

CATALYST PHARMACEUTICALS, INC.

FORM 8-K (Current report filing)

Filed 11/28/17 for the Period Ending 11/27/17

Address	355 ALHAMBRA CIRCLE SUITE 1250 CORAL GABLES, FL, 33134
Telephone	(305) 529-2522
CIK	0001369568
Symbol	CPRX
SIC Code	2834 - Pharmaceutical Preparations
Industry	Biotechnology & Medical Research
Sector	Healthcare
Fiscal Year	12/31

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

FORM 8-K

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

Date of Report (Date of Earliest Event Reported): November 27, 2017

CATALYST PHARMACEUTICALS, INC.
(Exact Name Of Registrant As Specified In Its Charter)

Delaware
(State or other jurisdiction
of incorporation)

001-33057
(Commission
File Number)

76-0837053
(I.R.S. Employer
Identification No.)

**355 Alhambra Circle
Suite 1250
Coral Gables, Florida**
(Address of principal executive offices)

33134
(Zip Code)

Registrant's telephone number, including area code: (305) 420-3200

Not Applicable
Former Name or Former address, if changed since last report

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

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

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

Emerging Growth Company

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

Item 1.01 Entry into a Material Definitive Agreement

On November 28, 2017, Catalyst Pharmaceuticals, Inc. (the “Company”) entered into an Underwriting Agreement (the “Underwriting Agreement”) with Piper Jaffray & Co. (the “Underwriter”), as representative of the underwriters named in Schedule I to the Underwriting Agreement, relating to the sale (the “Offering”) of shares of the Company’s common stock, par value \$0.001 per share. Pursuant to the Underwriting Agreement, the Company agreed to issue and sell 14,285,715 shares of its common stock (the “Shares”) to the Underwriter at a public offering price of \$3.50 per share. Pursuant to the Underwriting Agreement, the Company also granted the underwriter the right to purchase an additional 2,142,857 shares of common stock at the same price within 30 days of November 28, 2017, to cover over-allotments, if any.

The Company expects the offering to close on November 30, 2017, subject to the satisfaction of customary closing conditions. The net proceeds to the Company are expected to be approximately \$46.6 million, after deduction of the underwriting discount and after deducting estimated offering expenses payable by the Company, or approximately \$53.6 million if the underwriters exercise their over-allotment option in full. The Company intends to use the net proceeds of the Offering (i) to fund clinical studies of Firdapse[®] for the treatment of MuSK-antibody positive Myasthenia Gravis (MuSK-MG) and Spinal Muscular Atrophy (SMA), (ii) to fund pre-commercial activities for Firdapse[®], and (iii) for general corporate purposes.

The Underwriting Agreement contains customary representations, warranties and covenants by the Company, customary conditions to closing, indemnification obligations of the Company and the Underwriter, including with respect to liabilities under the Securities Act of 1933, as amended, as well as customary termination provisions.

The foregoing is only a brief description of the material terms of the Underwriting Agreement and does not purport to be a complete description of the rights and obligations of the parties hereunder and is qualified in its entirety by reference to the Underwriting Agreement, which is filed hereto as Exhibit 1.1 and incorporated by reference herein.

The legal opinion, including the related consent, of Akerman LLP relating to the issuance of the shares is filed as Exhibit 5.1 to this Current Report on Form 8-K.

On November 27, 2017, the Company issued a press release announcing the commencement of the Offering. On November 28, 2017, the Company issued a press release announcing the specific terms and conditions of the Offering. Each of these press releases are attached as Exhibits 99.1 and 99.2, respectively, to this Current Report on Form 8-K and are incorporated herein by reference.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

- 1.1 [Underwriting Agreement, dated November 28, 2017, between Catalyst Pharmaceuticals, Inc. and Piper Jaffray & Co., as representative of the underwriters named in Schedule I thereto.](#)
- 5.1 [Opinion of Akerman LLP](#)
- 23.1 [Consent of Akerman LLP \(included in Exhibit 5.1\)](#)
- 99.1 [Press release issued by the Company on November 27, 2017](#)
- 99.2 [Press release issued by the Company on November 28, 2017](#)

14,285,715 Shares

Catalyst Pharmaceuticals, Inc.

Common Stock

UNDERWRITING AGREEMENT

November 28, 2017

PIPER JAFFRAY & CO.

As Representative of the Several

Underwriters named in Schedule I hereto

c/o Piper Jaffray & Co.

U.S. Bancorp Center

800 Nicollet Mall

Minneapolis, Minnesota 55402

Ladies and Gentlemen:

1. INTRODUCTORY. Catalyst Pharmaceuticals, Inc., a Delaware corporation (the “Company”), proposes to sell, pursuant to the terms of this Agreement, to the several underwriters named in Schedule I hereto (the “Underwriters,” or, each, an “Underwriter”), an aggregate of 14,285,715 shares of the Company’s common stock, par value \$0.001 per share (the “Common Stock”). The aggregate of 14,285,715 shares so proposed to be sold is hereunder referred to as the “Firm Stock”. The Company also proposes to sell to the Underwriters, upon the terms and conditions set forth in Section 3 hereof, up to an additional 2,142,857 shares of Common Stock (the “Optional Stock”). The Firm Stock and the Optional Stock are hereinafter collectively referred to as the “Securities”. Piper Jaffray & Co. is acting as representative of the several Underwriters and in such capacity is hereinafter referred to as the “Representative.”

References to the “Company” in this Agreement shall include the Subsidiary (as defined herein) unless the context otherwise requires.

2. REPRESENTATIONS AND WARRANTIES OF THE COMPANY. The Company represents and warrants to the several Underwriters, as of the date hereof and as of the Closing Date (as defined below), and agrees with the several Underwriters that:

(a) A registration statement of the Company on Form S-3 (File No. 333-219259) (including such amendments and supplements thereto as may have been filed before execution of this Agreement, the “Initial Registration Statement”) in respect of the Securities has been filed with the Securities and Exchange Commission (the “Commission”) pursuant to Rule 415 under the Securities Act of 1933, as amended (the “Securities Act”). The Company meets the requirements for use of Form S-3 under the Securities Act and the rules and regulations of the Commission thereunder (the “Rules and Regulations”). The Initial Registration Statement and any post-effective amendment thereto, each in the form heretofore delivered to you as Representative, have been declared effective by the Commission in such form and meet the requirements of the Securities Act and the Rules and Regulations. The proposed offering of the Securities may be made pursuant to General Instruction I.B.1. of Form S-3. Other than (i) a registration statement, if any, increasing the size of the offering filed pursuant to Rule 462(b) under the Securities Act and the Rules and Regulations (a “Rule 462(b) Registration Statement”) and (ii) the Prospectus (as defined below)

contemplated by this Agreement to be filed pursuant to Rule 424(b) of the Rules and Regulations in accordance with Section 4(a) hereof and (iii) any Issuer Free Writing Prospectus (as defined below), no other document with respect to the offer and sale of the Securities has heretofore been filed with the Commission. No stop order suspending the effectiveness of the Initial Registration Statement, any post-effective amendment thereto or the Rule 462(b) Registration Statement, if any, has been issued and no proceeding for that purpose or pursuant to Section 8A of the Securities Act has been initiated or, to the Company's Knowledge (as defined below), threatened by the Commission (any preliminary prospectus included in the Initial Registration Statement or filed with the Commission pursuant to Rule 424(a) of the Rules and Regulations with respect to the offer and sale of the Securities is hereinafter called a "Preliminary Prospectus"). The various parts of the Initial Registration Statement and the Rule 462(b) Registration Statement, if any, in each case including all exhibits thereto and including (i) the information contained in the Prospectus filed with the Commission pursuant to Rule 424(b) of the Rules and Regulations and deemed by virtue of Rule 430A, 430B and 430C under the Securities Act to be part of the Initial Registration Statement at the time it became effective and (ii) the documents incorporated by reference in the Rule 462(b) Registration Statement at the time the Rule 462(b) Registration Statement became effective, are hereinafter collectively called the "Registration Statements." The base prospectus included in the Initial Registration Statement at the time of effectiveness thereof (the "Base Prospectus"), as supplemented by the final prospectus supplement relating to the offer and sale of the Securities, in the form to be filed pursuant to and within the time limits described in Rule 424(b) under the Rules and Regulations, is hereinafter called the "Prospectus."

Any reference herein to any Registration Statement, Base Prospectus, Preliminary Prospectus or the Prospectus shall be deemed to refer to and include the documents incorporated by reference therein. Any reference to any amendment or supplement to any Registration Statement, Preliminary Prospectus or the Prospectus shall be deemed to refer to and include any documents filed after the date of such Preliminary Prospectus or the Prospectus under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and incorporated by reference in such Preliminary Prospectus or Prospectus, as the case may be. Any reference to any amendment to the Registration Statements shall be deemed to refer to and include any annual report of the Company filed pursuant to Section 13(a) or 15(d) of the Exchange Act after the date of this Agreement that is incorporated by reference in the Registration Statements.

(b) As of the Applicable Time (as defined below) and as of the Closing Date or the Option Closing Date (as defined below), as the case may be, none of (i) the General Use Free Writing Prospectus(es) (as defined below) issued at or prior to the Applicable Time, the Pricing Prospectus (as defined below) and the information included on Schedule II hereto, all considered together (collectively, the "General Disclosure Package"), (ii) any individual Limited Use Free Writing Prospectus (as defined below), or (iii) any bona fide electronic road show (as defined in Rule 433(h)(5) of the Rules and Regulations that has been made available without restriction to any person), 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 the Pricing Prospectus or any Issuer Free Writing Prospectus, in reliance upon, and in conformity with, written information furnished to the Company through the Representative by or on behalf of any Underwriter specifically for inclusion therein, which information the parties hereto agree is limited to the Underwriter's Information as defined in Section 17. As used in this paragraph (b) and elsewhere in this Agreement:

"Applicable Time" means 8:00 a.m., New York time, on the date of this Agreement or such other time as agreed to by the Company and the Representative.

“Pricing Prospectus” means the Preliminary Prospectus, if any, and the Base Prospectus, each as amended and supplemented immediately prior to the Applicable Time, including any document incorporated by reference therein and any prospectus supplement deemed to be a part thereof.

“Issuer Free Writing Prospectus” means any “issuer free writing prospectus,” as defined in Rule 433 of the Rules and Regulations 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) of the Rules and Regulations.

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

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

(c) No 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 has been issued by the Commission, 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, and each Preliminary Prospectus, at the time of filing thereof, conformed in all material respects to the requirements of the Securities Act and the Rules and Regulations, and did not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, 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 Preliminary Prospectus, in reliance upon, and in conformity with, written information furnished to the Company through the Representative by or on behalf of any Underwriter specifically for inclusion therein, which information the parties hereto agree is limited to the Underwriter’s Information as defined in Section 17.

(d) At the respective times the Registration Statements and any amendments thereto became or become effective, at the date of this Agreement and at the Closing Date, each Registration Statement and any amendments thereto conformed and will conform in all material respects to the requirements of the Securities Act and the Rules and Regulations and did not and will not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading; and the Prospectus and any amendments or supplements thereto, at the time the Prospectus or any amendment or supplement thereto was issued and at the Closing Date, conformed and will conform in all material respects to the requirements of the Securities Act and the Rules and Regulations and did not and will not contain an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading; *provided, however*, that the foregoing representations and warranties in this paragraph (d) shall not apply to information contained in or omitted from the Registration Statements or the Prospectus, or any amendment or supplement thereto, in reliance upon, and in conformity with, written information furnished to the Company through the Representative by or on behalf of any Underwriter specifically for inclusion therein, which information the parties hereto agree is limited to the Underwriter’s Information (as defined in Section 17).

(e) 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 as described in Section 4(c), did not, does not and will not include any information that conflicted, conflicts or will conflict with the information contained in the Registration Statement, Pricing Prospectus or the Prospectus, including any document incorporated by reference therein and any prospectus supplement deemed to be a part thereof that has not been superseded or modified, or

included or would include an untrue statement of a material fact or omitted or would omit to state a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances prevailing at the subsequent time, not misleading. The foregoing representation and warranty in this paragraph (e) shall not apply to information contained in or omitted from an Issuer Free Writing Prospectus in reliance upon, and in conformity with, written information furnished to the Company through the Representative by or on behalf of any Underwriter specifically for inclusion therein, which information the parties hereto agree is limited to the Underwriter's Information (as defined in Section 17).

