DTC for such shares of Common Stock shall terminate, or (ii) promptly honor its obligation to deliver to the Holder a certificate or certificates representing such shares of Common Stock or credit such Holder’s balance account with DTC, as applicable, and pay cash to the Holder in an amount equal to the excess (if any) of the Buy-In Price over the product of (A) such number of shares of Common Stock, times (B) any trading price of the Common Stock selected by the Holder in writing as in effect at any time during the period beginning on the applicable Exercise Date and ending on the applicable Share Delivery Date. Nothing shall limit the 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 certificates representing Warrant Shares (or to electronically deliver such Warrant Shares) upon the exercise of this Warrant as required pursuant to the terms hereof. Additionally, if the Company fails for any reason to deliver to the Holder the Exercise Notice Warrant Shares by the Share Delivery Date, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each \$1,000 of Exercise Notice Warrant Shares (based on the VWAP of the Common Stock on the date of the applicable Notice of Exercise), \$10 per Trading Day (increasing to \$20 per Trading Day on the fifth Trading Day after such liquidated damages begin to accrue) for each Trading Day after such Share Delivery Date until such Exercise Notice Warrant Shares are delivered or Holder rescinds such exercise. In addition to the foregoing rights, (i) if the Company fails to deliver the applicable number of Warrant Shares upon an exercise pursuant to Section 1 by the applicable Share Delivery Date, then the Holder shall have the right to rescind such exercise in whole or in part and retain and/or have the Company return, as the case may be, any portion of this Warrant that has not been exercised pursuant to such Exercise Notice; provided that the rescission of an exercise shall not affect the Company’s obligation to make any payments that have accrued prior to the date of such notice pursuant to this Section 1(c) or otherwise, and (ii) if a registration statement (which may be the Registration Statement) covering the issuance or resale of the Warrant Shares that are subject to an Exercise Notice is not available for the issuance or resale, as applicable, of such Exercise Notice Warrant Shares and the Holder has submitted an Exercise Notice prior to receiving notice of the non-availability of such registration statement and the Company has not already delivered the Warrant Shares underlying such Exercise Notice electronically without any restrictive legend by crediting 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, the Holder shall have the option, by delivery of notice to the Company, to (x) rescind such Exercise Notice in whole or in part and retain or have returned, as the case may be, any portion of this Warrant that has not been exercised pursuant to such Exercise Notice; provided that the rescission of an Exercise Notice shall not affect the Company’s obligation to make any payments that have accrued prior to the date of such notice pursuant to this Section 1(c) or otherwise, and/or (y) switch some or all of such Exercise Notice from a cash exercise to a Cashless Exercise.

(d) Cashless Exercise. Notwithstanding anything contained herein to the contrary (other than Section 1(f) below), if at the time of exercise hereof the Registration Statement is not effective (or the prospectus contained therein is not available for use) for the issuance of all of the Warrant Shares, then 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 Warrant Shares determined according to the following formula (a "**Cashless Exercise** "):

Net Number = [(A-B) (X)] by (A), where:

- (A) = as applicable: (i) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise if such Notice of Exercise is (1) both executed and delivered pursuant to Section 2(a) hereof on a day that is not a Trading Day or (2) both executed and delivered pursuant to Section 2(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 VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise or (z) the Bid Price of the Common Stock on the principal Trading Market as reported by Bloomberg L.P. as of the time of the Holder's execution of the applicable Notice of Exercise if such Notice of Exercise is executed during "regular trading hours" on a Trading Day and is delivered within two (2) hours thereafter pursuant to Section 2(a) hereof or (iii) the VWAP on the date of the applicable Notice of Exercise if the date of such Notice of Exercise is a Trading Day and such Notice of Exercise is both executed and delivered pursuant to Section 1(a) hereof after the close of "regular trading hours" on such Trading Day
- (B) = the Exercise Price of this Warrant, as adjusted hereunder, then in effect for the applicable Warrant Shares at the time of such exercise; and
- (X) = the number of Warrant Shares that would be issuable upon exercise of this Warrant in accordance with the terms of this Warrant if such exercise were by means of a cash exercise rather than a Cashless Exercise.

If the Warrant Shares are issued in a Cashless Exercise, the parties acknowledge and agree that in accordance with Section 3(a)(9) of the 1933 Act, the Warrant Shares take on the registered characteristics of the Warrants being exercised and the holding period for the Warrant Shares shall be deemed to have commenced, on the date this Warrant was originally issued pursuant to the Underwriting Agreement. The Company agrees not to take any position contrary to this Section 1(d).

(e) Disputes. In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the number of Warrant Shares to be issued pursuant to the terms hereof, 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 13.

(f) Limitations on Exercises. 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 after giving effect to such exercise, the Holder together with the other Attribution Parties collectively would beneficially own in excess of 4.99% (the “**Maximum Percentage**”) of the shares of Common Stock outstanding immediately after giving effect to such exercise. For purposes of the foregoing sentence, the aggregate number of shares of Common Stock beneficially owned by 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 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 other Registered 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(f). For purposes of this Section 1(f), beneficial ownership shall be calculated in accordance with Section 13(d) of the 1934 Act. For purposes of 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, Current Report on Form 8-K or other public filing with 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, if any, 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(f), to exceed the Maximum Percentage, the Holder must notify the Company of a reduced number of Warrant Shares to be acquired 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 shares 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 1934 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 not in excess of 9.99% as specified in such notice; provided that (i) any such increase in the Maximum Percentage will not be effective until the sixty-first (61<sup>st</sup>) day after such notice is delivered to the Company and (ii) any such increase or decrease will apply only to the Holder and the other Attribution Parties and not to any other holder of Registered 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 1934 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(f) 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(f) or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph may not be waived and shall apply to a successor holder of this Warrant.

(g) Reservation of Shares .

(i) Required Reserve Amount . So long as this Warrant is exercisable, 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 Registered 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(g)(i) be reduced other than proportionally in connection with any exercise or redemption of Registered Warrants or such other event covered by Section 2(a) 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 Registered Warrants based on number of shares of Common Stock issuable upon exercise of Registered Warrants held by each holder on the Closing Date (without regard to any limitations on exercise) or increase in the number of reserved shares, as the case may be (the "**Authorized Share Allocation**"). In the event that a holder shall sell or otherwise transfer any of such holder's Registered 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 Registered Warrants shall be allocated to the remaining holders of Registered Warrants, pro rata based on the number of shares of Common Stock issuable upon exercise of the Registered Warrants then held by such holders (without regard to any limitations on exercise).

(ii) Insufficient Authorized Shares. If, notwithstanding Section 1(g)(i) above, and not in limitation thereof, at any time while any of the Registered Warrants remain outstanding, the Company does not have a sufficient number of authorized and unreserved shares of Common Stock to satisfy its obligation to reserve the Required Reserve Amount (an “ **Authorized Share Failure** ”), then the Company shall immediately take all action 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 all the Registered Warrants 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 sixty (60) 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 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. The Exercise Price and number of Warrant Shares issuable upon exercise of this Warrant are subject to adjustment from time to time as set forth in this Section 2.

(a) Stock Dividends and Splits. Without limiting any provision of Section 2(d), Section 3 or Section 4, if the Company, at any time on or after the Issuance Date, (i) pays a stock dividend on one or more classes of its then outstanding shares of Common Stock or otherwise makes a distribution on any class of capital stock that is payable in shares of Common Stock, (ii) subdivides (by any stock split, stock dividend, recapitalization or otherwise) one or more classes of its then outstanding shares of Common Stock into a larger number of shares or (iii) combines (by combination, reverse stock split or otherwise) one or more classes of its then outstanding shares of Common Stock into a smaller number of shares, then in each such case the Exercise Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock outstanding immediately before such event and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event. Any adjustment made pursuant to clause (i) of this paragraph shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution, and any adjustment pursuant to clause (ii) or (iii) of this paragraph shall become effective immediately after the effective date of such subdivision or combination. If any event requiring an adjustment under this paragraph occurs during the period that an Exercise Price is calculated hereunder, then the calculation of such Exercise Price shall be adjusted appropriately to reflect such event.

(b) Number of Warrant Shares. Simultaneously with any adjustment to the Exercise Price pursuant to Section 2(a), the number of Warrant Shares that may be purchased upon exercise of this Warrant shall be increased or decreased proportionately, so that after such adjustment the aggregate Exercise Price payable hereunder for the adjusted number of Warrant Shares shall be the same as the aggregate Exercise Price in effect immediately prior to such adjustment (without regard to any limitations on exercise contained herein).

(c) Stock Combination Event Adjustment. If at any time and from time to time on or after the Issuance Date there occurs any stock combination, reverse split or other similar transaction involving the Common Stock (each, a “**Stock Combination Event**”, and such date thereof, the “**Stock Combination Event Date**”) and the Event Market Price (as defined below) is less than the Exercise Price then in effect (after giving effect to the adjustment in clause 2(a) above), then on the sixteenth (16th) Trading Day immediately following such Stock Combination Event, the Exercise Price then in effect on such sixteenth (16th) Trading Day (after giving effect to the adjustment in Section 2(a) above) shall be reduced (but in no event increased) to the Event Market Price. For the avoidance of doubt, if the adjustment in the immediately preceding sentence would otherwise result in an increase in the Exercise Price hereunder, no adjustment shall be made. “**Event Market Price**” means, with respect to any Stock Combination Event Date, the quotient determined by dividing (x) the sum of the VWAP of the Common Stock for each of the five (5) lowest Trading Days during the fifteen (15) consecutive Trading Day period ending and including the Trading Day immediately preceding the sixteenth (16th) Trading Day after such Stock Combination Event Date, divided by (y) five (5).