(f) The documents incorporated by reference in the Prospectus, when they became effective or were filed with the Commission, as the case may be, conformed in all material respects to the requirements of the Securities Act or the Exchange Act, as applicable, and the rules and regulations of the Commission thereunder and none of such documents contained any untrue statement of a material fact or omitted to state any material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading; and any further documents so filed and incorporated by reference in the Prospectus, when such documents are filed with Commission, will conform in all material respects to the requirements of the Securities Act or the Exchange Act, as applicable, and the rules and regulations of the Commission thereunder and will not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein, in light of the circumstances under which they were made, not misleading.

(g) 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 and other materials, if any, permitted under the Securities Act and consistent with Section 4(b) below. The Company will file with the Commission all Issuer Free Writing Prospectuses in the time and manner required under Rules 163(b)(2) and 433(d) of the Rules and Regulations.

(h) At the time of filing the Initial Registration Statement, any 462(b) Registration Statement and any post-effective amendments thereto, and at the date hereof, the Company was not, and the Company currently is not, an "ineligible issuer," as defined in Rule 405 of the Rules and Regulations.

(i) The Company has been duly organized and is validly existing as a corporation in good standing under the laws of its jurisdiction of incorporation. The Company is duly qualified to do business and is in good standing as a foreign corporation in each jurisdiction in which its ownership or lease of property or the conduct of its businesses requires such qualification and has all power and authority (corporate or other) necessary to own or hold its properties and to conduct the businesses in which it is engaged, except where the failure to so qualify or have such power or authority would not (i) have, in the aggregate, a material adverse effect on the condition (financial or otherwise), results of operations, assets, business or prospects of the Company, or (ii) impair in any material respect the ability of the Company to perform its obligations under this Agreement or to consummate any transactions contemplated by this Agreement, the General Disclosure Package or the Prospectus (any such effect as described in clauses (i) or (ii), a "Material Adverse Effect"). The Company does not own or control, directly or indirectly, any interest in any corporation, partnership, limited liability partnership, limited liability corporation, association or other entity other than Catalyst Pharmaceuticals Ireland, Ltd., an Irish company and wholly owned subsidiary of the Company (the "Subsidiary"). The Subsidiary has been duly incorporated (or organized) and is validly existing as a corporation (or other organization) in good standing under the laws of the jurisdiction of its incorporation (or organization), with power and authority to own, lease and operate its properties and conduct its business as described in the Registration Statement, the General Disclosure Package and the Prospectus. All of the issued and outstanding capital stock (or other ownership interests) of the Subsidiary has been duly and validly authorized and issued, is fully paid and non-assessable and is owned by the Company free and clear of any security interest, mortgage, pledge, lien, encumbrance, claim or equity.

(j) This Agreement has been duly authorized, executed and delivered by the Company.

(k) The Securities to be issued and sold by the Company to the Underwriters hereunder have been duly and validly authorized and, when issued and delivered against payment therefor as provided herein, will be duly and validly issued, fully paid and nonassessable and free of any preemptive or similar rights and will conform to the description thereof contained in the General Disclosure Package and the Prospectus.

(l) The Company has an authorized capitalization as set forth under the heading “General Description of our Common Stock” in the Pricing Prospectus, and all of the issued shares of capital stock of the Company, have been duly and validly authorized and issued, are fully paid and non-assessable, have been issued in compliance with federal and state securities laws, and conform to the description thereof contained in the General Disclosure Package and the Prospectus. As of November 24, 2017, there were 86,045,926 shares of Common Stock issued and outstanding and no shares of preferred stock, par value \$0.001 per share, of the Company issued and outstanding and 5,285,000 shares of Common Stock were issuable upon the exercise of all options, warrants and convertible securities and the vesting of all restricted stock units outstanding as of such date. Since such date, the Company has not issued any securities.

(m) All of the Company’s options, warrants and other rights to purchase or exchange any securities for shares of the Company’s capital stock have been duly authorized and validly issued and were issued in compliance with federal and state securities laws. None of the outstanding shares of Common Stock was issued in violation of any preemptive rights, rights of first refusal or other similar rights to subscribe for or purchase securities of the Company. There are no authorized or outstanding shares of capital stock, options, warrants or rights of first refusal to purchase, or equity or debt securities convertible into or exchangeable or exercisable for, any capital stock of the Company other than those described above or accurately described in the General Disclosure Package; and there are no preemptive rights, or other rights, granted by the Company to purchase Securities in the offering contemplated by this Agreement which have not been waived by the holders of such rights. The description of the Company’s stock option, stock bonus and other stock plans or arrangements, and the options or other rights granted thereunder, as described in the General Disclosure Package and the Prospectus, accurately and fairly present the information required to be shown with respect to such plans, arrangements, options and rights.

(n) The execution, delivery and performance of this Agreement by the Company, the issue and sale of the Securities by the Company and the consummation of the transactions contemplated hereby will not (with or without notice or lapse of time or both) conflict with or result in a breach or violation of any of the terms or provisions of, constitute a default or a Debt Repayment Triggering Event (as defined below) under, give rise to any right of termination or other right or the cancellation or acceleration of any right or obligation or loss of a benefit under, or give rise to the creation or imposition of any lien, encumbrance, security interest, claim or charge upon any property or assets of the Company pursuant to, any indenture, mortgage, deed of trust, loan agreement or other agreement or instrument to which the Company is a party or by which the Company is bound or to which any of the property or assets of the Company is subject, nor will such actions result in any violation of the provisions of the charter or by-laws of the Company or any law, statute, rule, regulation, judgment, order or decree of any court or governmental agency or body, domestic or foreign, having jurisdiction over the Company or any of its properties or assets, which, in the case of the foregoing, in the aggregate, if determined adversely to the Company, could reasonably be expected to have a Material Adverse Effect. A “Debt Repayment Triggering Event” means any event or condition that gives, or with the giving of notice or lapse of time would give the holder of any note, debenture or other evidence of indebtedness (or any person acting on such holder’s behalf) the right to require the repurchase, redemption or repayment of all or a portion of such indebtedness by the Company.

(o) Except for the registration of the Securities under the Securities Act and applicable state securities laws, the Financial Industry Regulatory Authority (“FINRA”) and the NASDAQ Capital Market

in connection with the purchase and distribution of the Securities by the Underwriters and the listing of the Securities on the NASDAQ Capital Market, no consent, approval, authorization or order of, or filing, qualification or registration (each an “Authorization”) with, any court, governmental or non-governmental agency or body, foreign or domestic, which has not been made, obtained or taken and is not in full force and effect, is required for the execution, delivery and performance of this Agreement by the Company, the offer or sale of the Securities or the consummation of the transactions contemplated hereby; and no event has occurred that allows or results in, or after notice or lapse of time or both would allow or result in, revocation, suspension, termination or invalidation of any such Authorization or any other impairment of the rights of the holder or maker of any such Authorization. All corporate approvals (including those of stockholders) necessary for the Company to consummate the transactions contemplated by this Agreement have been obtained and are in effect.

(p) Grant Thornton LLP, who have certified certain financial statements and related schedules included in the Registration Statements, the General Disclosure Package and the Prospectus, is an independent registered public accounting firm within the meaning of Article 2-01 of Regulation S-X and the Public Company Accounting Oversight Board (United States) (the “PCAOB”).

(q) The financial statements, together with the related notes and schedules, included in the General Disclosure Package, the Prospectus and in each Registration Statement fairly present the financial position and the results of operations and changes in financial position of the Company at the respective dates or for the respective periods therein specified. Such statements and related notes and schedules have been prepared in accordance with the generally accepted accounting principles in the United States (“GAAP”) applied on a consistent basis throughout the periods involved except as may be set forth in the related notes included in the General Disclosure Package. The financial statements, together with the related notes and schedules, included in the General Disclosure Package and the Prospectus comply in all material respects with Regulation S-X. No other financial statements or supporting schedules or exhibits are required by Regulation S-X to be described, or included in the Registration Statements, the General Disclosure Package or the Prospectus. There is no pro forma or as adjusted financial information which is required to be included in the Registration Statements, the General Disclosure Package, or and the Prospectus or a document incorporated by reference therein in accordance with Regulation S-X which has not been included or incorporated as so required. The summary and selected financial data included in the General Disclosure Package, the Prospectus and each Registration Statement fairly present the information shown therein as at the respective dates and for the respective periods specified and are derived from the consolidated financial statements set forth in the Registration Statement, the Pricing Prospectus and the Prospectus and other financial information. All information contained in the Registration Statement, the General Disclosure Package and the Prospectus regarding “non-GAAP financial measures” (as defined in Regulation G) complies with Regulation G and Item 10 of Regulations S-K, to the extent applicable.

(r) The Company has not sustained, since the date of the latest audited financial statements included in the General Disclosure Package, any material loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree, otherwise than as set forth or contemplated in the General Disclosure Package; and, since such date, there has not been any change in the capital stock or long-term debt of the Company, or any material adverse changes, or any development involving a prospective material adverse change, in or affecting the business, assets, general affairs, management, financial position, prospects, stockholders’ equity or results of operations of the Company, otherwise than as set forth or contemplated in the General Disclosure Package.

(s) Except as set forth in the General Disclosure Package, there is no legal or governmental proceeding pending to which the Company is a party or of which any property or assets of the Company is the subject which is required to be described in the Registration Statements, the General Disclosure Package or the Prospectus or a document incorporated by reference therein and is not described therein, or which, in

the aggregate, if determined adversely to the Company, could reasonably be expected to have a Material Adverse Effect; and to the best of the Company's knowledge after reasonable investigation ("Knowledge"), no such proceedings are threatened or contemplated by governmental authorities or threatened by others.

(t) The Company is not (i) in violation of its charter or by-laws (or analogous governing instrument, as applicable), (ii) in default in any respect, and no event has occurred which, with notice or lapse of time or both, would constitute such a default, in the due performance or observance of any term, covenant or condition contained in any indenture, mortgage, deed of trust, loan agreement, lease or other agreement or instrument to which it is a party or by which it is bound or to which any of its property or assets is subject or (iii) is in violation in any respect of any law, ordinance, governmental rule, regulation or court order, decree or judgment to which it or its property or assets may be subject except, in the case of clauses (ii) and (iii) of this paragraph (s), for any violations or defaults which, in the aggregate, would not have a Material Adverse Effect.

(u) The Company possesses all licenses, certificates, authorizations and permits issued by, and has made all declarations and filings with, the appropriate local, state, federal or foreign regulatory agencies or bodies which are necessary or desirable for the ownership of their respective properties or the conduct of their respective businesses as described in the General Disclosure Package and the Prospectus (collectively, the "Governmental Permits") except where any failures to possess or make the same, in the aggregate, would not have a Material Adverse Effect. The Company is in material compliance with all such Governmental Permits; all such Governmental Permits are valid and in full force and effect, except where the validity or failure to be in full force and effect would not, in the aggregate, have a Material Adverse Effect. All such Governmental Permits are free and clear of any restriction or condition that are in addition to, or materially different from those normally applicable to similar licenses, certificates, authorizations and permits. The Company has not received notification of any revocation, modification, suspension, termination or invalidation (or proceedings related thereto) of any such Governmental Permit and to the Knowledge of the Company, no event has occurred that allows or results in, or after notice or lapse of time or both would allow or result in, revocation, modification, suspension, termination or invalidation (or proceedings related thereto) of any such Governmental Permit and the Company has no reason to believe that any such Governmental Permit will not be renewed.

(v) The Company is not, and, after giving effect to the offering of the Securities and the application of the proceeds thereof as described in the General Disclosure Package and the Prospectus, will not become an "investment company" within the meaning of the Investment Company Act of 1940, as amended, and the rules and regulations of the Commission thereunder.

(w) Neither the Company nor any of its officers, directors or affiliates has taken or will take, directly or indirectly, any action designed or intended to stabilize or manipulate the price of any security of the Company, or which caused or resulted in, or which might in the future reasonably be expected to cause or result in, stabilization or manipulation of the price of any security of the Company.

(x) The Company owns or possesses the valid right to use all (i) valid and enforceable patents, patent applications, trademarks, trademark registrations, service marks, service mark registrations, Internet domain name registrations, copyrights, copyright registrations, licenses, trade secret rights ("Intellectual Property Rights") and (ii) inventions, software, works of authorships, trademarks, service marks, trade names, databases, formulae, know how, Internet domain names and other intellectual property (including trade secrets and other unpatented and/or unpatentable proprietary confidential information, systems, or procedures) (collectively, "Intellectual Property Assets") necessary to conduct its businesses as currently conducted, and as proposed to be conducted and described in the General Disclosure Package and the Prospectus. The Company has not received any opinion from its legal counsel concluding that any activities of their respective businesses infringe, misappropriate, or otherwise violate, valid and enforceable Intellectual Property Rights of any other person, and have not received written notice of any challenge,

which is to its Knowledge still pending, by any other person to the rights of the Company with respect to any Intellectual Property Rights or Intellectual Property Assets owned or used by the Company. To the Knowledge of the Company, the Company business as now conducted does not give rise to any infringement of, any misappropriation of, or other violation of, any valid and enforceable Intellectual Property Rights of any other person. All licenses for the use of the Intellectual Property Rights described in the General Disclosure Package and the Prospectus are valid, binding upon, and enforceable by or against the parties thereto in accordance to its terms. The Company has complied in all material respects with, and is not in breach nor has received any asserted or threatened claim of breach of any Intellectual Property license, and the Company has no knowledge of any breach or anticipated breach by any other person to any Intellectual Property license. Except as described in the General Disclosure Package, no claim has been made against the Company alleging the infringement by the Company of any patent, trademark, service mark, trade name, copyright, trade secret, license in or other intellectual property right or franchise right of any person. The Company has taken all commercially reasonable steps to protect, maintain and safeguard its Intellectual Property Rights, including the execution of appropriate nondisclosure and confidentiality agreements. The consummation of the transactions contemplated by this Agreement will not result in the loss or impairment of or payment of any additional amounts with respect to, nor require the consent of any other person in respect of, the Company's right to own, use, or hold for use any of the Intellectual Property Rights as owned, used or held for use in the conduct of the business as currently conducted. With respect to the use of the software in the Company's business as it is currently conducted, the Company has not experienced any material defects in such software including any material error or omission in the processing of any transactions other than defects which have been corrected, and to the knowledge of the Company, no such software contains any device or feature designed to disrupt, disable, or otherwise impair the functioning of any software or is subject to the terms of any "open source" or other similar license that provides for the source code of the software to be publicly distributed or dedicated to the public. The Company has at all times complied with all material applicable laws relating to privacy, data protection, and the collection and use of personal information collected, used, or held for use by the Company in the conduct of the Company's business. No claims have been asserted or, to the Company's Knowledge, threatened against the Company alleging a violation of any person's privacy or personal information or data rights and the consummation of the transactions contemplated hereby will not breach or otherwise cause any violation of any law related to privacy, data protection, or the collection and use of personal information collected, used, or held for use by the Company in the conduct of the Company's business. The Company takes reasonable measures to ensure that such information is protected against unauthorized access, use, modification, or other misuse. The Company has taken all commercially reasonable actions to obtain ownership of all works of authorship and inventions made by its employees, consultants and contractors during the time they were employed by or under contract with the Company and which relate to the Company's business.

(y) The Company has good and marketable title in fee simple to, or has valid rights to lease or otherwise use, all items of real or personal property which are material to the business of the Company, in each case free and clear of all liens, encumbrances, security interests, claims and defects that do not, in the aggregate, materially affect the value of such property and do not interfere with the use made and proposed to be made of such property by the Company; and all of the leases and subleases material to the business of the Company and under which the Company holds properties described in the General Disclosure Package and the Prospectus, are in full force and effect, and the Company has not received any notice of any material claim of any sort that has been asserted by anyone adverse to the rights of the Company under any of the leases or subleases mentioned above, or affecting or questioning the rights of the Company to the continued possession of the leased or subleased premises under any such lease or sublease.

(z) There is (A) no significant unfair labor practice complaint pending against the Company, nor to the Knowledge of the Company, threatened against it, before the National Labor Relations Board, any state or local labor relation board or any foreign labor relations board, and no significant grievance or significant arbitration proceeding arising out of or under any collective bargaining agreement is so pending

against the Company, or, to the Knowledge of the Company, threatened against it and (B) no labor disturbance by the employees of the Company exists or, to the Company's Knowledge, is imminent, and the Company is not aware of any existing or imminent labor disturbance by the employees of any of its principal suppliers, manufacturers, customers or contractors, that could reasonably be expected, in the aggregate, to have a Material Adverse Effect. The Company is not aware that any key employee or significant group of employees of the Company plans to terminate employment with the Company.

(aa) No "prohibited transaction" (as defined in Section 406 of the Employee Retirement Income Security Act of 1974, as amended, including the regulations and published interpretations thereunder ("ERISA"), or Section 4975 of the Internal Revenue Code of 1986, as amended from time to time (the "Code") or "accumulated funding deficiency" (as defined in Section 302 of ERISA) or any of the events set forth in Section 4043(b) of ERISA (other than events with respect to which the thirty (30)-day notice requirement under Section 4043 of ERISA has been waived) has occurred or could reasonably be expected to occur with respect to any employee benefit plan of the Company which could, in the aggregate, have a Material Adverse Effect. Each employee benefit plan of the Company is in compliance in all material respects with applicable law, including ERISA and the Code. The Company has not incurred and could not reasonably be expected to incur liability under Title IV of ERISA with respect to the termination of, or withdrawal from, any pension plan (as defined in ERISA). Each pension plan for which the Company would have any liability that is intended to be qualified under Section 401(a) of the Code is so qualified, and nothing has occurred, whether by action or by failure to act, which could, in the aggregate, cause the loss of such qualification.

(bb) The Company is in material compliance with all foreign, federal, state and local rules, laws and regulations relating to the use, treatment, storage and disposal of hazardous or toxic substances or waste and protection of health and safety or the environment which are applicable to their businesses ("Environmental Laws"). There has been no storage, generation, transportation, handling, treatment, disposal, discharge, emission, or other release of any kind of toxic or other wastes or other hazardous substances by, due to, or caused by the Company (or, to the Company's Knowledge, any other entity for whose acts or omissions the Company is or may otherwise be liable) upon any of the property now or previously owned or leased by the Company, or upon any other property, in violation of any law, statute, ordinance, rule, regulation, order, judgment, decree or permit or which would, under any law, statute, ordinance, rule (including rule of common law), regulation, order, judgment, decree or permit, give rise to any liability; and there has been no disposal, discharge, emission or other release of any kind onto such property or into the environment surrounding such property of any toxic or other wastes or other hazardous substances with respect to which the Company has knowledge. In the ordinary course of business, the Company conducts periodic reviews of the effect of Environmental Laws on their business and assets, in the course of which they identify and evaluate associated costs and liabilities (including, without limitation, any capital or operating expenditures required for clean-up, closure of properties or compliance with Environmental Laws or Governmental Permits issued thereunder, any related constraints on operating activities and any potential liabilities to third parties). On the basis of such reviews, the Company has reasonably concluded that such associated costs and liabilities would not have, in the aggregate, a Material Adverse Effect.

(cc) The Company (i) has timely filed all necessary federal, state, local and foreign tax returns (or filed timely extensions with respect to such returns), and all such filed returns were true, complete and correct, (ii) has paid all federal, state, local and foreign taxes, assessments, governmental or other charges due and payable for which it is currently liable, including, without limitation, all sales and use taxes and all taxes which the Company is obligated to withhold from amounts owing to employees, creditors and third parties, other than amounts as to which in good faith it disputes owing, and (iii) does not have any tax deficiency or claims outstanding or assessed or, to its Knowledge, proposed against it, except those, in each of the cases described in clauses (i), (ii) and (iii) of this paragraph (bb), that would not, in the aggregate, have a Material Adverse Effect. The Company has not engaged in any transaction which is a corporate tax

shelter or which could be characterized as such by the Internal Revenue Service or any other taxing authority. The accruals and reserves on the books and records of the Company in respect of tax liabilities for any taxable period not yet finally determined are adequate to meet any assessments and related liabilities for any such period, and since December 31, 2016, the Company has not incurred any liability for taxes other than in the ordinary course.

(dd) The Company carries, or is covered by, insurance in such amounts and covering such risks as is adequate for the conduct of its businesses and the value of its properties and as is commercially reasonable for companies engaged in similar businesses in similar industries. The Company has no reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage from similar insurers as may be necessary to continue its business at a cost that would not have a Material Adverse Effect. All policies of insurance owned by the Company are, to the Company's Knowledge, in full force and effect and the Company is in compliance with the terms of such policies. The Company has not received written notice from any insurer, agent of such insurer or the broker of the Company that any material capital improvements or any other material expenditures (other than premium payments) are required or necessary to be made in order to continue such insurance. The Company does not insure risk of loss through any captive insurance, risk retention group, reciprocal group or by means of any fund or pool of assets specifically set aside for contingent liabilities other than as described in the General Disclosure Package.

(ee) The Company maintains a system of internal control over financial reporting (as such term is defined in Rule 13a-15 of the General Rules and Regulations under the Exchange Act (the "Exchange Act Rules")) that complies with the requirements of the Exchange Act and has been designed by the Company's principal executive officer and principal financial officer, or under their supervision, to provide reasonable assurances that (i) transactions are executed in accordance with management's general or specific authorizations; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with GAAP and to maintain 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 internal control over financial reporting is effective. Except as described in the General Disclosure Package, since the end of the Company's most recent audited fiscal year, there has been (A) no material weakness in the Company's internal control over financial reporting (whether or not remediated) and (B) no change in the Company's internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting. The Company's internal control over financial reporting is, or upon consummation of the offering of the Securities will be, overseen by the Audit Committee of the Board of Directors of the Company (the "Audit Committee") in accordance with the Exchange Act Rules. The Company has not publicly disclosed or reported to the Audit Committee or to the Board, and within the next 90 days the Company does not reasonably expect to publicly disclose or report to the Audit Committee or the Board, a significant deficiency, material weakness, change in internal control over financial reporting or fraud involving management or other employees who have a significant role in the internal control over financial reporting (each an "Internal Control Event"), any violation of, or failure to comply with, federal securities laws, or any matter which if determined adversely, would have a Material Adverse Effect.

(ff) The Company has received a certificate from the Chairman of the Audit Committee confirming that, except as set forth in the General Disclosure Package, the Audit Committee is not reviewing or investigating, and neither the Company's independent auditors nor its internal auditors have recommended that the Audit Committee review or investigate, (i) adding to, deleting, changing the application of or changing the Company's disclosure with respect to, any of the Company's material accounting policies, (ii) any matter which could result in a restatement of the Company's financial statements for any annual or interim period during the current or prior three fiscal years, or (iii) any Internal Control Event.

(gg) The Company has made and keeps books, records and accounts, which, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the Company in all material respects.

(hh) The Company maintains disclosure controls and procedures (as such is defined in Rule 13a-15 of the Exchange Act Rules) that comply with the requirements of the Exchange Act; such disclosure controls and procedures have been designed to ensure that information required to be disclosed by the Company is accumulated and communicated to the Company's management, including the Company's principal executive officer and principal financial officer by others within the Company, and such disclosure controls and procedures are effective.

(ii) The minute books of the Company been made available to the Underwriters and counsel for the Underwriters, and such books (i) contain a complete summary of all meetings and actions of the board of directors (including each board committee) and stockholders of the Company (or analogous governing bodies and interest holders, as applicable) since February 9, 2015 and (ii) accurately, in all material respects, reflect all transactions referred to in such minutes; other than the minutes of meetings of the directors of the Company (or any committees of such directors) for certain meetings held on or after November 16, 2017, which (1) have not been completed and/or filed in the minute books, and (2) the proposed contents of which do not contain any material facts, other than as disclosed in the General Disclosure Package and the Prospectus.