(d) Other Events. In the event that the Company (or any of its Subsidiaries (as defined in the Underwriting Agreement)) shall take any action to which the provisions hereof are not strictly applicable, or, if applicable, would not operate to protect the Holder from dilution or if any event occurs of the type contemplated by the provisions of this Section 2 but not expressly provided for by such provisions (including, without limitation, the granting of stock appreciation rights, phantom stock rights or other rights with equity features), then the Company’s board of directors shall in good faith determine and implement an appropriate adjustment in the Exercise Price and the number of Warrant Shares (if applicable) so as to protect the rights of the Holder, provided that no such adjustment pursuant to this Section 2(d) will increase the Exercise Price or decrease the number of Warrant Shares as otherwise determined pursuant to this Section 2, provided further that if the Holder does not accept such adjustments as appropriately protecting its interests hereunder against such dilution, then the Company’s board of directors and the Holder shall agree, in good faith, upon an independent investment bank of nationally recognized standing to make such appropriate adjustments, whose determination shall be final and binding absent manifest error and whose fees and expenses shall be borne by the Company.

(e) Calculations. All calculations under this Section 2 shall be made by rounding to the nearest cent or the nearest 1/100<sup>th</sup> of a share, as applicable. The number of shares of Common Stock outstanding at any given time shall not include shares owned or held by or for the account of the Company, and the disposition of any such shares shall be considered an issuance or sale of Common Stock.

(f) Voluntary Adjustment By Company. The Company may at any time during the term of this Warrant, reduce the then current Exercise Price to any amount and for any period of time deemed appropriate by the board of directors of the Company.

3. RIGHTS UPON DISTRIBUTION OF ASSETS. In addition to any adjustments pursuant to Section 2 above, if the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property, 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 the extent of the Maximum Percentage (and shall not be entitled to beneficial ownership of such shares of Common Stock as a result of such Distribution (and beneficial ownership) to the extent of any such excess) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time or times, if ever, 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).

4. PURCHASE RIGHTS; FUNDAMENTAL TRANSACTIONS.

(a) Purchase Rights. In addition to any adjustments pursuant to Section 2 above, if at any time 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 shares 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 the extent of the Maximum Percentage (and shall not be entitled to beneficial ownership of such shares of Common Stock as a result of such Purchase Right (and beneficial ownership) to the extent of any such excess) and such Purchase Right to such extent shall be held in abeyance for the benefit of the Holder until such time or times, if ever, 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 held similarly in abeyance) to the same extent as if there had been no such limitation).

(b) Fundamental Transactions. In connection with a Fundamental Transaction, to the extent that the Holder has not exercised its purchase rights under this Warrant to all the Warrant Shares subject hereto immediately prior to completion of the Fundamental Transaction, and if the fair market value of the consideration to be received by one share of the Common Stock in the Fundamental Transaction is greater than the Exercise Price then in effect, then the Company shall cause this Warrant to be exchanged for the consideration that Holder would have received if Holder chose to exercise its right to have shares issued pursuant to the Cashless Exercise provisions of this Warrant without actually exercising such right, acquiring such shares and exchanging such shares for such consideration.

(c) Black Scholes Value. Notwithstanding the foregoing and the provisions of Section 4(b) above, at the request of the Holder delivered at any time commencing on the earliest to occur of (x) the public disclosure of any Fundamental Transaction, (y) the consummation of any Fundamental Transaction and (z) the Holder first becoming aware of any Fundamental Transaction through the date that is ninety (90) days after the public disclosure of the consummation of such Fundamental Transaction by the Company pursuant to a Current Report on Form 8-K filed with the SEC, the Company or the Successor Entity (as the case may be) shall purchase this Warrant from the Holder on the date of such request by paying to the Holder cash in an amount equal to the Black Scholes Value. Payment of such amounts shall be made by the Company (or at the Company's direction) to the Holder on or prior to the later of (x) the second (2<sup>nd</sup>) Trading Day after the date of such request and (y) the date of consummation of such Fundamental Transaction.

5. NONCIRCUMVENTION. The Company hereby covenants and agrees that the Company will not, by amendment of its Certificate of Incorporation or Bylaws, or through any reorganization, transfer of assets, consolidation, merger, scheme of 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 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).

6. WARRANT HOLDER NOT DEEMED A STOCKHOLDER. Except as otherwise specifically provided herein, the Holder, solely in its capacity as a holder of this Warrant, shall not be entitled to vote or receive dividends or be deemed the holder of share capital of the Company for any purpose, nor shall anything contained in this Warrant be construed to confer upon the Holder, solely in its 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 it 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. Notwithstanding this Section 6, the Company shall provide the Holder with copies of the same notices and other information given to the stockholders of the Company generally, contemporaneously with the giving thereof to the stockholders; provided, however, that the Company shall not be obligated to provide such notice or information if it is filed with the Securities and Exchange Commission through EDGAR and available to the public through the EDGAR system.

7. 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 7(d)), registered as the Holder may request, representing the right to purchase the number of Warrant Shares being transferred by the Holder and, if less than the total number of Warrant Shares then underlying this Warrant is being transferred, a new Warrant (in accordance with Section 7(d)) to the Holder representing the right to purchase the number of Warrant Shares not being transferred.

(b) Lost, Stolen or Mutilated Warrant. Upon receipt by the Company of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant (as to which a written certification and the indemnification contemplated below shall suffice as such evidence), and, in the case of loss, theft or destruction, of an (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 7(d)) representing the right to purchase the Warrant Shares then underlying this Warrant.

(c) Exchangeable for Multiple Warrants. This Warrant is exchangeable, upon the surrender hereof by the Holder at the principal office of the Company, for a new Warrant or Warrants (in accordance with Section 7(d)) representing in the aggregate the right to purchase the number of Warrant Shares then underlying this Warrant, and each such new Warrant will represent the right to purchase such portion of such Warrant Shares as is designated by the Holder at the time of such surrender; provided, however, no warrants for fractional shares of Common Stock shall be given.

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

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issued pursuant to Section 7(a) or Section 7(c), the Warrant Shares designated by the Holder which, when added to the number of shares of Common Stock underlying the other new Warrants issued in connection with such issuance, does not exceed the number of Warrant Shares then underlying this Warrant), (iii) shall have an issuance date, as indicated on the face of such new Warrant which is the same as the Issuance Date, and (iv) shall have the same rights and conditions as this Warrant.

8. NOTICES. Whenever notice is required to be given under this Warrant, unless otherwise provided herein, such notice shall be given in accordance with Section 9(f) of the Underwriting Agreement. The Company shall provide the Holder with prompt written notice of all actions taken pursuant to this Warrant (other than the issuance of shares of Common Stock upon exercise in accordance with the terms hereof), 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 each adjustment of the Exercise Price and the number of Warrant Shares, setting forth in reasonable detail, and certifying, the calculation of such adjustment(s), (ii) at least ten Trading 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 to holders of shares 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, and (iii) at least ten (10) Trading Days prior to the consummation of any Fundamental Transaction. To the extent that any notice provided hereunder constitutes, or contains, material, non-public information regarding the Company or any of its Subsidiaries, the Company shall simultaneously file such notice with the SEC (as defined in the Underwriting Agreement) pursuant to a Current Report on Form 8-K. If the Company or any of its Subsidiaries provides material non-public information to the Holder that is not simultaneously filed in a Current Report on Form 8-K and the Holder has not agreed to receive such material non-public information, the Company hereby covenants and agrees that the Holder shall not have any duty of confidentiality to the Company, any of its Subsidiaries or any of their respective officers, directors, employees, affiliates or agents with respect to, or a duty to any of the foregoing not to trade on the basis of, such material non-public information. It is expressly understood and agreed that the time of execution specified by the Holder in each Exercise Notice shall be definitive and may not be disputed or challenged by the Company.

9. AMENDMENT AND WAIVER. Except as otherwise provided herein, the provisions of this Warrant (other than Section 1(f)) may be amended and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company has obtained the written consent of the Holder. No waiver shall be effective unless it is in writing and signed by an authorized representative of the waiving party.

10. SEVERABILITY. 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).

11. GOVERNING LAW. This Warrant shall be governed by and construed and enforced in accordance with, and all questions concerning the construction, validity, interpretation and performance of this Warrant shall be governed by, the internal laws of the State of New York, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of New York or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of New York. The Company hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof to the Company at the address set forth in Section 9(f) of the Underwriting Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. The Company hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in The City of New York, Borough of Manhattan, for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law. Nothing contained herein shall be deemed or operate to preclude the Holder from bringing suit or taking other legal action against the Company in any other jurisdiction to collect on the Company's obligations to the Holder, to realize on any collateral or any other security for such obligations, or to enforce a judgment or other court ruling in favor of the Holder. **THE COMPANY HEREBY IRREVOCABLY WAIVES ANY RIGHT IT MAY HAVE TO, 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.**

12. CONSTRUCTION; HEADINGS. This Warrant shall be deemed to be jointly drafted by the Company and the Holder and shall not be construed against any Person as the drafter hereof. The headings of this Warrant are for convenience of reference and shall not form part of, or affect the interpretation of, this Warrant. Terms used in this Warrant but defined in the Underwriting Agreement shall have the meanings ascribed to such terms on the Closing Date in such Underwriting Agreement unless otherwise consented to in writing by the Holder.

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

comply with the terms of this Warrant. The Company covenants to the Holder that there shall be no characterization concerning this instrument other than as expressly provided herein. Amounts set forth or provided for herein with respect to payments, exercises and the like (and the computation thereof) shall be the amounts to be received by the Holder and shall not, except as expressly provided herein, be subject to any other obligation of the Company (or the performance thereof). 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 specific performance and/or temporary, preliminary and permanent injunctive or other equitable relief from any court of competent jurisdiction in any such case without the necessity of proving actual damages and without posting a bond or other security. The Company shall provide all information and documentation to the Holder that is requested by the Holder to enable the Holder to confirm the Company's compliance with the terms and conditions of this Warrant (including, without limitation, compliance with Section 2 hereof). The issuance of shares and certificates for shares as contemplated hereby upon the exercise of this Warrant shall be made without charge to the Holder or such shares for any issuance tax or other costs in respect thereof, provided that the Company shall not be required to pay any tax which may be payable in respect of any transfer involved in the issuance and delivery of any certificate in a name other than the Holder or its agent on its behalf.