(jj) There is no franchise agreement, lease, contract, or other agreement or document required by the Securities Act or by the Rules and Regulations to be described in the General Disclosure Package and in the Prospectus or to be filed as an exhibit to the Registration Statements which is not so described or filed therein as required; and all descriptions of any such franchise agreements, leases, contracts, or other agreements or documents contained in the General Disclosure Package and in the Prospectus are accurate and complete descriptions of such documents in all material respects. Other than as described in the General Disclosure Package, no such franchise agreement, lease, contract or other agreement has been suspended or terminated for convenience or default by the Company or any of the other parties thereto, and the Company has not received notice of and the Company does not have Knowledge of any such pending or threatened suspension or termination.

(kk) No relationship, direct or indirect, exists between or among the Company, on the one hand, and the directors or officers of the Company or any of their affiliates, on the other hand, which is required to be described in the General Disclosure Package and the Prospectus and which is not so described.

(ll) No person or entity has the right to require registration of shares of Common Stock or other securities of the Company because of the filing or effectiveness of the Registration Statements, except for persons and entities who have expressly waived such right in writing or who have been given timely and proper written notice and have failed to exercise such right within the time or times required under the terms and conditions of such right. Except as described in the General Disclosure Package or in agreements filed as exhibits to the Initial Registration Statement, there are no persons with registration rights or similar rights to have any securities registered by the Company under the Securities Act.

(mm) The Company does not own any "margin securities" as that term is defined in Regulation U of the Board of Governors of the Federal Reserve System (the "Federal Reserve Board"), and none of the proceeds of the sale of the Securities will be used, directly or indirectly, for the purpose of purchasing or carrying any margin security, for the purpose of reducing or retiring any indebtedness which was originally incurred to purchase or carry any margin security or for any other purpose which might cause any of the Securities to be considered a "purpose credit" within the meanings of Regulation T, U or X of the Federal Reserve Board.

(nn) Except as otherwise contemplated by this Agreement, the Company is not a party to any contract, agreement or understanding with any person that would give rise to a valid claim against the Company or the Underwriters for a brokerage commission, finder's fee or like payment in connection with the offering and sale of the Securities or any transaction contemplated by this Agreement, the Registration Statements, the General Disclosure Package or the Prospectus.

(oo) The exercise price of each option issued under the Company's stock option or other employee benefit plans has been no less than the fair market value of a share of common stock as determined on the date of grant of such option. All grants of options were validly issued and properly approved by the board of directors of the Company (or a duly authorized committee thereof) in material compliance with all applicable laws and regulations and recorded in the Company's financial statements in accordance with GAAP and, to the Company's Knowledge, no such grants involved "back dating," "forward dating" or similar practice with respect to the effective date of grant.

(pp) Since the date as of which information is given in the General Disclosure Package and the Prospectus through the date hereof, and except as set forth in the Pricing Prospectus, the Company has not (i) issued or granted any securities other than options to purchase common stock pursuant to the Company's stock option plan, (ii) incurred any material liability or obligation, direct or contingent, other than liabilities and obligations which were incurred in the ordinary course of business, (iii) entered into any material transaction other than in the ordinary course of business or (iv) declared or paid any dividend on its capital stock.

(qq) The Company is not a Passive Foreign Investment Company ("PFIC") within the meaning of Section 1296 of the United States Internal Revenue Code of 1966, and the Company is not likely to become a PFIC.

(rr) No forward-looking statement (within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act) contained in either the General Disclosure Package or the Prospectus has been made or reaffirmed without a reasonable basis or has been disclosed other than in good faith.

(ss) The Company does not do business with the government of Cuba or with any person or affiliate located in Cuba within the meaning of Florida Statutes Section 517.075.

(tt) The Company is subject to and in compliance in all material respects with the reporting requirements of Section 13 or Section 15(d) of the Exchange Act. The Common Stock is registered pursuant to Section 12(b) of the Exchange Act and is traded on the NASDAQ Capital Market, and the Company has taken no action designed to, or reasonably likely to have the effect of, terminating the registration of the Common Stock under the Exchange Act or delisting the Common Stock from the NASDAQ Capital Market, nor has the Company received any notification that the Commission or FINRA is contemplating terminating such registration or listing. The Company has filed with the NASDAQ Capital Market a notification of the listing of the Securities on the NASDAQ Capital Market.

(uu) The Company is in compliance with all applicable provisions of the Sarbanes-Oxley Act of 2002 and all rules and regulations promulgated thereunder or implementing the provisions thereof (the "Sarbanes-Oxley Act").

(vv) The Company is in compliance with all applicable corporate governance requirements, if any, set forth in the rules of the NASDAQ Capital Market that are then in effect.

(ww) Neither the Company nor, to the Company's Knowledge, any employee or agent of the Company, has (i) used any corporate funds for unlawful contributions, gifts, entertainment or other unlawful expenses relating to political activity, (ii) made any unlawful payment to foreign or domestic

government officials or employees or to foreign or domestic political parties or campaigns from corporate funds, (iii) violated any provision of the Foreign Corrupt Practices Act of 1977, as amended or (iv) made any other unlawful payment.

(xx) There are no transactions, arrangements or other relationships between and/or among the Company, any of its affiliates (as such term is defined in Rule 405 of the Rules and Regulations) and any unconsolidated entity, including, but not limited to, any structured finance, special purpose or limited purpose entity, that could reasonably be expected to materially affect the Company's liquidity or the availability of or requirements for its capital resources required to be described in the General Disclosure Package and the Prospectus which have not been described as required.

(yy) There are no outstanding loans, advances (except normal advances for business expenses in the ordinary course of business or loans to employees not exceeding \$25,000 in the aggregate) or guarantees of indebtedness by the Company to or for the benefit of any of the officers or directors of the Company or any of their respective family members, except as disclosed in the Registration Statements, the General Disclosure Package and the Prospectus. All transactions by the Company with office holders or control persons of the Company have been duly approved by the board of directors of the Company, or duly appointed committees or officers thereof, if and to the extent required under U.S. law.

(zz) The statistical and market related data included in the Registration Statement, the General Disclosure Package and the Prospectus are based on or derived from sources that the Company believes to be reliable and accurate, and such data agree with the sources from which they are derived.

(aaa) The operations of the Company are and have been conducted at all times in compliance with applicable financial recordkeeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, applicable money laundering statutes and applicable rules and regulations thereunder (collectively, the "Money Laundering Laws"), and no action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company with respect to the Money Laundering Laws is pending, or to the Company's Knowledge, threatened.

(bbb) Neither the Company nor, to the Company's Knowledge, any director, officer, agent, employee or affiliate of the Company is currently subject to any U.S. sanctions administered by the Office of Foreign Assets Control of the U.S. Treasury Department ("OFAC"); and the Company will not directly or indirectly use the proceeds of the offering, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other person or entity, for the purpose of financing the activities of any person currently subject to any U.S. sanctions administered by OFAC.

(ccc) The Company is not as of the date hereof, and after giving effect to the transactions contemplated hereby to occur on the Closing Date, will not be Insolvent (as defined below). For purposes of this paragraph (ccc), "Insolvent" means, with respect to any Person, (i) the present fair saleable value of such Person's assets is less than the amount required to pay such Person's total Indebtedness, (ii) such Person is unable to pay its debts and liabilities, subordinated, contingent or otherwise, as such debts and liabilities become absolute and matured, (iii) such Person intends to incur or believes that it will incur debts that would be beyond its ability to pay as such debts mature or (iv) such Person has unreasonably small capital with which to conduct the business in which it is engaged as such business is now conducted and is proposed to be conducted.

(ddd) Neither the Company nor, to the Knowledge of the Company, any of its affiliates (within the meaning of FINRA Rule 5121(f)(1)), directly or indirectly controls, is controlled by, or is under common control with, or is an associated person (within the meaning of Article I, Section 1(ee) of the By-laws of FINRA) of, any member firm of FINRA.

(eee) Except as described in the Registration Statement, the General Disclosure Package and the Prospectus, the Company: (A) is and at all times during the past three years has been in material compliance with all applicable statutes, rules or regulations of the United States Food and Drug Administration of the U.S. Department of Health and Human Services (“FDA”) and other comparable regulatory authorities (“Governmental Authority”) relating to the ownership, testing, development, manufacture, packaging, use, distribution, labeling, storage, import, export or disposal of any product under clinical development or manufactured by or on behalf of the Company (“Applicable Laws”), including but not limited to international standards of Good Clinical Practice and Good Manufacturing Practices; (B) has not received any correspondence or written notice from the FDA or any Governmental Authority alleging or asserting material noncompliance with any Applicable Laws or any licenses, certificates, exemptions, authorizations, permits and supplements or amendments thereto required by any such Applicable Laws (“Authorizations”); (C) possesses all required material Authorizations and such Authorizations are valid and in full force and effect and the Company is not in material violation of any term of any such Authorizations; (D) has not received written notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from the FDA or any Governmental Authority or third party alleging that any product, operation or activity is in material violation of any Applicable Laws or Authorizations; (E) has not received written notice that the FDA or any Governmental Authority has taken, is taking or intends to take action to limit, suspend, modify or revoke any material Authorizations; and (F) has filed, obtained, maintained or submitted all material reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Applicable Laws or Authorizations and that all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were materially complete and correct on the date filed (or were corrected or supplemented by a subsequent submission). To the Knowledge of the Company, all third parties that are collaborating with the Company with respect to its clinical development activities are in material compliance with all Applicable Laws and possess all required material Authorizations relating to such activities.

(fff) The studies, tests and preclinical and clinical trials conducted by or, to the Company’s Knowledge, on behalf of the Company were and, if still ongoing, are being conducted in all material respects in accordance with protocols submitted to the FDA, all Authorizations and Applicable Laws, including, without limitation, the Federal Food, Drug and Cosmetic Act and the rules and regulations promulgated thereunder; the descriptions of the results of such studies, tests and trials contained in the Registration Statement, the General Disclosure Package and the Prospectus are, to the Company’s knowledge, accurate and complete in all material respects and fairly present in all material respects the data derived from such studies, tests and trials; except to the extent disclosed in the Registration Statement, the General Disclosure Package and the Prospectus, the Company is not aware of any studies, tests or trials, the results of which the Company believes would have an adverse effect on the development of the Company’s product candidates in the Registration Statement, the General Disclosure Package and the Prospectus; and, except to the extent disclosed in the Registration Statement, the General Disclosure Package and the Prospectus, the Company and, to the Company’s knowledge, its directors, officers, employees, and agents (while acting in such capacity on the Company’s behalf) are, and at all times since January 1, 2009, have been, in material compliance with, all health care laws applicable to the Company or any of its products or activities, including, but not limited to, the regulations promulgated pursuant to such laws, and any other state or federal law or regulation regarding the manufacturing, development, testing, labeling, recordkeeping or distribution of pharmaceutical products or the hiring of employees or acquisition of services or supplies from those who have been excluded from government health care programs (collectively, “Health Care Laws”).

(ggg) To enable the Underwriters to rely on FINRA Rule 5110(b)(7)(C)(i), as of the date hereof, the registration of the Firm Stock with the Commission could have been effected on Form S-3 under the Securities Act pursuant to the standards for such Form S-3 in effect prior to October 21, 1992.

Any certificate signed by or on behalf of the Company and delivered to the Representative or to counsel for the Underwriters shall be deemed to be a representation and warranty by the Company to each Underwriter as to the matters covered thereby.

3. PURCHASE, SALE AND DELIVERY OF OFFERED SECURITIES. On the basis of the representations, warranties and agreements herein contained, but subject to the terms and conditions herein set forth, the Company agrees to sell to the Underwriters, and the Underwriters agree, severally and not jointly, to purchase from the Company the respective number of shares of Firm Stock set forth opposite the names of the Underwriters in Schedule I hereto.

The purchase price per share to be paid by the Underwriters to the Company each share of Firm Stock will be \$3.29 per share (the “Purchase Price”).