14. PAYMENT OF COLLECTION, ENFORCEMENT AND OTHER COSTS. If (a) this Warrant is placed in the hands of an attorney for collection or enforcement or is collected or enforced through any legal proceeding or the holder otherwise takes action to collect amounts due under this Warrant or to enforce the provisions of this Warrant or (b) there occurs any bankruptcy, reorganization, receivership of the company or other proceedings affecting company creditors' rights and involving a claim under this Warrant, then the Company shall pay the costs incurred by the Holder for such collection, enforcement or action or in connection with such bankruptcy, reorganization, receivership or other proceeding, including, without limitation, attorneys' fees and disbursements.

15. TRANSFER. This Warrant may be offered for sale, sold, transferred or assigned without the consent of the Company.

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

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

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

(c) "**Adjustment Right**" means any right granted with respect to any securities issued in connection with, or with respect to, any issuance or sale (or deemed issuance or sale in accordance with Section 2) of shares of Common Stock (other than rights of the type described in Section 3 and 4 hereof) that could result in a decrease in the net consideration received by the Company in connection with, or with respect to, such securities (including, without limitation, any cash settlement rights, cash adjustment or other similar rights).

(d) “**Affiliate**” means, with respect to any Person, any other Person that directly or indirectly controls, is controlled by, or is under common control with, such Person, it being understood for purposes of this definition that “control” of a Person means the power directly or indirectly either to vote 10% or more of the stock having ordinary voting power for the election of directors of such Person or direct or cause the direction of the management and policies of such Person whether by contract or otherwise.

(e) “**Approved Stock Plan**” means any equity compensation plan which has been approved by the board of directors of the Company prior to or subsequent to the date hereof pursuant to which shares of Common Stock and options to purchase Common Stock may be issued to any employee, officer, consultant or director for services provided to the Company in their capacity as such.

(f) “**Attribution Parties**” means, collectively, the following Persons and entities: (i) any investment vehicle, including, any funds, feeder funds or managed accounts, currently, or from time to time after the Issuance Date, directly or indirectly managed or advised by the Holder’s investment manager or any of its Affiliates or principals, (ii) any direct or indirect Affiliates of the Holder or any of the foregoing, (iii) any Person acting or who could be deemed to be acting as a Group together with the Holder or any of the foregoing and (iv) any other Persons whose beneficial ownership of the Company’s Common Stock would or could be aggregated with the Holder’s and the other Attribution Parties for purposes of Section 13(d) of the 1934 Act. For clarity, the purpose of the foregoing is to subject collectively the Holder and all other Attribution Parties to the Maximum Percentage.

(g) “**Bid Price**” means, for any security as of any date, the bid price at the time in question 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 trade price, then the last trade price 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 trade price 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 does not apply, the trade price of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg, or, if no trade price is reported for such security by Bloomberg, the average of the ask prices of any market makers for such security as reported in the “pink sheets” by OTC Markets Group Inc. (formerly Pink Sheets LLC).

(h) “**Black Scholes Value**” means the value of the unexercised portion of this Warrant remaining on the date of the Holder’s request pursuant to Section 4(c) (i), which value is calculated using the Black Scholes Option Pricing Model obtained from the “OV” function on Bloomberg utilizing (i) an underlying price per share equal to the greater of (1) the highest Closing Sale Price of the Common Stock during the period beginning on the Trading Day immediately preceding the announcement of the applicable Fundamental Transaction (or the consummation of the applicable Fundamental Transaction, if earlier) and ending on the Trading

Day of the Holder's request pursuant to Section 4(c)(i) and (2) the sum of the price per share being offered in cash in the applicable Fundamental Transaction (if any) plus the value of the non-cash consideration being offered in the applicable Fundamental Transaction (if any), (ii) a strike price equal to the Exercise Price in effect on the date of the Holder's request pursuant to Section 4(c)(i), (iii) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the greater of (1) the remaining term of this Warrant as of the date of the Holder's request pursuant to Section 4(c)(i) and (2) the remaining term of this Warrant as of the date of consummation of the applicable Fundamental Transaction or as of the date of the Holder's request pursuant to Section 4(c)(i) if such request is prior to the date of the consummation of the applicable Fundamental Transaction, (iv) a zero cost of borrow and (v) an expected volatility equal to the greater of 100% and the 100 day volatility obtained from the "HVT" function on Bloomberg (determined utilizing a 360 day annualization factor) as of the Trading Day immediately following the earliest to occur of (A) the public disclosure of the applicable Fundamental Transaction, (B) the consummation of the applicable Fundamental Transaction and (C) the date on which the Holder first became aware of the applicable Fundamental Transaction.

(i) **"Bloomberg"** means Bloomberg, L.P.

(j) **"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.

(k) **"Closing Sale Price"** means, for any security as of any date, the last closing trade price 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 trade price, then the last trade price 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 trade price 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 does not apply, the last trade price of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg, or, if no last trade price is reported for such security by Bloomberg, the average of the ask prices of any market makers for such security as reported in the "pink sheets" by OTC Markets Group Inc. (formerly Pink Sheets LLC). If the Closing Sale Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Closing Sale Price 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 in accordance with the procedures in Section 13. All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination or other similar transaction during such period.

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

(m) **"Convertible Securities"** means any stock or other security (other than Options) that is at any time and under any circumstances, directly or indirectly, convertible into, exercisable or exchangeable for, or which otherwise entitles the holder thereof to acquire, any shares of Common Stock.

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(n) “**Eligible Market**” means The New York Stock Exchange, the Nasdaq Global Select Market, the Nasdaq Global Market, the Nasdaq Capital Market or the Principal Market.

(o) “**Expiration Date**” means the date that is the fifth (5th) anniversary of the Exercise Date or, if such date falls on a day other than a Trading Day or on which trading does not take place on the Principal Market (a “Holiday”), the next date that is not a Holiday.

(p) “**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 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 1934 Act) of at least 50% of the outstanding shares of Common Stock, or (iv) consummate a stock or share 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 1934 Act) of at least 50% of the outstanding shares of Common Stock, or (v) reorganize, recapitalize or reclassify its 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 1934 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 Common Stock, (y) at least 50% of the aggregate ordinary voting power represented by issued and outstanding Common Stock not held by all such Subject Entities as of the date of this Warrant 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 shareholders of the Company to surrender their shares of Common Stock without approval of the shareholders 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.

(q) “**Group**” means a “group” as that term is used in Section 13(d) of the 1934 Act and as defined in Rule 13d-5 thereunder.

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

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

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

(u) “**Principal Market**” means the the NASDAQ Global Market.

(v) “**SEC**” means the United States Securities and Exchange Commission or the successor thereto.

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

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

(y) “**Trading Day**” means, as applicable, (x) with respect to all price or trading volume determinations relating to the Common Stock, any day on which the Common Stock is traded on the Principal Market, or, if the Principal Market is not the principal trading market for the Common Stock, then on the principal securities exchange or securities market on which the Common Stock is then traded, provided that “Trading Day” shall not include any day on which the Common Stock is scheduled to trade on such exchange or market for less than 4.5 hours or

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any day that the Common Stock is suspended from trading during the final hour of trading on such exchange or market (or if such exchange or market does not designate in advance the closing time of trading on such exchange or market, then during the hour ending at 4:00:00 p.m., New York time) or (y) with respect to all determinations other than price determinations relating to the Common Stock, any day on which The New York Stock Exchange (or any successor thereto) is open for trading of securities.

(z) “**VWAP**” means, for any security as of any date, the dollar volume-weighted average price for such security on the Principal Market (or, if the Principal Market is not the principal trading market for such security, then on the principal securities exchange or securities market on which such security is then traded) during the period beginning at 9:30:01 a.m., New York time, and ending at 4:00:00 p.m., New York time, as reported by Bloomberg through its “HP” function (set to weighted average) 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, and ending at 4:00:00 p.m., New York time, as reported by Bloomberg, or, if no dollar volume-weighted average price is reported for such security by Bloomberg for such hours, the average of the highest closing bid price and the lowest closing ask price of any of the market makers for such security as reported in the “pink sheets” by OTC Markets Group Inc. (formerly Pink Sheets LLC). If the VWAP cannot be calculated for such security on such date on any of the foregoing bases, the VWAP 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 in accordance with the procedures in Section 13. All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination, recapitalization or other similar transaction during such period.

[ *signature page follows* ]

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

**ANTHERA PHARMACEUTICALS, INC.**

By: \_\_\_\_\_  
Name: Craig Thompson  
Title: President and Chief Executive Officer

EXERCISE NOTICE

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

ANTHERA PHARMACEUTICALS, INC.

The undersigned holder hereby elects to exercise the Warrant to Purchase Common Stock No. (the "Warrant") of Anthera Pharmaceuticals, Inc., a Delaware corporation (the "Company") as specified below. Capitalized terms used herein and not otherwise defined shall have the respective meanings set forth in the Warrant.

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

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

In the event that the Holder has elected a Cashless Exercise with respect to some or all of the Warrant Shares to be issued pursuant hereto, the Holder hereby represents and warrants that this Exercise Notice was executed by the Holder at [a.m.][p.m.] on the date set forth below.

2. 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.

3. Maximum Percentage Representation. Notwithstanding anything to the contrary contained herein, this Exercise Notice shall constitute a representation by the Holder of the Warrant submitting this Exercise Notice that after giving effect to the exercise provided for in this Exercise Notice, such Holder (together with its affiliates) will not have beneficial ownership (together with the beneficial ownership of such Person's affiliates) of a number of shares of Common Stock which exceeds the Maximum Percentage (as defined in the Warrant) of the total outstanding shares of Common Stock of the Company as determined pursuant to the provisions of Section 1(f) of the Warrant.

4. Delivery of Warrant Shares. The Company shall deliver to Holder, or its designee or agent as specified below, shares of Common Stock in accordance with the terms of the Warrant. Delivery shall be made to Holder, or for its benefit, as follows:

checkbox Check here if requesting delivery as a certificate to the following name and to the following address:

Issue to:

Three horizontal lines for providing name and address information.

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Check here if requesting delivery by Deposit/Withdrawal at Custodian as follows:

DTC Participant: \_\_\_\_\_

DTC Number: \_\_\_\_\_

Account Number: \_\_\_\_\_

Date: \_\_\_\_\_, \_\_\_\_\_

\_\_\_\_\_  
Name of Registered Holder

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

Name:

Title:

Tax ID: \_\_\_\_\_

Facsimile: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

**ACKNOWLEDGMENT**

The Company hereby acknowledges this Exercise Notice and hereby directs \_\_\_\_\_ to issue the above indicated number of shares of Common Stock in accordance with the Transfer Agent Instructions dated \_\_\_\_\_, 201\_\_\_\_, from the Company and acknowledged and agreed to by \_\_\_\_\_.

**ANTHERA PHARMACEUTICALS, INC.**

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

## [FORM OF WARRANT –6 MONTH TRANCHE]

THE NUMBER OF SHARES OF COMMON STOCK ISSUABLE UPON EXERCISE OF THIS WARRANT MAY BE LESS THAN THE AMOUNTS SET FORTH ON THE FACE HEREOF PURSUANT TO SECTION 1(a) OF THIS WARRANT.

ANTHERA PHARMACEUTICALS, INC.

WARRANT TO PURCHASE COMMON STOCK

Warrant No.:

Date of Issuance: March [17], 2017 (“**Issuance Date**”)

CUSIP: [ ]

Anthera Pharmaceuticals, Inc., a Delaware corporation (the “**Company**”), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, [BUYER], the registered holder hereof or its permitted assigns (the “**Holder**”), is entitled, subject to the terms set forth below, to purchase from the Company, at the Exercise Price (as defined below) then in effect, upon exercise of this Warrant to Purchase Common Stock (including any Warrants to Purchase Common Stock issued in exchange, transfer or replacement hereof, the “**Warrant**”), at any time or times on or after the Exercise Date (as defined below), but not after 11:59 p.m., New York time, on the Expiration Date (as defined below), 1 (subject to adjustment as provided herein) fully paid and non-assessable shares of Common Stock (as defined below) (the “**Warrant Shares**”, and such number of Warrant Shares, the “**Warrant Number**”). Except as otherwise defined herein, capitalized terms in this Warrant shall have the meanings set forth in Section 17. This Warrant is one of the Warrants to Purchase Common Stock (the “**Registered Warrants**”) issued pursuant to (i) that certain Equity Underwriting Agreement, dated as of March 14, 2017, by and among the Company and the several underwriters (the “**Underwriters**”) referred to therein, as amended from time to time (the “**Underwriting Agreement**”) and (ii) the Company’s Registration Statement on Form S-3 (File number 333-210166), as supplemented by one or more prospectus supplements (the “**Registration Statement**”).

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(f)), this Warrant may be exercised by the Holder on any day on or after the date that the Company publicly announces through the filing of a Current Report on Form 8-K that the Company has sufficient authorized shares of Common Stock reserved for issuance of the Warrant Shares upon the exercise in full of the Registered Warrants (an “**Exercise 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

100% Warrant coverage

“ **Exercise Notice** ”), of the Holder’s election to exercise this Warrant and (ii) (A) 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 (B) 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, 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 an Exercise Notice with respect to less than all of the Warrant Shares shall have the same effect as cancellation of the original of this Warrant and issuance of a new Warrant evidencing the right to purchase the remaining number of Warrant Shares. Execution and delivery of an Exercise Notice for all of the then-remaining Warrant Shares shall have the same effect as cancellation of the original of this Warrant after delivery of the Warrant Shares in accordance with the terms hereof. On or before the first (1<sup>st</sup>) Trading Day following the date on which the Company has received 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) on or prior to the second (2<sup>nd</sup>) Trading Day following the date on which the Exercise Notice has been delivered to the Company, then on or prior to the third (3<sup>rd</sup>) Trading Day 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) on or prior to the second (2<sup>nd</sup>) Trading Day following the date on which the Exercise Notice has been delivered to the Company, then on or prior to the second (2<sup>nd</sup>) Trading Day following the date on which the Aggregate Exercise Price (or notice of a Cashless Exercise) is delivered (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, issue and dispatch by overnight courier to the address as specified in the Exercise Notice, a certificate, registered in the Company’s share register in the name of the Holder or its designee, for the number of 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 7(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 Warrant Shares are to be issued upon the exercise of this Warrant, but rather the number of Warrant Shares to be issued shall be rounded up 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) with respect to such exercise. From the Issuance Date through and including the Expiration Date, the Company shall maintain a transfer agent that participates in the DTC's Fast Automated Securities Transfer Program.

(b) Exercise Price. For purposes of this Warrant, "**Exercise Price**" means \$0.50, subject to adjustment as provided herein.

(c) Company's Failure to Timely Deliver Securities. If either (I) the Company shall fail for any reason or for no reason to issue to the Holder on or prior to the applicable Share Delivery Date, if (x) the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program, a certificate for the number of shares of Common Stock to which the Holder is entitled and register such Common Stock on the Company's share register or (y) if the Transfer Agent is participating in the DTC Fast Automated Securities Transfer Program, to credit the Holder's balance account with DTC, for such number of shares of Common Stock to which the Holder is entitled upon the Holder's exercise of this Warrant or (II) a registration statement (which may be the Registration Statement) covering the issuance or resale of the Warrant Shares that are the subject of the Exercise Notice (the "**Exercise Notice Warrant Shares**") is not available for the issuance or resale, as applicable, of such Exercise Notice Warrant Shares and (x) the Company fails to promptly, but in no event later than one (1) Business Day after such registration statement becomes unavailable, to so notify the Holder and (y) the Company is unable to deliver the Exercise Notice Warrant Shares electronically without any restrictive legend by crediting such aggregate number of Exercise Notice Warrant Shares to the Holder's or its designee's balance account with DTC through its Deposit / Withdrawal At Custodian system (the event described in the immediately foregoing clause (II) is hereinafter referred to as a "**Notice Failure**" and together with the event described in clause (I) above, an "**Exercise Failure**"), then, in addition to all other remedies available to the Holder, if on or prior to the applicable Share Delivery Date either (I) if the Transfer Agent is not participating in the DTC Fast Automated Securities Transfer Program, the Company shall fail to issue and deliver a certificate to the Holder and register such shares of Common Stock on the Company's share register or, if the Transfer Agent is participating in the DTC Fast Automated Securities Transfer Program, credit the Holder's balance account with DTC for the number of shares of Common Stock to which the Holder is entitled upon the Holder's exercise hereunder or pursuant to the Company's obligation pursuant to clause (ii) below or (II) a Notice Failure occurs, and if on or

after such Trading Day the Holder purchases (in an open market transaction or otherwise) Common Stock to deliver in satisfaction of a sale by the Holder of shares of Common Stock issuable upon such exercise that the Holder anticipated receiving from the Company (a “**Buy-In**”), then the Company shall, within three (3) Trading Days after the Holder’s request and in the Holder’s discretion, either (i) pay cash to the Holder in an amount equal to the Holder’s total purchase price (including brokerage commissions and other out-of-pocket expenses, if any) for the shares of Common Stock so purchased (the “**Buy-In Price**”), at which point the Company’s obligation to deliver such certificate (and to issue such shares of Common Stock) or credit such Holder’s balance account with DTC for such shares of Common Stock shall terminate, or (ii) promptly honor its obligation to deliver to the Holder a certificate or certificates representing such shares of Common Stock or credit such Holder’s balance account with DTC, as applicable, and pay cash to the Holder in an amount equal to the excess (if any) of the Buy-In Price over the product of (A) such number of shares of Common Stock, times (B) any trading price of the Common Stock selected by the Holder in writing as in effect at any time during the period beginning on the applicable Exercise Date and ending on the applicable Share Delivery Date. Nothing shall limit the 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 certificates representing Warrant Shares (or to electronically deliver such Warrant Shares) upon the exercise of this Warrant as required pursuant to the terms hereof. Additionally, if the Company fails for any reason to deliver to the Holder the Exercise Notice Warrant Shares by the Share Delivery Date, the Company shall pay to the Holder, in cash, as liquidated damages and not as a penalty, for each \$1,000 of Exercise Notice Warrant Shares (based on the VWAP of the Common Stock on the date of the applicable Notice of Exercise), \$10 per Trading Day (increasing to \$20 per Trading Day on the fifth Trading Day after such liquidated damages begin to accrue) for each Trading Day after such Share Delivery Date until such Exercise Notice Warrant Shares are delivered or Holder rescinds such exercise. In addition to the foregoing rights, (i) if the Company fails to deliver the applicable number of Warrant Shares upon an exercise pursuant to Section 1 by the applicable Share Delivery Date, then the Holder shall have the right to rescind such exercise in whole or in part and retain and/or have the Company return, as the case may be, any portion of this Warrant that has not been exercised pursuant to such Exercise Notice; provided that the rescission of an exercise shall not affect the Company’s obligation to make any payments that have accrued prior to the date of such notice pursuant to this Section 1(c) or otherwise, and (ii) if a registration statement (which may be the Registration Statement) covering the issuance or resale of the Warrant Shares that are subject to an Exercise Notice is not available for the issuance or resale, as applicable, of such Exercise Notice Warrant Shares and the Holder has submitted an Exercise Notice prior to receiving notice of the non-availability of such registration statement and the Company has not already delivered the Warrant Shares underlying such Exercise Notice electronically without any restrictive legend by crediting 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, the Holder shall have the option, by delivery of notice to the Company, to (x) rescind such Exercise Notice in whole or in part and retain or have returned, as the case may be, any portion of this Warrant that has not been exercised pursuant to such Exercise Notice; provided that the rescission of an Exercise Notice shall not affect the Company’s obligation to make any payments that have accrued prior to the date of such notice pursuant to this Section 1(c) or otherwise, and/or (y) switch some or all of such Exercise Notice from a cash exercise to a Cashless Exercise.