The Company will deliver the Firm Stock to the Representative for the respective accounts of the several Underwriters through the facilities of The Depository Trust Company issued in such names and in such denominations as the Representative may direct by notice in writing to the Company given at or prior to 12:00 Noon, New York time, on the second (2nd) full business day preceding the Closing Date, against payment of the aggregate Purchase Price therefor by wire transfer in federal (same day) funds to an account at a bank acceptable to the Representative payable to the order of the Company at the offices of Goodwin Procter LLP, The New York Times Building, 620 Eighth Avenue, New York, New York. Time shall be of the essence, and delivery at the time and place specified pursuant to this Agreement is a further condition of the obligations of each Underwriter hereunder. The time and date of the delivery and closing shall be at 10:00 a.m., New York time, on November 30, 2017, in accordance with Rule 15c6-1 of the Exchange Act. The time and date of such payment and delivery are herein referred to as the “Closing Date”. The Closing Date and the location of delivery of, and the form of payment for, the Securities may be varied by agreement between the Company and the Representative.

For the purpose of covering any over-allotments in connection with the distribution and sale of the Firm Stock as contemplated by the Prospectus, the Underwriters may purchase all or less than all of the Optional Stock. The price per share to be paid for the Optional Stock shall be the Purchase Price. The Company agrees to sell to the Underwriters the number of shares of Optional Stock specified in the written notice delivered by the Representative to the Company described below and the Underwriters agree, severally and not jointly, to purchase such shares of Optional Stock. Such shares of Optional Stock shall be purchased from the Company for the account of each Underwriter in the same proportion as the number of shares of Firm Stock set forth opposite such Underwriter’s name on Schedule I bears to the total number of shares of Firm Stock (subject to adjustment by the Representative to eliminate fractions). The option granted hereby may be exercised as to all or any part of the Optional Stock at any time, and from time to time, not more than thirty (30) days subsequent to the date of this Agreement. No Optional Stock shall be sold and delivered unless the Firm Stock previously has been, or simultaneously is, sold and delivered. The right to purchase the Optional Stock or any portion thereof may be surrendered and terminated at any time prior to the exercise of such right upon written notice by the Representative to the Company.

The option granted hereby may be exercised by written notice being given to the Company by the Representative setting forth the number of shares of the Optional Stock to be purchased by the Underwriters and the date and time for delivery of and payment for the Optional Stock. Each date and time for delivery of and payment for the Optional Stock (which may be the Closing Date, but not earlier) is herein called the “Option Closing Date” and shall in no event be earlier than two (2) business days nor later than five (5) business days after written notice is given. The Option Closing Date and the Closing Date are herein called the “Closing Dates.”

The several Underwriters propose to offer the Securities for sale upon the terms and conditions set forth in the Prospectus.

4. FURTHER AGREEMENTS OF THE COMPANY. The Company agrees with the several Underwriters:

(a) To prepare the Rule 462(b) Registration Statement, if necessary and agreed to by the Company, in a form reasonable acceptable to the Representative and the Company and file such Rule 462(b) Registration Statement with the Commission by 10:00 p.m., New York time, on the date hereof, and the Company shall at the time of filing either pay to the Commission the filing fee for the Rule 462(b) Registration Statement or give irrevocable instructions for the payment of such fee pursuant to Rule 111(b) under the Rules and Regulations; to prepare the Prospectus in a form acceptable to the Representative and the Company containing information previously omitted at the time of effectiveness of the Registration Statement in reliance on Rule 430A of the Rules and Regulations and to file such Prospectus pursuant to Rule 424(b) of the Rules and Regulations not later than the second (2nd) business day following the execution and delivery of this Agreement or, if applicable, such earlier time as may be required by Rule 430A of the Rules and Regulations; to notify the Representative promptly of the Company's intention to file or prepare any supplement or amendment to any Registration Statement or to the Prospectus and to make no amendment or supplement to the Registration Statements, the General Disclosure Package or to the Prospectus without providing the Representative with a reasonable time to review and comment upon such filing; to advise the Representative, promptly after it receives notice thereof, of the time when any amendment to any Registration Statement has been filed or becomes effective or any supplement to the General Disclosure Package or the Prospectus or any amended Prospectus has been filed and to furnish the Underwriters with copies thereof; to file promptly all material required to be filed by the Company with the Commission pursuant to Rules 433(d) or 163(b)(2) of the Rules and Regulations, as the case may be; to advise the Representative, promptly after it receives notice thereof, of the issuance by the Commission of any stop order or of any order preventing or suspending the use of any Preliminary Prospectus, any Issuer Free Writing Prospectus or the Prospectus, of the suspension of the qualification of the Securities for offering or sale in any jurisdiction, of the initiation or threatening of any proceeding for any such purpose, or of any request by the Commission for the amending or supplementing of the Registration Statements, the General Disclosure Package or the Prospectus or for additional information; and, in the event of the issuance of any stop order or of any order preventing or suspending the use of any Preliminary Prospectus, any Issuer Free Writing Prospectus or the Prospectus or suspending any such qualification, and promptly to use its best efforts to obtain the withdrawal of such order.

(b) The Company represents and agrees that, unless it obtains the prior consent of the Representative it has not made and will not, make any offer relating to the Securities that would constitute a "free writing prospectus" as defined in Rule 405 of the Rules and Regulations unless the prior written consent of the Representative has been received (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 included in Schedule II hereto. The Company represents that it has treated and agrees that it will treat each Permitted Free Writing Prospectus as an Issuer Free Writing Prospectus, comply with the requirements of Rules 164 and 433 of the Rules and Regulations applicable to any Issuer Free Writing Prospectus, including the requirements relating to timely filing with the Commission, legending and record keeping and will 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) of the Rules and Regulations a free writing prospectus prepared by or on behalf of such Underwriter that such Underwriter otherwise would not have been required to file thereunder.

(c) If at any time prior to the date when a prospectus relating to the Securities is required to be delivered (or in lieu thereof, the notice referred to in Rule 173(a) of the Rules and Regulations) any event occurs or condition exists as a result of which the Prospectus as then amended or supplemented would include any untrue statement of a material fact, or omit to state any material fact necessary to make the statements therein, in light of the circumstances under which they were made when the Prospectus is delivered (or in lieu thereof, the notice referred to in Rule 173(a) of the Rules and Regulations), not

misleading, or if it is necessary at any time to amend or supplement any Registration Statement or the Prospectus or to file under the Exchange Act any document incorporated by reference in the Prospectus to comply with the Securities Act or the Exchange Act, the Company will promptly notify the Representative thereof and upon its request will prepare an appropriate amendment or supplement or upon its request make an appropriate filing pursuant to Section 13 or 14 of the Exchange Act in form and substance satisfactory to the Representative which will correct such statement or omission or effect such compliance and will use its reasonable best efforts to have any amendment to any Registration Statement declared effective as soon as possible. The Company will furnish without charge to each Underwriter and to any dealer in securities as many copies as the Representative may from time to time reasonably request of such amendment or supplement. In case any Underwriter is required to deliver a prospectus (or in lieu thereof, the notice referred to in Rule 173(a) of the Rules and Regulations) relating to the Company upon the request of the Representative will prepare promptly an amended or supplemented Prospectus as may be necessary to permit compliance with the requirements of Section 10(a)(3) of the Securities Act and deliver to such Underwriter as many copies as such Underwriter may reasonably request of such amended or supplemented Prospectus complying with Section 10(a)(3) of the Securities Act.

(d) 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 then prevailing, not misleading, or to make the statements therein not conflict with the information contained in the Registration Statement then on file and not superseded or modified, 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 either (i) prepare and file with the Commission an appropriate filing under the Exchange Act which shall be incorporated by reference in the General Disclosure Package so that the General Disclosure Package as so amended or supplemented will not, in the light of the circumstances under which they were made, be misleading or conflict with the Registration Statement then on file, or so that the General Disclosure Package will comply with law.

(e) If at any time following issuance of an Issuer Free Writing Prospectus, there occurred or occurs an event or development as a result of which such Issuer Free Writing Prospectus conflicted or will conflict with the information contained in the Registration Statement, Pricing Prospectus or Prospectus, including any document incorporated by reference therein and not superseded or modified or included or would include an untrue statement of a material fact or omitted or would omit to state a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances prevailing at the subsequent time, not misleading, the Company has promptly notified or will promptly notify the Representative so that any use of the Issuer Free Writing Prospectus may cease until it is amended or supplemented and has promptly amended or will promptly amend or supplement, at its own expense, such Issuer Free Writing Prospectus to eliminate or correct such conflict, untrue statement or omission.

(f) To furnish promptly to the Representative and to counsel for the Underwriters a signed copy of each of the Registration Statements as originally filed with the Commission, and of each amendment thereto filed with the Commission, including all consents and exhibits filed therewith.

(g) To deliver promptly to the Representative in New York City such number of the following documents as the Representative shall reasonably request: (i) conformed copies of the Registration Statements as originally filed with the Commission (in each case excluding exhibits), (ii) each Preliminary Prospectus, (iii) any Issuer Free Writing Prospectus, (iv) the Prospectus (the delivery of the documents referred to in clauses (i), (ii), (iii) and (iv) of this paragraph (g) to be made not later than 10:00 a.m., New York time, on the business day following the execution and delivery of this Agreement), (v) conformed copies of any amendment to the Registration Statement (excluding exhibits), (vi) any amendment or

supplement to the General Disclosure Package or the Prospectus (the delivery of the documents referred to in clauses (v) and (vi) of this paragraph (g) to be made not later than 10:00 a.m., New York time, on the business day following the date of such amendment or supplement) and (vii) any document incorporated by reference in the General Disclosure Package or the Prospectus (excluding exhibits thereto) (the delivery of the documents referred to in clause (vii) of this paragraph (g) to be made not later than 10:00 a.m., New York time, on the business day following the date of such document).

(h) To make generally available to its stockholders as soon as practicable, but in any event not later than sixteen (16) months after the effective date of each Registration Statement (as defined in Rule 158(c) of the Rules and Regulations), an earnings statement of the Company (which need not be audited) complying with Section 11(a) of the Securities Act and the Rules and Regulations (including, at the option of the Company, Rule 158);

(i) To take promptly from time to time such actions as the Representative may reasonably request to qualify the Securities for offering and sale under the securities or Blue Sky laws of such jurisdictions (domestic or foreign) as the Representative may designate and to continue such qualifications in effect, and to comply with such laws, for so long as required to permit the offer and sale of Securities in such jurisdictions; provided that the Company shall not be obligated to qualify as a foreign corporation in any jurisdiction in which they are not so qualified or to file a general consent to service of process in any jurisdiction.

(j) Upon request, during the period of five (5) years from the date hereof, to deliver to each of the Underwriters, (i) as soon as they are available, copies of all reports or other communications furnished to stockholders, and (ii) as soon as they are available, copies of any reports and financial statements furnished or filed with the Commission or the NASDAQ Capital Market or any national securities exchange on which the Securities are listed. However, so long as the Company is subject to the reporting requirements of either Section 13 or Section 15(d) of the Exchange Act and is timely filing reports with the Commission on its Electronic Data Gathering, Analysis and Retrieval system (“EDGAR”), it is not required to furnish such reports or statements to the Underwriters.

(k) That the Company will not, for a period of ninety (90) days from the date of this Agreement, (the “Lock-Up Period”) without the prior written consent of the Representative, directly or indirectly offer, sell, assign, transfer, pledge, contract to sell, or otherwise dispose of, any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock, other than (i) the Company’s sale of the Securities pursuant to this Agreement, and (ii) the issuance of Common Stock or options to acquire Common Stock to employees, directors and/or consultants pursuant to the Company’s employee benefit plans, qualified stock option plans or other employee compensation plans as such plans are in existence on the date hereof, and (iii) the issuance of Common Stock pursuant to the valid exercises of options, warrants or rights outstanding on the date hereof. The Company will cause each officer and director listed in Schedule III to furnish to the Representative, prior to the Closing Date, a letter, substantially in the form of Exhibit A hereto, pursuant to which each such person shall agree, among other things, not to directly or indirectly offer, sell, assign, transfer, pledge, contract to sell, or otherwise dispose of, or announce the intention to otherwise dispose of, any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock, not to engage in any swap, hedge or similar agreement or arrangement that transfers, in whole or in part, directly or indirectly, the economic risk of ownership of Common Stock or any such securities and not to engage in any short selling of any Common Stock or any such securities, during the Lock-Up Period, without the prior written consent of the Representative. The Company also agrees that during such period, other than for the sale of the Securities hereunder, the Company will not file any registration statement, preliminary prospectus or prospectus, or any amendment or supplement thereto, under the Securities Act for any such transaction or which registers, or offers for sale, Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock, except for a registration statement on Form S-8 relating to employee benefit plans and except for updating amendments or supplements to registration statements or prospectuses that became effective prior to the date of this Agreement and that do not register any additional securities.