(d) Cashless Exercise. Notwithstanding anything contained herein to the contrary (other than Section 1(f) below), if at the time of exercise hereof the Registration Statement is not effective (or the prospectus contained therein is not available for use) for the issuance of all of the Warrant Shares, then 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 Warrant Shares determined according to the following formula (a "**Cashless Exercise** "):

Net Number = [(A-B) (X)] by (A), where:

- (A) = as applicable: (i) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise if such Notice of Exercise is (1) both executed and delivered pursuant to Section 2(a) hereof on a day that is not a Trading Day or (2) both executed and delivered pursuant to Section 2(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 VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise or (z) the Bid Price of the Common Stock on the principal Trading Market as reported by Bloomberg L.P. as of the time of the Holder's execution of the applicable Notice of Exercise if such Notice of Exercise is executed during "regular trading hours" on a Trading Day and is delivered within two (2) hours thereafter pursuant to Section 2(a) hereof or (iii) the VWAP on the date of the applicable Notice of Exercise if the date of such Notice of Exercise is a Trading Day and such Notice of Exercise is both executed and delivered pursuant to Section 1(a) hereof after the close of "regular trading hours" on such Trading Day
- (B) = the Exercise Price of this Warrant, as adjusted hereunder, then in effect for the applicable Warrant Shares at the time of such exercise; and
- (X) = the number of Warrant Shares that would be issuable upon exercise of this Warrant in accordance with the terms of this Warrant if such exercise were by means of a cash exercise rather than a Cashless Exercise.

If the Warrant Shares are issued in a Cashless Exercise, the parties acknowledge and agree that in accordance with Section 3(a)(9) of the 1933 Act, the Warrant Shares take on the registered characteristics of the Warrants being exercised and the holding period for the Warrant Shares shall be deemed to have commenced, on the date this Warrant was originally issued pursuant to the Underwriting Agreement. The Company agrees not to take any position contrary to this Section 1(d).

(e) Disputes. In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the number of Warrant Shares to be issued pursuant to the terms hereof, 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 13.

(f) Limitations on Exercises. 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 after giving effect to such exercise, the Holder together with the other Attribution Parties collectively would beneficially own in excess of 4.99% (the “**Maximum Percentage**”) of the shares of Common Stock outstanding immediately after giving effect to such exercise. For purposes of the foregoing sentence, the aggregate number of shares of Common Stock beneficially owned by 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 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 other Registered 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(f). For purposes of this Section 1(f), beneficial ownership shall be calculated in accordance with Section 13(d) of the 1934 Act. For purposes of 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, Current Report on Form 8-K or other public filing with 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, if any, 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(f), to exceed the Maximum Percentage, the Holder must notify the Company of a reduced number of Warrant Shares to be acquired 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 shares 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 1934 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 not in excess of 9.99% as specified in such notice; provided that (i) any such increase in the Maximum Percentage will not be effective until the sixty-first (61<sup>st</sup>) day after such notice is delivered to the Company and (ii) any such increase or decrease will apply only to the Holder and the other Attribution Parties and not to any other holder of Registered 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 1934 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(f) 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(f) or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph may not be waived and shall apply to a successor holder of this Warrant.

(g) Reservation of Shares .

(i) Required Reserve Amount . So long as this Warrant is exercisable, 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 Registered 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(g)(i) be reduced other than proportionally in connection with any exercise or redemption of Registered Warrants or such other event covered by Section 2(a) 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 Registered Warrants based on number of shares of Common Stock issuable upon exercise of Registered Warrants held by each holder on the Closing Date (without regard to any limitations on exercise) or increase in the number of reserved shares, as the case may be (the " **Authorized Share Allocation** "). In the event that a holder shall sell or otherwise transfer any of such holder's Registered 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 Registered Warrants shall be allocated to the remaining holders of Registered Warrants, pro rata based on the number of shares of Common Stock issuable upon exercise of the Registered Warrants then held by such holders (without regard to any limitations on exercise).

(ii) Insufficient Authorized Shares. If, notwithstanding Section 1(g)(i) above, and not in limitation thereof, at any time while any of the Registered Warrants remain outstanding, the Company does not have a sufficient number of authorized and unreserved shares of Common Stock to satisfy its obligation to reserve the Required Reserve Amount (an “ **Authorized Share Failure** ”), then the Company shall immediately take all action 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 all the Registered Warrants 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 sixty (60) 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 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. The Exercise Price and number of Warrant Shares issuable upon exercise of this Warrant are subject to adjustment from time to time as set forth in this Section 2.

(a) Stock Dividends and Splits. Without limiting any provision of Section 2(d), Section 3 or Section 4, if the Company, at any time on or after the Issuance Date, (i) pays a stock dividend on one or more classes of its then outstanding shares of Common Stock or otherwise makes a distribution on any class of capital stock that is payable in shares of Common Stock, (ii) subdivides (by any stock split, stock dividend, recapitalization or otherwise) one or more classes of its then outstanding shares of Common Stock into a larger number of shares or (iii) combines (by combination, reverse stock split or otherwise) one or more classes of its then outstanding shares of Common Stock into a smaller number of shares, then in each such case the Exercise Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock outstanding immediately before such event and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event. Any adjustment made pursuant to clause (i) of this paragraph shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution, and any adjustment pursuant to clause (ii) or (iii) of this paragraph shall become effective immediately after the effective date of such subdivision or combination. If any event requiring an adjustment under this paragraph occurs during the period that an Exercise Price is calculated hereunder, then the calculation of such Exercise Price shall be adjusted appropriately to reflect such event.

(b) Number of Warrant Shares. Simultaneously with any adjustment to the Exercise Price pursuant to Section 2(a), the number of Warrant Shares that may be purchased upon exercise of this Warrant shall be increased or decreased proportionately, so that after such adjustment the aggregate Exercise Price payable hereunder for the adjusted number of Warrant Shares shall be the same as the aggregate Exercise Price in effect immediately prior to such adjustment (without regard to any limitations on exercise contained herein).

(c) Stock Combination Event Adjustment. If at any time and from time to time on or after the Issuance Date there occurs any stock combination, reverse split or other similar transaction involving the Common Stock (each, a “**Stock Combination Event**”, and such date thereof, the “**Stock Combination Event Date**”) and the Event Market Price (as defined below) is less than the Exercise Price then in effect (after giving effect to the adjustment in clause 2(a) above), then on the sixteenth (16th) Trading Day immediately following such Stock Combination Event, the Exercise Price then in effect on such sixteenth (16th) Trading Day (after giving effect to the adjustment in Section 2(a) above) shall be reduced (but in no event increased) to the Event Market Price. For the avoidance of doubt, if the adjustment in the immediately preceding sentence would otherwise result in an increase in the Exercise Price hereunder, no adjustment shall be made. “**Event Market Price**” means, with respect to any Stock Combination Event Date, the quotient determined by dividing (x) the sum of the VWAP of the Common Stock for each of the five (5) lowest Trading Days during the fifteen (15) consecutive Trading Day period ending and including the Trading Day immediately preceding the sixteenth (16th) Trading Day after such Stock Combination Event Date, divided by (y) five (5).

(d) Other Events. In the event that the Company (or any of its Subsidiaries (as defined in the Underwriting Agreement)) shall take any action to which the provisions hereof are not strictly applicable, or, if applicable, would not operate to protect the Holder from dilution or if any event occurs of the type contemplated by the provisions of this Section 2 but not expressly provided for by such provisions (including, without limitation, the granting of stock appreciation rights, phantom stock rights or other rights with equity features), then the Company’s board of directors shall in good faith determine and implement an appropriate adjustment in the Exercise Price and the number of Warrant Shares (if applicable) so as to protect the rights of the Holder, provided that no such adjustment pursuant to this Section 2(d) will increase the Exercise Price or decrease the number of Warrant Shares as otherwise determined pursuant to this Section 2, provided further that if the Holder does not accept such adjustments as appropriately protecting its interests hereunder against such dilution, then the Company’s board of directors and the Holder shall agree, in good faith, upon an independent investment bank of nationally recognized standing to make such appropriate adjustments, whose determination shall be final and binding absent manifest error and whose fees and expenses shall be borne by the Company.

(e) Calculations. All calculations under this Section 2 shall be made by rounding to the nearest cent or the nearest 1/100<sup>th</sup> of a share, as applicable. The number of shares of Common Stock outstanding at any given time shall not include shares owned or held by or for the account of the Company, and the disposition of any such shares shall be considered an issuance or sale of Common Stock.

(f) Voluntary Adjustment By Company. The Company may at any time during the term of this Warrant, reduce the then current Exercise Price to any amount and for any period of time deemed appropriate by the board of directors of the Company.

3. RIGHTS UPON DISTRIBUTION OF ASSETS. In addition to any adjustments pursuant to Section 2 above, if the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property, 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 the extent of the Maximum Percentage (and shall not be entitled to beneficial ownership of such shares of Common Stock as a result of such Distribution (and beneficial ownership) to the extent of any such excess) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time or times, if ever, 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).

4. PURCHASE RIGHTS; FUNDAMENTAL TRANSACTIONS.

(a) Purchase Rights. In addition to any adjustments pursuant to Section 2 above, if at any time 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 shares 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 the extent of the Maximum Percentage (and shall not be entitled to beneficial ownership of such shares of Common Stock as a result of such Purchase Right (and beneficial ownership) to the extent of any such excess) and such Purchase Right to such extent shall be held in abeyance for the benefit of the Holder until such time or times, if ever, 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 held similarly in abeyance) to the same extent as if there had been no such limitation).