(l) To supply the Underwriters with copies of all correspondence to and from, and all documents issued to and by, the Commission in connection with the registration of the Securities under the Securities Act or any of the Registration Statements, any Preliminary Prospectus or the Prospectus, or any amendment or supplement thereto or document incorporated by reference therein.

(m) Prior to the Closing Date, not to issue any press release or other communication directly or indirectly or hold any press conference with respect to the Company, its condition, financial or otherwise, or earnings, business affairs or business prospects (except for routine oral marketing communications in the ordinary course of business and consistent with the past practices of the Company and of which the Representative are notified), without the prior written consent of the Representative, unless in the judgment of the Company and its counsel, and after notification to the Representative, such press release or communication is required by law.

(n) Until the Representative shall have notified the Company of the completion of the resale of the Securities, that the Company will not, and will cause its affiliated purchasers (as defined in Regulation M under the Exchange Act) not to, either alone or with one or more other persons, bid for or purchase, for any account in which it or any of its affiliated purchasers has a beneficial interest, any shares of Common Stock, or attempt to induce any person to purchase any shares of Common Stock; and not to, and to cause its affiliated purchasers not to, make bids or purchase for the purpose of creating actual, or apparent, active trading in or of raising the price of the Common Stock.

(o) Not to take any action prior to the Closing Date which would require the Prospectus to be amended or supplemented pursuant to Section 4(c).

(p) To at all times comply with all applicable provisions of the Sarbanes-Oxley Act in effect from time to time.

(q) [Reserved].

(r) To apply the net proceeds from the sale of the Securities as set forth in the Registration Statement, the General Disclosure Package and the Prospectus under the heading "Use of Proceeds," and except as disclosed in the General Disclosure Package, the Company does not intend to use any of the proceeds from the sale of the Securities hereunder to repay any outstanding debt owed to any affiliate of any Underwriter. The Company shall manage its affairs and investments in such a manner as not to be or become an "investment company" within the meaning of the Investment Company Act and the rules and regulations thereunder.

(s) To use commercially reasonable efforts to maintain the listing of the Common Stock on the NASDAQ Capital Market.

(t) To use commercially reasonable efforts to do and perform all things required to be done or performed under this Agreement by the Company prior to the Closing Date and to satisfy all conditions precedent to the delivery of the Securities.

(u) Upon request of any Underwriter, to furnish, or cause to be furnished, to such Underwriter an electronic version of the Company's trademarks, service marks and corporate logo for use on the website, if any, operated by such Underwriter for the purpose of facilitating the on-line offering of the Securities (the "License"); *provided, however* that the License shall be used solely for the purpose described above, is granted without any fee and may not be assigned or transferred.

5. PAYMENT OF EXPENSES. The Company agrees to pay, or reimburse if paid by any Underwriter, whether or not the transactions contemplated hereby are consummated or this Agreement is terminated: (a) the costs incident to the authorization, issuance, sale, preparation and delivery of the Securities and any taxes payable in that connection; (b) the costs incident to the registration of the Securities under the Securities Act; (c) the costs incident to the preparation, printing and distribution of the Registration Statements, any Preliminary Prospectus, any Issuer Free Writing Prospectus, the General Disclosure Package, the Prospectus, any amendments, supplements and exhibits thereto and the costs of printing, reproducing and distributing the "Agreement Among Underwriters" between the Representative and the Underwriters, the Master Selected Dealers' Agreement, the Underwriters' Questionnaire, this Agreement and any closing documents by mail, telex or other means of communications; (d) the fees and expenses (including related fees and expenses of counsel for the Underwriters) incurred in connection with securing any required review by FINRA of the terms of the sale of the Securities and any filings made with FINRA; (e) any applicable listing or other fees; (f) the fees and expenses (including related fees and expenses of counsel to the Underwriters) of qualifying the Securities under the securities laws of the several jurisdictions as provided in Section 4(i) and of preparing, printing and distributing wrappers, Blue Sky Memoranda and Legal Investment Surveys; (g) the cost of preparing and printing stock certificates; (h) all fees and expenses of the registrar and transfer agent of the Securities; (i) the costs and expenses (including, without limitation, any damages or other amounts payable in connection with the 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 representations contained in Section 2; (j) the costs and expenses of the Company relating to investor presentations on any "road show" undertaken in connection with the marketing of the offering of the Securities, including, without limitation, expenses associated with the preparation or dissemination of any electronic road show, expenses associated with the production of road show slides and graphics, fees and expenses of any consultants engaged in connection with the road show presentations with the prior approval of the Company, travel and lodging expenses of the officers of the Company and such consultants, including the cost of any aircraft chartered in connection with the road show; (k) the fees and disbursements of counsel to the Underwriters (including the fees of counsel to the Underwriters under subsections (d) and (f)), in an amount not to exceed \$125,000; and (l) all other costs and expenses incident to the offering of the Securities or the performance of the obligations of the Company under this Agreement (including, without limitation, the fees and expenses of the Company's counsel and the Company's independent accountants).

6. CONDITIONS OF UNDERWRITERS' OBLIGATIONS. The respective obligations of the several Underwriters hereunder are subject to the accuracy, when made and as of the Applicable Time and on the Closing Date, of the representations and warranties of the Company contained herein, to the accuracy of the statements of the Company made in any certificates pursuant to the provisions hereof, to the performance by the Company of its obligations hereunder, and to each of the following additional terms and conditions:

(a) The Registration Statements have become effective under the Securities Act, and no stop order suspending the effectiveness of any Registration Statement or any part thereof, preventing or suspending the use of any Preliminary Prospectus, the Prospectus or any Permitted Free Writing Prospectus or any part thereof shall have been issued and no proceedings for that purpose or pursuant to Section 8A under the Securities Act shall have been initiated or threatened by the Commission, and all requests for additional information on the part of the Commission (to be included in the Registration Statements or the Prospectus or otherwise) shall have been complied with to the reasonable satisfaction of the Representative; the Rule 462(b) Registration Statement, if any, each Issuer Free Writing Prospectus and the Prospectus shall have been filed with the Commission within the applicable time period prescribed for such filing by, and in compliance with, the Rules and Regulations and in accordance with Section 4(a), and the Rule 462(b) Registration Statement, if any, shall have become effective immediately upon its filing with the Commission; and FINRA shall have raised no objection to the fairness and reasonableness of the terms of this Agreement or the transactions contemplated hereby.

(b) None of the Underwriters shall have discovered and disclosed to the Company on or prior to the Closing Date that any Registration Statement, as amended by any amendment or supplement thereto, contains an untrue statement of a fact which, in the opinion of counsel for the Underwriters, is material or omits to state any fact which, in the opinion of such counsel, is material and is required to be stated therein or is necessary to make the statements therein not misleading, or that the General Disclosure Package, any Issuer Free Writing Prospectus or the Prospectus or any amendment or supplement thereto contains an untrue statement of fact which, in the opinion of such counsel, is material or omits to state any fact which, in the opinion of such counsel, is material and is necessary in order to make the statements, in the light of the circumstances in which they were made, not misleading.

(c) All corporate proceedings and other legal matters incident to the authorization, form and validity of each of this Agreement, the Securities, the Registration Statements, the General Disclosure Package, each Issuer Free Writing Prospectus and the Prospectus and all other legal matters relating to this Agreement and the transactions contemplated hereby shall be reasonably satisfactory in all material respects to counsel for the Underwriters, and the Company shall have furnished to such counsel all documents and information that they may reasonably request to enable them to pass upon such matters.

(d) Akerman LLP, corporate counsel to the Company, shall have furnished to the Representative such counsel's written opinion addressed to the Underwriters and dated the Closing Date, in form and substance reasonably satisfactory to the Representative. Keller Life Science Law P.A., special intellectual property counsel to the Company, shall have furnished to the Representative such counsel's written opinion addressed to the Underwriters and dated the Closing Date, in form and substance reasonably satisfactory to the Representative. Hyman, Phelps & McNamara, P.C., special regulatory counsel to the Company, shall have furnished to the Representative such counsel's written opinion addressed to the Underwriters and dated the Closing Date, in form and substance reasonably satisfactory to the Representative.

(e) Goodwin Procter LLP, counsel for the Underwriters, shall have furnished to the Representative such counsel's written opinion, addressed to the Underwriters and dated the Closing Date, in form and substance reasonably satisfactory to the Representative, and the Company shall have furnished to such counsel such documents as they request for enabling them to pass upon such matters.

(f) At the time of the execution of this Agreement, the Representative shall have received from Grant Thornton LLP a letter, addressed to the Underwriters, executed and dated such date, in form and substance satisfactory to the Representative (i) confirming that they are an independent registered accounting firm with respect to the Company within the meaning of the Securities Act and the Rules and Regulations and PCAOB and (ii) stating the conclusions and findings of such firm, of the type ordinarily included in accountants' "comfort letters" to underwriters, with respect to the financial statements and certain financial information contained or incorporated by reference in the Registration Statements, the General Disclosure Package and the Prospectus.

(g) On the effective date of any post-effective amendment to any Registration Statement and on the Closing Date, the Representative shall have received a letter (the "bring-down letter") from Grant Thornton LLP addressed to the Underwriters and dated the Closing Date confirming, as of the date of the bring-down letter (or, with respect to matters involving changes or developments since the respective dates as of which specified financial information is given in the General Disclosure Package and the Prospectus, as the case may be, as of a date not more than three (3) business days prior to the date of the bring-down letter), the conclusions and findings of such firm, of the type ordinarily included in accountants' "comfort letters" to underwriters, with respect to the financial information and other matters covered by its letter delivered to the Representative concurrently with the execution of this Agreement pursuant to paragraph (f) of this Section 6.

(h) The Company shall have furnished to the Representative a certificate, dated the Closing Date, of its Chief Executive Officer or President and its Chief Financial Officer stating that (i) such officers have carefully examined the Registration Statement, the General Disclosure Package, any Permitted Free Writing Prospectus and the Prospectus and, in their opinion, the Registration Statements and each amendment thereto, as of their respective effective dates, the date of first use of the Prospectus, as of the date of this Agreement and as of the Closing Date did not include any untrue statement of a material fact and did not omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading, and the General Disclosure Package, as of the Applicable Time and as of the Closing Date, any Permitted Free Writing Prospectus as of its date and as of the Closing Date, the Prospectus and each amendment or supplement thereto, as of the respective date thereof and as of the Closing Date, did not include 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 in which they were made, not misleading, (ii) since the effective date of the Initial Registration Statement, no event has occurred which should have been set forth in a supplement or amendment to the Registration Statements, the General Disclosure Package or the Prospectus, (iii) to the best of their knowledge after reasonable investigation, as of the Closing Date, the representations and warranties of the Company in this Agreement are true and correct and the Company has complied with all agreements and satisfied all conditions on its part to be performed or satisfied hereunder at or prior to the Closing Date, and (iv) there has not been, subsequent to the date of the most recent audited financial statements included in the General Disclosure Package, any material adverse change in the financial position or results of operations of the Company, or any change or development that, in the aggregate, would involve a material adverse change or a prospective material adverse change, in or affecting the condition (financial or otherwise), results of operations, business, assets or prospects of the Company, except as set forth in the Prospectus.