(b) Fundamental Transactions. In connection with a Fundamental Transaction, to the extent that the Holder has not exercised its purchase rights under this Warrant to all the Warrant Shares subject hereto immediately prior to completion of the Fundamental Transaction, and if the fair market value of the consideration to be received by one share of the Common Stock in the Fundamental Transaction is greater than the Exercise Price then in effect, then the Company shall cause this Warrant to be exchanged for the consideration that Holder would have received if Holder chose to exercise its right to have shares issued pursuant to the Cashless Exercise provisions of this Warrant without actually exercising such right, acquiring such shares and exchanging such shares for such consideration.

(c) Black Scholes Value. Notwithstanding the foregoing and the provisions of Section 4(b) above, at the request of the Holder delivered at any time commencing on the earliest to occur of (x) the public disclosure of any Fundamental Transaction, (y) the consummation of any Fundamental Transaction and (z) the Holder first becoming aware of any Fundamental Transaction through the date that is ninety (90) days after the public disclosure of the consummation of such Fundamental Transaction by the Company pursuant to a Current Report on Form 8-K filed with the SEC, the Company or the Successor Entity (as the case may be) shall purchase this Warrant from the Holder on the date of such request by paying to the Holder cash in an amount equal to the Black Scholes Value. Payment of such amounts shall be made by the Company (or at the Company's direction) to the Holder on or prior to the later of (x) the second (2<sup>nd</sup>) Trading Day after the date of such request and (y) the date of consummation of such Fundamental Transaction.

5. NONCIRCUMVENTION. The Company hereby covenants and agrees that the Company will not, by amendment of its Certificate of Incorporation or Bylaws, or through any reorganization, transfer of assets, consolidation, merger, scheme of 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 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).

6. WARRANT HOLDER NOT DEEMED A STOCKHOLDER. Except as otherwise specifically provided herein, the Holder, solely in its capacity as a holder of this Warrant, shall not be entitled to vote or receive dividends or be deemed the holder of share capital of the Company for any purpose, nor shall anything contained in this Warrant be construed to confer upon the Holder, solely in its 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 it 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. Notwithstanding this Section 6, the Company shall provide the Holder with copies of the same notices and other information given to the stockholders of the Company generally, contemporaneously with the giving thereof to the stockholders; provided, however, that the Company shall not be obligated to provide such notice or information if it is filed with the Securities and Exchange Commission through EDGAR and available to the public through the EDGAR system.

7. 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 7(d)), registered as the Holder may request, representing the right to purchase the number of Warrant Shares being transferred by the Holder and, if less than the total number of Warrant Shares then underlying this Warrant is being transferred, a new Warrant (in accordance with Section 7(d)) to the Holder representing the right to purchase the number of Warrant Shares not being transferred.

(b) Lost, Stolen or Mutilated Warrant. Upon receipt by the Company of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant (as to which a written certification and the indemnification contemplated below shall suffice as such evidence), and, in the case of loss, theft or destruction, of an (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 7(d)) representing the right to purchase the Warrant Shares then underlying this Warrant.

(c) Exchangeable for Multiple Warrants. This Warrant is exchangeable, upon the surrender hereof by the Holder at the principal office of the Company, for a new Warrant or Warrants (in accordance with Section 7(d)) representing in the aggregate the right to purchase the number of Warrant Shares then underlying this Warrant, and each such new Warrant will represent the right to purchase such portion of such Warrant Shares as is designated by the Holder at the time of such surrender; provided, however, no warrants for fractional shares of Common Stock shall be given.

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

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issued pursuant to Section 7(a) or Section 7(c), the Warrant Shares designated by the Holder which, when added to the number of shares of Common Stock underlying the other new Warrants issued in connection with such issuance, does not exceed the number of Warrant Shares then underlying this Warrant), (iii) shall have an issuance date, as indicated on the face of such new Warrant which is the same as the Issuance Date, and (iv) shall have the same rights and conditions as this Warrant.

8. NOTICES. Whenever notice is required to be given under this Warrant, unless otherwise provided herein, such notice shall be given in accordance with Section 9(f) of the Underwriting Agreement. The Company shall provide the Holder with prompt written notice of all actions taken pursuant to this Warrant (other than the issuance of shares of Common Stock upon exercise in accordance with the terms hereof), 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 each adjustment of the Exercise Price and the number of Warrant Shares, setting forth in reasonable detail, and certifying, the calculation of such adjustment(s), (ii) at least ten Trading 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 to holders of shares 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, and (iii) at least ten (10) Trading Days prior to the consummation of any Fundamental Transaction. To the extent that any notice provided hereunder constitutes, or contains, material, non-public information regarding the Company or any of its Subsidiaries, the Company shall simultaneously file such notice with the SEC (as defined in the Underwriting Agreement) pursuant to a Current Report on Form 8-K. If the Company or any of its Subsidiaries provides material non-public information to the Holder that is not simultaneously filed in a Current Report on Form 8-K and the Holder has not agreed to receive such material non-public information, the Company hereby covenants and agrees that the Holder shall not have any duty of confidentiality to the Company, any of its Subsidiaries or any of their respective officers, directors, employees, affiliates or agents with respect to, or a duty to any of the foregoing not to trade on the basis of, such material non-public information. It is expressly understood and agreed that the time of execution specified by the Holder in each Exercise Notice shall be definitive and may not be disputed or challenged by the Company.

9. AMENDMENT AND WAIVER. Except as otherwise provided herein, the provisions of this Warrant (other than Section 1(f)) may be amended and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company has obtained the written consent of the Holder. No waiver shall be effective unless it is in writing and signed by an authorized representative of the waiving party.

10. SEVERABILITY. 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).

11. GOVERNING LAW. This Warrant shall be governed by and construed and enforced in accordance with, and all questions concerning the construction, validity, interpretation and performance of this Warrant shall be governed by, the internal laws of the State of New York, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of New York or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of New York. The Company hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof to the Company at the address set forth in Section 9(f) of the Underwriting Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. The Company hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in The City of New York, Borough of Manhattan, for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is brought in an inconvenient forum or that the venue of such suit, action or proceeding is improper. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law. Nothing contained herein shall be deemed or operate to preclude the Holder from bringing suit or taking other legal action against the Company in any other jurisdiction to collect on the Company's obligations to the Holder, to realize on any collateral or any other security for such obligations, or to enforce a judgment or other court ruling in favor of the Holder. **THE COMPANY HEREBY IRREVOCABLY WAIVES ANY RIGHT IT MAY HAVE TO, 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 .**

12. CONSTRUCTION; HEADINGS. This Warrant shall be deemed to be jointly drafted by the Company and the Holder and shall not be construed against any Person as the drafter hereof. The headings of this Warrant are for convenience of reference and shall not form part of, or affect the interpretation of, this Warrant. Terms used in this Warrant but defined in the Underwriting Agreement shall have the meanings ascribed to such terms on the Closing Date in such Underwriting Agreement unless otherwise consented to in writing by the Holder.

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

comply with the terms of this Warrant. The Company covenants to the Holder that there shall be no characterization concerning this instrument other than as expressly provided herein. Amounts set forth or provided for herein with respect to payments, exercises and the like (and the computation thereof) shall be the amounts to be received by the Holder and shall not, except as expressly provided herein, be subject to any other obligation of the Company (or the performance thereof). 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 specific performance and/or temporary, preliminary and permanent injunctive or other equitable relief from any court of competent jurisdiction in any such case without the necessity of proving actual damages and without posting a bond or other security. The Company shall provide all information and documentation to the Holder that is requested by the Holder to enable the Holder to confirm the Company's compliance with the terms and conditions of this Warrant (including, without limitation, compliance with Section 2 hereof). The issuance of shares and certificates for shares as contemplated hereby upon the exercise of this Warrant shall be made without charge to the Holder or such shares for any issuance tax or other costs in respect thereof, provided that the Company shall not be required to pay any tax which may be payable in respect of any transfer involved in the issuance and delivery of any certificate in a name other than the Holder or its agent on its behalf.

14. PAYMENT OF COLLECTION, ENFORCEMENT AND OTHER COSTS. If (a) this Warrant is placed in the hands of an attorney for collection or enforcement or is collected or enforced through any legal proceeding or the holder otherwise takes action to collect amounts due under this Warrant or to enforce the provisions of this Warrant or (b) there occurs any bankruptcy, reorganization, receivership of the company or other proceedings affecting company creditors' rights and involving a claim under this Warrant, then the Company shall pay the costs incurred by the Holder for such collection, enforcement or action or in connection with such bankruptcy, reorganization, receivership or other proceeding, including, without limitation, attorneys' fees and disbursements.

15. TRANSFER. This Warrant may be offered for sale, sold, transferred or assigned without the consent of the Company.

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

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

(b) “ **1934 Act** ” means the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder.

(c) “ **Adjustment Right** ” means any right granted with respect to any securities issued in connection with, or with respect to, any issuance or sale (or deemed issuance or sale in accordance with Section 2) of shares of Common Stock (other than rights of the type described in Section 3 and 4 hereof) that could result in a decrease in the net consideration received by the Company in connection with, or with respect to, such securities (including, without limitation, any cash settlement rights, cash adjustment or other similar rights).

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(d) “ **Affiliate** ” means, with respect to any Person, any other Person that directly or indirectly controls, is controlled by, or is under common control with, such Person, it being understood for purposes of this definition that “control” of a Person means the power directly or indirectly either to vote 10% or more of the stock having ordinary voting power for the election of directors of such Person or direct or cause the direction of the management and policies of such Person whether by contract or otherwise.

(e) “ **Approved Stock Plan** ” means any equity compensation plan which has been approved by the board of directors of the Company prior to or subsequent to the date hereof pursuant to which shares of Common Stock and options to purchase Common Stock may be issued to any employee, officer, consultant or director for services provided to the Company in their capacity as such.