(i) Since the date of the latest audited financial statements included in the General Disclosure Package, (i) the Company shall not have sustained any loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree, otherwise than as set forth in the General Disclosure Package, and (ii) there shall not have been any change in the capital stock or long-term debt of the Company, or any change, or any development involving a prospective change, in or affecting the business, general affairs, management, financial position, stockholders' equity or results of operations of the Company, otherwise than as set forth in the General Disclosure Package, the effect of which, in any such case described in clause (i) or (ii) of this paragraph (i), is, in the judgment of the Representative, so material and adverse as to make it impracticable or inadvisable to proceed with the sale or delivery of the Securities on the terms and in the manner contemplated in the General Disclosure Package.

(j) No action shall have been taken and no law, statute, rule, regulation or order shall have been enacted, adopted or issued by any governmental agency or body which would prevent the issuance or sale of the Securities or materially and adversely affect or potentially materially and adversely affect the business or operations of the Company; and no injunction, restraining order or order of any other nature by any federal or state court of competent jurisdiction shall have been issued which would prevent the issuance or sale of the Securities or materially and adversely affect or potentially materially and adversely affect the business or operations of the Company.

(k) Subsequent to the execution and delivery of this Agreement (i) no downgrading shall have occurred in the Company's corporate credit rating or the rating accorded the Company's debt securities by any "nationally recognized statistical rating organization," as that term is defined by the Commission for purposes of Rule 436(g)(2) of the Rules and Regulations and (ii) no such organization shall have publicly announced that it has under surveillance or review (other than an announcement with positive implications of a possible upgrading), the Company's corporate credit rating or the rating of any of the Company's debt securities.

(l) Subsequent to the execution and delivery of this Agreement there shall not have occurred any of the following: (i) trading in securities generally on the New York Stock Exchange, the NASDAQ Global Select Market, the NASDAQ Global Market, the NASDAQ Capital Market or the NYSE American or in the over-the-counter market, or trading in any securities of the Company on any exchange or in the over-the-counter market, shall have been suspended or materially limited, or minimum or maximum prices or maximum range for prices shall have been established on any such exchange or such market by the Commission, by such exchange or market or by any other regulatory body or governmental authority having jurisdiction, (ii) a banking moratorium shall have been declared by Federal or state authorities or a material disruption has occurred in commercial banking or securities settlement or clearance services in the United States, (iii) the United States shall have become engaged in hostilities, or the subject of an act of terrorism, or there shall have been an outbreak of or escalation in hostilities involving the United States, or there shall have been a declaration of a national emergency or war by the United States resulting in a disruption of the securities markets or (iv) there shall have occurred such a material adverse change in general economic, political or financial conditions (or the effect of international conditions on the financial markets in the United States shall be such) as to make it, in the judgment of the Representative, impracticable or inadvisable to proceed with the sale or delivery of the Securities on the terms and in the manner contemplated in the General Disclosure Package and the Prospectus.

(m) The Company shall have filed a Notification: Listing of Additional Shares with the NASDAQ Capital Market and shall have received no objection thereto from the NASDAQ Capital Market.

(n) The Representative shall have received on and as of the Closing Date satisfactory evidence of the good standing of the Company in its jurisdiction of organization and its good standing as foreign entities in such other jurisdictions as the Representative may reasonably request, in each case in writing or any standard form of telecommunication from the appropriate Governmental Authorities of such jurisdictions.

(o) The Representative shall have received the written agreements, substantially in the form of Exhibit A hereto, of the officers and directors listed in Schedule III to this Agreement.

(p) The Representative shall have received on the Closing Date a certificate of the Secretary of the Company.

(q) The Company shall have furnished to the Underwriters a Certificate of the Chief Financial Officer of the Company, substantially in the form of Exhibit B hereto.

(r) On or prior to the Closing Date, the Company shall have furnished to the Representative such further certificates and documents as the Representative may reasonably request.

All opinions, letters, evidence and certificates mentioned above or elsewhere in this Agreement shall be deemed to be in compliance with the provisions hereof only if they are in form and substance reasonably satisfactory to counsel for the Underwriters.

7. INDEMNIFICATION AND CONTRIBUTION.

(a) The Company shall indemnify and hold harmless each Underwriter, its directors, officers, managers, members, employees, representatives and agents and each person, if any, who controls any Underwriter within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act (collectively the “Underwriter Indemnified Parties,” and each an “Underwriter Indemnified Party”) against any loss, claim, damage, expense or liability whatsoever (or any action, investigation or proceeding in respect thereof), joint or several, to which such Underwriter Indemnified Party may become subject, under the Securities Act or otherwise, insofar as such loss, claim, damage, expense, liability, action, investigation

or proceeding arises out of or is based upon (A) any untrue statement or alleged untrue statement of a material fact contained in any Preliminary Prospectus, any Issuer Free Writing Prospectus, any “issuer information” filed or required to be filed pursuant to Rule 433(d) of the Rules and Regulations, any Registration Statement or the Prospectus, or in any amendment or supplement thereto or (B) the omission or alleged omission to state in any Preliminary Prospectus, any Issuer Free Writing Prospectus, any “issuer information” filed or required to be filed pursuant to Rule 433(d) of the Rules and Regulations, any Registration Statement or the Prospectus, or in any amendment or supplement thereto, a material fact required to be stated therein or necessary to make the statements therein not misleading, and shall reimburse each Underwriter Indemnified Party promptly upon demand for any legal fees or other expenses reasonably incurred by that Underwriter Indemnified Party in connection with investigating, or preparing to defend, or defending against, or appearing as a third party witness in respect of, or otherwise incurred in connection with, any such loss, claim, damage, expense, liability, action, investigation or proceeding, as such fees and expenses are incurred; *provided, however*, that the Company shall not be liable in any such case to the extent that any such loss, claim, damage, expense or liability arises out of or is based upon an untrue statement or alleged untrue statement in, or omission or alleged omission from any Preliminary Prospectus, any Registration Statement or the Prospectus, or any such amendment or supplement thereto, or any Issuer Free Writing Prospectus made in reliance upon and in conformity with written information furnished to the Company through the Representative by or on behalf of any Underwriter specifically for use therein, which information the parties hereto agree is limited to the Underwriter’s Information (as defined in Section 17).

The indemnity agreement in this Section 7(a) is not exclusive and is in addition to each other liability which the Company might have under this Agreement or otherwise, and shall not limit any rights or remedies which may otherwise be available under this Agreement, at law or in equity to any Underwriter Indemnified Party.

(b) Each Underwriter, severally and not jointly, shall indemnify and hold harmless the Company and its directors, its officers who signed the Registration Statement and each person, if any, who controls the Company within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act (collectively the “Company Indemnified Parties” and each a “Company Indemnified Party”) against any loss, claim, damage, expense or liability whatsoever (or any action, investigation or proceeding in respect thereof), joint or several, to which such Company Indemnified Party may become subject, under the Securities Act or otherwise, insofar as such loss, claim, damage, expense, liability, action, investigation or proceeding arises out of or is based upon (i) any untrue statement or alleged untrue statement of a material fact contained in any Preliminary Prospectus, any Issuer Free Writing Prospectus, any “issuer information” filed or required to be filed pursuant to Rule 433(d) of the Rules and Regulations, any Registration Statement or the Prospectus, or in any amendment or supplement thereto, or (ii) the omission or alleged omission to state in any Preliminary Prospectus, any Issuer Free Writing Prospectus, any “issuer information” filed or required to be filed pursuant to Rule 433(d) of the Rules and Regulations, any Registration Statement or the Prospectus, or in any amendment or supplement thereto, a material fact required to be stated therein or necessary to make the statements therein not misleading, but in each case only to the extent that the untrue statement or alleged untrue statement or omission or alleged omission was made in reliance upon and in conformity with written information furnished to the Company through the Representative by or on behalf of that Underwriter specifically for use therein, which information the parties hereto agree is limited to the Underwriter’s Information as defined in Section 17, and shall reimburse the Company Indemnified Parties for any legal or other expenses reasonably incurred by such party in connection with investigating or preparing to defend or defending against or appearing as third party witness in connection with any such loss, claim, damage, liability, action, investigation or proceeding, as such fees and expenses are incurred. This indemnity agreement is not exclusive and will be in addition to any liability which the Underwriters might otherwise have and shall not limit any rights or remedies which may otherwise be available under this Agreement, at law or in equity to the Company Indemnified Parties.

(c) Promptly after receipt by an indemnified party under this Section 7 of notice of the commencement of any action, the indemnified party shall, if a claim in respect thereof is to be made against an indemnifying party under this Section 7, notify such indemnifying party in writing of the commencement of that action; provided, however, that the failure to notify the indemnifying party shall not relieve it from any liability which it may have under this Section 7 except to the extent it has been materially prejudiced by such failure; and, provided, further, that the failure to notify an indemnifying party shall not relieve it from any liability which it may have to an indemnified party otherwise than under this Section 7. If any such action shall be brought against an indemnified party, and it shall notify the indemnifying party thereof, the indemnifying party shall be entitled to participate therein and, to the extent that it wishes, jointly with any other similarly notified indemnifying party, to assume the defense of such action with counsel reasonably satisfactory to the indemnified party (which counsel shall not, except with the written consent of the indemnified party, be counsel to the indemnifying party). After notice from the indemnifying party to the indemnified party of its election to assume the defense of such action, except as provided herein, the indemnifying party shall not be liable to the indemnified party under Section 7 for any legal or other expenses subsequently incurred by the indemnified party in connection with the defense of such action other than reasonable costs of investigation; provided, however, that any indemnified party shall have the right to employ separate counsel in any such action and to participate in the defense of such action but the fees and expenses of such counsel (other than reasonable costs of investigation) shall be at the expense of such indemnified party unless (i) the employment thereof has been specifically authorized in writing by the Company in the case of a claim for indemnification under Section 7(a) or the Representative in the case of a claim for indemnification under Section 7(b), (ii) such indemnified party shall have been advised by its counsel that there may be one or more legal defenses available to it which are different from or additional to those available to the indemnifying party, (iii) the indemnifying party has failed to assume the defense of such action and employ counsel reasonably satisfactory to the indemnified party within a reasonable period of time after notice of the commencement of the action or the indemnifying party does not diligently defend the action after assumption of the defense, in which case, if such indemnified party notifies the indemnifying party in writing that it elects to employ separate counsel at the expense of the indemnifying party, the indemnifying party shall not have the right to assume the defense of (or, in the case of a failure to diligently defend the action after assumption of the defense, to continue to defend) such action on behalf of such indemnified party and the indemnifying party shall be responsible for legal or other expenses subsequently incurred by such indemnified party in connection with the defense of such action; provided, however, that the indemnifying party shall not, in connection with any one such action or separate but substantially similar or related actions in the same jurisdiction arising out of the same general allegations or circumstances, be liable for the reasonable fees and expenses of more than one separate firm of attorneys at any time for all such indemnified parties (in addition to any local counsel), which firm shall be designated in writing by the Representative if the indemnified parties under this Section 7 consist of any Underwriter Indemnified Party or by the Company if the indemnified parties under this Section 7 consist of any Company Indemnified Parties. Subject to this Section 7(c), the amount payable by an indemnifying party under Section 7 shall include, but not be limited to, (x) reasonable legal fees and expenses of counsel to the indemnified party and any other expenses in investigating, or preparing to defend or defending against, or appearing as a third party witness in respect of, or otherwise incurred in connection with, any action, investigation, proceeding or claim, and (y) all amounts paid in settlement of any of the foregoing. No indemnifying party shall, without the prior written consent of the indemnified parties, settle or compromise or consent to the entry of judgment with respect to any pending or threatened action or any claim whatsoever, in respect of which indemnification or contribution could be sought under this Section 7 (whether or not the indemnified parties are actual or potential parties thereto), unless such settlement, compromise or consent (i) includes an unconditional release of each indemnified party in form and substance reasonably satisfactory to such indemnified party from all liability arising out of such action or claim and (ii) does not include a statement as to or an admission of fault, culpability or a failure to act by or on behalf of any indemnified party. Subject to the provisions of the following sentence, no indemnifying party shall be liable for settlement of any pending or threatened action or any claim whatsoever that is effected without its written consent (which consent shall not be unreasonably withheld or delayed), but if

settled with its written consent, if its consent has been unreasonably withheld or delayed or if there be a judgment for the plaintiff in any such matter, the indemnifying party agrees to indemnify and hold harmless any indemnified party from and against any loss or liability by reason of such settlement or judgment. In addition, if at any time an indemnified party shall have requested that an indemnifying party reimburse the indemnified party for fees and expenses of counsel, such indemnifying party agrees that it shall be liable for any settlement of the nature contemplated by Section 7(a) effected without its written consent if (i) such settlement is entered into more than forty-five (45) days after receipt by such indemnifying party of the request for reimbursement, (ii) such indemnifying party shall have received notice of the terms of such settlement at least thirty (30) days prior to such settlement being entered into and (iii) such indemnifying party shall not have reimbursed such indemnified party in accordance with such request prior to the date of such settlement.