(f) “ **Attribution Parties** ” means, collectively, the following Persons and entities: (i) any investment vehicle, including, any funds, feeder funds or managed accounts, currently, or from time to time after the Issuance Date, directly or indirectly managed or advised by the Holder’s investment manager or any of its Affiliates or principals, (ii) any direct or indirect Affiliates of the Holder or any of the foregoing, (iii) any Person acting or who could be deemed to be acting as a Group together with the Holder or any of the foregoing and (iv) any other Persons whose beneficial ownership of the Company’s Common Stock would or could be aggregated with the Holder’s and the other Attribution Parties for purposes of Section 13(d) of the 1934 Act. For clarity, the purpose of the foregoing is to subject collectively the Holder and all other Attribution Parties to the Maximum Percentage.

(g) “ **Bid Price** ” means, for any security as of any date, the bid price at the time in question 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 trade price, then the last trade price 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 trade price 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 does not apply, the trade price of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg, or, if no trade price is reported for such security by Bloomberg, the average of the ask prices of any market makers for such security as reported in the “pink sheets” by OTC Markets Group Inc. (formerly Pink Sheets LLC).

(h) “ **Black Scholes Value** ” means the value of the unexercised portion of this Warrant remaining on the date of the Holder’s request pursuant to Section 4(c)(i), which value is calculated using the Black Scholes Option Pricing Model obtained from the “OV” function on Bloomberg utilizing (i) an underlying price per share equal to the greater of (1) the highest Closing Sale Price of the Common Stock during the period beginning on the Trading Day immediately preceding the announcement of the applicable Fundamental Transaction (or the consummation of the applicable Fundamental Transaction, if earlier) and ending on the Trading

Day of the Holder's request pursuant to Section 4(c)(i) and (2) the sum of the price per share being offered in cash in the applicable Fundamental Transaction (if any) plus the value of the non-cash consideration being offered in the applicable Fundamental Transaction (if any), (ii) a strike price equal to the Exercise Price in effect on the date of the Holder's request pursuant to Section 4(c)(i), (iii) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the greater of (1) the remaining term of this Warrant as of the date of the Holder's request pursuant to Section 4(c)(i) and (2) the remaining term of this Warrant as of the date of consummation of the applicable Fundamental Transaction or as of the date of the Holder's request pursuant to Section 4(c)(i) if such request is prior to the date of the consummation of the applicable Fundamental Transaction, (iv) a zero cost of borrow and (v) an expected volatility equal to the greater of 100% and the 100 day volatility obtained from the "HVT" function on Bloomberg (determined utilizing a 360 day annualization factor) as of the Trading Day immediately following the earliest to occur of (A) the public disclosure of the applicable Fundamental Transaction, (B) the consummation of the applicable Fundamental Transaction and (C) the date on which the Holder first became aware of the applicable Fundamental Transaction.

(i) "**Bloomberg**" means Bloomberg, L.P.

(j) "**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.

(k) "**Closing Sale Price**" means, for any security as of any date, the last closing trade price 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 trade price, then the last trade price 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 trade price 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 does not apply, the last trade price of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg, or, if no last trade price is reported for such security by Bloomberg, the average of the ask prices of any market makers for such security as reported in the "pink sheets" by OTC Markets Group Inc. (formerly Pink Sheets LLC). If the Closing Sale Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Closing Sale Price 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 in accordance with the procedures in Section 13. All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination or other similar transaction during such period.

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

(m) "**Convertible Securities**" means any stock or other security (other than Options) that is at any time and under any circumstances, directly or indirectly, convertible into, exercisable or exchangeable for, or which otherwise entitles the holder thereof to acquire, any shares of Common Stock.

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(n) “ **Eligible Market** ” means The New York Stock Exchange, the Nasdaq Global Select Market, the Nasdaq Global Market, the Nasdaq Capital Market or the Principal Market.

(o) “ **Expiration Date** ” means the date that is the sixth (6<sup>th</sup>) month after the Exercise Date or, if such date falls on a day other than a Trading Day or on which trading does not take place on the Principal Market (a “ **Holiday** ”), the next date that is not a Holiday.

(p) “ **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 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 1934 Act) of at least 50% of the outstanding shares of Common Stock, or (iv) consummate a stock or share 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 1934 Act) of at least 50% of the outstanding shares of Common Stock, or (v) reorganize, recapitalize or reclassify its 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 1934 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 Common Stock, (y) at least 50% of the aggregate ordinary voting power represented by issued and outstanding Common Stock not held by all such Subject Entities as of the date of this Warrant calculated as if any shares of Common Stock held by all

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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 shareholders of the Company to surrender their shares of Common Stock without approval of the shareholders 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.

(q) “ **Group** ” means a “group” as that term is used in Section 13(d) of the 1934 Act and as defined in Rule 13d-5 thereunder.

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

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

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

(u) “ **Principal Market** ” means the the NASDAQ Global Market.

(v) “ **SEC** ” means the United States Securities and Exchange Commission or the successor thereto.

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

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

(y) “ **Trading Day** ” means, as applicable, (x) with respect to all price or trading volume determinations relating to the Common Stock, any day on which the Common Stock is traded on the Principal Market, or, if the Principal Market is not the principal trading market for the Common Stock, then on the principal securities exchange or securities market on which the Common Stock is then traded, provided that “Trading Day” shall not include any day on which the Common Stock is scheduled to trade on such exchange or market for less than 4.5 hours or

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any day that the Common Stock is suspended from trading during the final hour of trading on such exchange or market (or if such exchange or market does not designate in advance the closing time of trading on such exchange or market, then during the hour ending at 4:00:00 p.m., New York time) or (y) with respect to all determinations other than price determinations relating to the Common Stock, any day on which The New York Stock Exchange (or any successor thereto) is open for trading of securities.

(z) “**VWAP**” means, for any security as of any date, the dollar volume-weighted average price for such security on the Principal Market (or, if the Principal Market is not the principal trading market for such security, then on the principal securities exchange or securities market on which such security is then traded) during the period beginning at 9:30:01 a.m., New York time, and ending at 4:00:00 p.m., New York time, as reported by Bloomberg through its “HP” function (set to weighted average) 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, and ending at 4:00:00 p.m., New York time, as reported by Bloomberg, or, if no dollar volume-weighted average price is reported for such security by Bloomberg for such hours, the average of the highest closing bid price and the lowest closing ask price of any of the market makers for such security as reported in the “pink sheets” by OTC Markets Group Inc. (formerly Pink Sheets LLC). If the VWAP cannot be calculated for such security on such date on any of the foregoing bases, the VWAP 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 in accordance with the procedures in Section 13. All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination, recapitalization or other similar transaction during such period.

[ *signature page follows* ]

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

**ANTHERA PHARMACEUTICALS, INC.**

By: \_\_\_\_\_  
Name: Craig Thompson  
Title: President and Chief Executive Officer

EXERCISE NOTICE

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

ANTHERA PHARMACEUTICALS, INC.

The undersigned holder hereby elects to exercise the Warrant to Purchase Common Stock No. (the "Warrant") of Anthera Pharmaceuticals, Inc., a Delaware corporation (the "Company") as specified below. Capitalized terms used herein and not otherwise defined shall have the respective meanings set forth in the Warrant.

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

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

In the event that the Holder has elected a Cashless Exercise with respect to some or all of the Warrant Shares to be issued pursuant hereto, the Holder hereby represents and warrants that this Exercise Notice was executed by the Holder at [a.m.][p.m.] on the date set forth below.

2. 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.

3. Maximum Percentage Representation. Notwithstanding anything to the contrary contained herein, this Exercise Notice shall constitute a representation by the Holder of the Warrant submitting this Exercise Notice that after giving effect to the exercise provided for in this Exercise Notice, such Holder (together with its affiliates) will not have beneficial ownership (together with the beneficial ownership of such Person's affiliates) of a number of shares of Common Stock which exceeds the Maximum Percentage (as defined in the Warrant) of the total outstanding shares of Common Stock of the Company as determined pursuant to the provisions of Section 1(f) of the Warrant.

4. Delivery of Warrant Shares. The Company shall deliver to Holder, or its designee or agent as specified below, shares of Common Stock in accordance with the terms of the Warrant. Delivery shall be made to Holder, or for its benefit, as follows:

checkbox Check here if requesting delivery as a certificate to the following name and to the following address:

Issue to:

Three horizontal lines for providing name and address information.

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Check here if requesting delivery by Deposit/Withdrawal at Custodian as follows:

DTC Participant: \_\_\_\_\_

DTC Number: \_\_\_\_\_

Account Number: \_\_\_\_\_

Date: \_\_\_\_\_, \_\_\_\_\_

\_\_\_\_\_  
Name of Registered Holder

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

Name:

Title:

Tax ID: \_\_\_\_\_

Facsimile: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

**ACKNOWLEDGMENT**

The Company hereby acknowledges this Exercise Notice and hereby directs \_\_\_\_\_ to issue the above indicated number of shares of Common Stock in accordance with the Transfer Agent Instructions dated \_\_\_\_\_, 201\_\_\_\_, from the Company and acknowledged and agreed to by \_\_\_\_\_.

**ANTHERA PHARMACEUTICALS, INC.**

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



Goodwin Procter LLP  
Three Embarcadero Center  
San Francisco, CA 94111

goodwinlaw.com  
+1 415 733 6000

March 14, 2017

Anthera Pharmaceuticals, Inc.  
25801 Industrial Boulevard, Suite B  
Hayward, California 94545

Re: Securities Registered under Registration Statement on Form S-3

Ladies and Gentlemen:

We have acted as counsel to you in connection with your filing of a Registration Statement on Form S-3 (File No. 333-210166) (as amended or supplemented, the "Registration Statement") filed on March 14, 2016 with the Securities and Exchange Commission (the "Commission") pursuant to the Securities Act of 1933, as amended (the "Securities Act"), relating to the registration of the offer by Anthera Pharmaceuticals, Inc., a Delaware corporation (the "Company") of up to \$100,000,000 of any combination of securities of the types specified therein, that was declared effective by the Commission on April 18, 2016. Reference is made to our opinion letter dated March 14, 2016 and included as Exhibit 5.1 to the Registration Statement. We are delivering this supplemental opinion letter in connection with the prospectus supplement (the "Prospectus Supplement") filed on March 15, 2017 by the Company with the Commission pursuant to Rule 424 under the Securities Act. The Prospectus Supplement relates to the offering by the Company of 30,000,000 shares of the Company's Common Stock, par value \$0.001 per share (the "Shares") and two tranches of warrants to purchase an aggregate of 60,000,000 shares of the Company's Common Stock covered by the Registration Statement. The Shares of Common Stock issuable upon exercise of the Warrants are collectively referred to herein as the "Warrant Shares." The Shares and Warrant Shares include an option granted to the underwriters of the offering to purchase 4,500,000 Shares and/or 9,000,000 Warrant Shares. The Shares and Warrant Shares are being sold to the several underwriters named in, and pursuant to, an underwriting agreement among the Company and such underwriters (the "Underwriting Agreement").

We have reviewed such documents and made such examination of law as we have deemed appropriate to give the opinions set forth below. We have relied, without independent verification, on certificates of public officials and, as to matters of fact material to the opinions set forth below, on certificates of officers of the Company.

The opinion set forth below is limited to the Delaware General Corporation Law.

Based on the foregoing, we are of the opinion that the Shares have been duly authorized and, upon issuance and delivery against payment therefor in accordance with the terms of the Underwriting Agreement, the Shares will be validly issued, fully paid and non-assessable, and the Warrant Shares, upon issuance and delivery against payment therefor upon exercise of the Warrants in accordance with the terms of the Warrants, the Warrant Shares will be validly issued, fully paid and non-assessable.

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We hereby consent to the inclusion of this opinion as Exhibit 5.1 to the Registration Statement and to the references to our firm under the caption “Legal Matters” in the Registration Statement. In giving our consent, we do not admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations thereunder.

Very truly yours,

/s/ Goodwin Procter LLP

GOODWIN PROCTER LLP

H.C. Wainwright & Co., LLC  
430 Park Avenue, 4th Floor  
New York, New York 10022

March 14, 2017

Ladies and Gentlemen:

Pursuant to the terms and subject to the conditions contained in the at the Market Offering Sales Agreement between Anthera Pharmaceuticals, Inc. (the “Company”), and H.C. Wainwright & Co., LLC (“Wainwright”) dated April 21, 2016 (the “Agreement”), the Company and Wainwright agree that the Agreement is hereby amended so that the aggregate offering price of shares of Common Stock subject to the Agreement pursuant to Section 1 thereof shall be \$23,000,000.

Other than as set forth above the Agreement remains in full force and effect.

Capitalized terms used but not otherwise defined herein have the meanings set forth in the Agreement.

[remainder of page left blank intentionally.]

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

Very truly yours,

**H.C. WAINWRIGHT & CO., LLC**

By: /s/ Edward D. Silvera

Name: Edward D. Silvera

Title: COO

**ACCEPTED as of the date  
first-above written:**

**ANTHERA PHARMACEUTICALS, INC.**

By: /s/ May Liu

Name: May Liu

Title: Senior Vice President, Finance and  
Administration

**Anthera Pharmaceuticals Announces Proposed Public Offering of Common Stock and Warrants**

HAYWARD, Calif., March 13, 2017 — **Anthera Pharmaceuticals, Inc. (Nasdaq: ANTH)** (the “Company”) today announced that it intends to offer and sell shares of its common stock and warrants to purchase shares of its common stock in an underwritten public offering. In addition, the Company intends to grant the underwriters a 30-day option to purchase up to an additional 15% of the shares of common stock and/or warrants offered in the public offering. The offering is subject to market and other conditions, and there can be no assurance as to whether or when the offering may be completed, or as to the actual size or terms of the offering.

Rodman & Renshaw, a unit of H.C. Wainwright & Co. is acting as the sole book-running manager for the offering.

The Company intends to use the net proceeds from the public offering for clinical research and development purposes for SOLLPURA, including the RESULT, SIMPLICITY and EASY trials as well as enabling manufacturing and general corporate purposes.

The securities described above are being offered by the Company pursuant to a shelf registration statement on Form S-3 (File No. 333-210166) previously filed with, and declared effective by the Securities and Exchange Commission (the “SEC”) on April 18, 2016. A preliminary prospectus supplement and accompanying prospectus relating to the offering will be filed with the SEC and will be available on the SEC’s website at <http://www.sec.gov>. Copies of the preliminary prospectus supplement and the accompanying prospectus relating to this offering may be obtained, when available, by contacting H.C. Wainwright & Co., LLC, 430 Park Avenue, New York, New York, 10022, by calling 646-975-6996 or by e-mailing [placements@hewco.com](mailto:placements@hewco.com).

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

**About Anthera Pharmaceuticals, Inc.**

Anthera Pharmaceuticals is a clinical-stage biopharmaceutical company focused on developing and commercializing products to treat serious and life-threatening diseases, including exocrine pancreatic insufficiency and IgA nephropathy.

*Safe Harbor Statement*

*Any statements contained in this press release that refer to future events or other non-historical matters, including statements that are preceded by, followed by, or that include such words as “estimate,” “intend,” “anticipate,” “believe,” “plan,” “goal,” “expect,” “project,” or similar statements, are forward-looking statements made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. These forward-looking statements include statements about Anthera’s expectations with respect to its public offering, including statements about its intended use of proceeds from the offering. Such statements are based on Anthera’s expectations as of the date of this press release and are subject to certain risks and uncertainties that could cause actual results to differ materially, including but not limited to those set forth in Anthera’s public filings with the SEC, including Anthera’s Quarterly Report on Form 10-Q for the quarter ended September 30, 2016. Anthera disclaims any intent or obligation to update any forward-looking statements, whether because of new information, future events or otherwise, except as required by applicable law.*

**Contact Information:**

Investor Relations of Anthera Pharmaceuticals, Inc.,  
[ir@anthera.com](mailto:ir@anthera.com)

**Anthera Pharmaceuticals Announces Pricing of \$15.0 Million Public Offering of Common Stock and Warrants**

HAYWARD, Calif., March 14, 2017 – **Anthera Pharmaceuticals, Inc. (Nasdaq: ANTH)** (the “Company”) today announced the pricing of an underwritten public offering of 30,000,000 shares of its common stock at a price of \$0.50 per share and two tranches of warrants to purchase an aggregate of 60,000,000 shares of its common stock. The gross proceeds to the Company from the offering, before deducting underwriting discounts and commissions and other estimated offering expenses payable by the Company, are expected to be \$15.0 million. If exercised in full for cash, the warrants could result in additional gross proceeds of up to \$31.5 million to the Company. In addition, the Company has granted the underwriters a 30-day option to purchase up to an additional 15% of the shares of common stock and/or warrants offered in the public offering. The offering is expected to close on or about March 17, 2017, subject to customary closing conditions.

The initial per share exercise price of the Tranche 1 warrants is \$0.55 and the initial per share exercise price of the Tranche 2 warrants is \$0.50, each subject to adjustment as specified in the warrants. The Tranche 1 and Tranche 2 warrants will become exercisable on any day on or after the date that the Company publicly announces through the filing of a Current Report on Form 8-K that it will have sufficient authorized shares of common stock (the “Exercisable Date”) and will expire five years following the Exercisable Date and six months following the Exercisable Date, respectively.

Rodman & Renshaw, a unit of H.C. Wainwright & Co. is acting as the sole book-running manager for the offering.

The Company intends to use the net proceeds from the public offering for clinical research and development purposes for SOLLPURA, including the RESULT, SIMPLICITY and EASY trials as well as enabling manufacturing and general corporate purposes.

The securities described above are being offered by the Company pursuant to a shelf registration statement on Form S-3 (File No. 333-210166) previously filed with, and declared effective by the Securities and Exchange Commission (the “SEC”) on April 18, 2016. A final prospectus supplement and accompanying prospectus relating to the offering will be filed with the SEC and will be available on the SEC’s website at <http://www.sec.gov>. Copies of the final prospectus supplement and the accompanying prospectus relating to this offering may be obtained, when available, by contacting H.C. Wainwright & Co., LLC, 430 Park Avenue, New York, New York, 10022, by calling 646-975-6996 or by e-mailing [placements@hcwco.com](mailto:placements@hcwco.com).

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

**About Anthera Pharmaceuticals, Inc.**

Anthera Pharmaceuticals is a clinical-stage biopharmaceutical company focused on developing and commercializing products to treat serious and life-threatening diseases, including exocrine pancreatic insufficiency and IgA nephropathy.

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*Any statements contained in this press release that refer to future events or other non-historical matters, including statements that are preceded by, followed by, or that include such words as “estimate,” “intend,” “anticipate,” “believe,” “plan,” “goal,” “expect,” “project,” or similar statements, are forward-looking statements made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. These forward-looking statements include statements about Anthera’s expectations with respect to its public offering, including statements about its intended use of proceeds from the offering. Such statements are based on Anthera’s expectations as of the date of this press release and are subject to certain risks and uncertainties that could cause actual results to differ materially, including but not limited to those set forth in Anthera’s public filings with the SEC, including Anthera’s Quarterly Report on Form 10-Q for the quarter ended September 30, 2016. Anthera disclaims any intent or obligation to update any forward-looking statements, whether because of new information, future events or otherwise, except as required by applicable law.*

**Contact Information:**

Investor Relations of Anthera Pharmaceuticals, Inc.,  
[ir@anthera.com](mailto:ir@anthera.com)