(d) If the indemnification provided for in this Section 7 is unavailable or insufficient to hold harmless an indemnified party under Section 7(a) or 7(b), then each indemnifying party shall, in lieu of indemnifying such indemnified party, contribute to the amount paid, payable or otherwise incurred by such indemnified party as a result of such loss, claim, damage, expense or liability (or any action, investigation or proceeding in respect thereof), as incurred, (i) in such proportion as shall be 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, or (ii) if the allocation provided by clause (i) of this Section 7(d) is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) of this Section 7(d) but also the relative fault of the Company on the one hand and the Underwriters on the other with respect to the statements, omissions, acts or failures to act which resulted in such loss, claim, damage, expense or liability (or any action, investigation or proceeding 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 with respect to such offering shall be deemed to be in the same proportion as the total net proceeds from the offering of the Securities purchased under this Agreement (before deducting expenses) received by the Company bear to the total underwriting discounts and commissions received by the Underwriters with respect to the Securities purchased under this Agreement, in each case as set forth in the table on the cover page of the Prospectus. The relative fault of the Company on the one hand and the Underwriters on the other shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Company on the one hand or the Underwriters on the other, the intent of the parties and their relative knowledge, access to information and opportunity to correct or prevent such untrue statement, omission, act or failure to act; provided that the parties hereto agree that the written information furnished to the Company through the Representative by or on behalf of the Underwriters for use in the Preliminary Prospectus, any Registration Statement or the Prospectus, or in any amendment or supplement thereto, consists solely of the Underwriter's Information as defined in Section 17.

(e) The Company and the Underwriters agree that it would not be just and equitable if contributions pursuant to Section 7(d) above were to be determined by pro rata allocation or by any other method of allocation which does not take into account the equitable considerations referred to Section 7(d) above. The amount paid or payable by an indemnified party as a result of the loss, claim, damage, expense, liability, action, investigation or proceeding referred to in Section 7(d) above shall be deemed to include, subject to the limitations set forth above, any legal or other expenses reasonably incurred by such indemnified party in connection with investigating, preparing to defend or defending against or appearing as a third party witness in respect of, or otherwise incurred in connection with, any such loss, claim, damage, expense, liability, action, investigation or proceeding. Notwithstanding the provisions of this Section 7, no Underwriters shall be required to contribute any amount in excess of the total underwriting discounts and commissions received by such Underwriter with respect to the offering of the Securities exceeds the amount of any damages which the Underwriter has otherwise paid or become liable to pay by reason of any untrue or alleged untrue statement, omission or alleged omission, act or alleged act or failure to act or alleged

failure to act. 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 to contribute as provided in this Section 7 are several in proportion to their respective underwriting obligations and not joint.

8. **TERMINATION.** The obligations of the Underwriters hereunder may be terminated by the Representative, in its absolute discretion by notice given to the Company prior to delivery of and payment for the Securities if, prior to that time, any of the events described in Sections 6(i), 6(k) or 6(l) have occurred or if the Underwriters shall decline to purchase the Securities for any reason permitted under this Agreement.

9. **REIMBURSEMENT OF UNDERWRITERS' EXPENSES.** Notwithstanding anything to the contrary in this Agreement, if (a) this Agreement shall have been terminated pursuant to Section 8 or 10, (b) the Company shall fail to tender the Securities for delivery to the Underwriters for any reason not permitted under this Agreement, (c) the Underwriters shall decline to purchase the Securities for any reason permitted under this Agreement or (d) the sale of the Securities is not consummated because any condition to the obligations of the Underwriters set forth herein is not satisfied or because of the refusal, inability or failure on the part of the Company to perform any agreement herein or to satisfy any condition or to comply with the provisions hereof, then in addition to the payment of amounts in accordance with Section 5, the Company shall reimburse the Underwriters for the fees and expenses of Underwriters' counsel and for such other out-of-pocket expenses as shall have been reasonably incurred by them in connection with this Agreement and the proposed purchase of the Securities, including, without limitation, travel and lodging expenses of the Underwriters, and upon demand the Company shall pay the full amount thereof to the Representative; provided that if this Agreement is terminated pursuant to Section 10 by reason of the default of one or more Underwriters, the Company shall not be obligated to reimburse any defaulting Underwriter on account of expenses to the extent incurred by such defaulting Underwriter provided further that the foregoing shall not limit any reimbursement obligation of the Company to any non-defaulting Underwriter under this Section 9.

10. **SUBSTITUTION OF UNDERWRITERS.** If any Underwriter or Underwriters shall default in its or their obligations to purchase shares of Securities hereunder on the Closing Date and the aggregate number of shares which such defaulting Underwriter or Underwriters agreed but failed to purchase does not exceed ten percent (10%) of the total number of shares to be purchased by all Underwriters on the Closing Date, the other Underwriters shall be obligated severally, in proportion to their respective commitments hereunder, to purchase the shares which such defaulting Underwriter or Underwriters agreed but failed to purchase on the Closing Date. If any Underwriter or Underwriters shall so default and the aggregate number of shares with respect to which such default or defaults occur is more than ten percent (10%) of the total number of shares to be purchased by all Underwriters on the Closing Date and arrangements satisfactory to the Representative and the Company for the purchase of such shares by other persons are not made within forty eight (48) hours after such default, this Agreement shall terminate.

If the remaining Underwriters or substituted Underwriters are required hereby or agree to take up all or part of the shares of Securities of a defaulting Underwriter or Underwriters on the Closing Date as provided in this Section 10, (i) the Company shall have the right to postpone the Closing Date for a period of not more than five (5) full business days in order that the Company may effect whatever changes may thereby be made necessary in the Registration Statements or the Prospectus, or in any other documents or arrangements, and the Company agrees promptly to file any amendments to the Registration Statements or supplements to the Prospectus which may thereby be made necessary, and (ii) the respective numbers of shares to be purchased by the remaining Underwriters or substituted Underwriters shall be taken as the basis of their underwriting obligation for all purposes of this Agreement. Nothing herein contained shall relieve any defaulting Underwriter of its liability to the Company or the other Underwriters for damages occasioned by its default hereunder. Any termination of this Agreement pursuant to this Section 10 shall be

without liability on the part of any non-defaulting Underwriter or the Company, except that the representations, warranties, covenants, indemnities, agreements and other statements set forth in Section 2, the obligations with respect to expenses to be paid or reimbursed pursuant to Section 5 and 9 and the provisions of Section 7 and Sections 11 through 20, inclusive, shall not terminate and shall remain in full force and effect.

11. ABSENCE OF FIDUCIARY RELATIONSHIP. The Company acknowledges and agrees that:

(a) each Underwriter's responsibility to the Company is solely contractual in nature, the Representative has been retained solely to act as underwriter in connection with the sale of the Securities and no fiduciary, advisory or agency relationship between the Company and the Representative has been created in respect of any of the transactions contemplated by this Agreement, irrespective of whether the Representative has advised or is advising the Company on other matters;

(b) the price of the Securities set forth in this Agreement was established by the Company following discussions and arms-length negotiations with the Representative, and the Company is capable of evaluating and understanding, and understands and accepts, the terms, risks and conditions of the transactions contemplated by this Agreement;

(c) it has been advised that the Representative and its affiliates are engaged in a broad range of transactions which may involve interests that differ from those of the Company and that the Representative has no obligation to disclose such interests and transactions to the Company by virtue of any fiduciary, advisory or agency relationship; and

(d) it waives, to the fullest extent permitted by law, any claims it may have against the Representative for breach of fiduciary duty or alleged breach of fiduciary duty and agrees that the Representative shall have no liability (whether direct or indirect) to the Company in respect of such a fiduciary duty claim or to any person asserting a fiduciary duty claim on behalf of or in right of the Company, including stockholders, employees or creditors of the Company.

12. SUCCESSORS; PERSONS ENTITLED TO BENEFIT OF AGREEMENT. This Agreement shall inure to the benefit of and be binding upon the several Underwriters, the Company and their respective successors and assigns. Nothing expressed or mentioned in this Agreement is intended or shall be construed to give any person, other than the persons mentioned in the preceding sentence, any legal or equitable right, remedy or claim under or in respect of this Agreement, or any provisions herein contained, this Agreement and all conditions and provisions hereof being intended to be and being for the sole and exclusive benefit of such persons and for the benefit of no other person; except that the representations, warranties, covenants, agreements and indemnities of the Company contained in this Agreement shall also be for the benefit of the Underwriter Indemnified Parties, and the indemnities of the several Underwriters shall be for the benefit of the Company Indemnified Parties. It is understood that each Underwriter's responsibility to the Company is solely contractual in nature and the Underwriters do not owe the Company, or any other party, any fiduciary duty as a result of this Agreement. No purchaser of any of the Securities from any Underwriter shall be deemed to be a successor or assign by reason merely of such purchase.

13. SURVIVAL OF INDEMNITIES, REPRESENTATIONS, WARRANTIES, ETC. The respective indemnities, covenants, agreements, representations, warranties and other statements of the Company and the several Underwriters, as set forth in this Agreement or made by them respectively, pursuant to this Agreement, shall remain in full force and effect, regardless of any investigation made by or on behalf of any Underwriter, the Company or any person controlling any of them and shall survive delivery of and payment for the Securities. Notwithstanding any termination of this Agreement, including without limitation any termination pursuant to Section 8 or Section 10, the indemnities, covenants, agreements, representations, warranties and other statements forth in Sections 2, 5, 7 and 9 and Sections 11 through 20, inclusive, of this Agreement shall not terminate and shall remain in full force and effect at all times.

14. NOTICES. All statements, requests, notices and agreements hereunder shall be in writing, and:

(a) if to the Underwriters, shall be delivered or sent by mail, telex, facsimile transmission or email to the Representative c/o Piper Jaffray & Co., U.S. Bancorp Center, 800 Nicollet Mall, Minneapolis, Minnesota 55402, Attention: General Counsel; with a copy (which shall not constitute notice) to: Goodwin Procter LLP, The New York Times Building, 620 Eighth Avenue, New York, New York 10018, Attention: Michael D. Maline, Esq., Fax: 212-355-3333; and

(b) if to the Company shall be delivered or sent by mail, telex, facsimile transmission or email to Catalyst Pharmaceuticals, Inc., 355 Alhambra Circle, Suite 1250, Coral Gables, Florida 33134, Attention: Patrick J. McEnany, Fax: 305-569-0233; with a copy (which shall not constitute notice) to: Akerman LLP, 350 East Las Olas Boulevard, Fort Lauderdale, Florida 33301, Attention: Philip B. Schwartz, Esq., Fax: 305-349-4833.

provided, however, that any notice to an Underwriter pursuant to Section 7 shall be delivered or sent by mail, or facsimile transmission to such Underwriter at its address set forth in its acceptance telex to the Representative, which address will be supplied to any other party hereto by the Representative upon request. Any such statements, requests, notices or agreements shall take effect at the time of receipt thereof.

15. DEFINITION OF CERTAIN TERMS. For purposes of this Agreement, “business day” means any day on which the NASDAQ Stock Market is open for trading.

16. GOVERNING LAW, AGENT FOR SERVICE AND JURISDICTION. 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. The Company irrevocably (a) submits to the non-exclusive jurisdiction of the Federal and state courts in the Borough of Manhattan in The City of New York for the purpose of any suit, action or other proceeding arising out of this Agreement or the transactions contemplated by this Agreement, the Registration Statements and any Preliminary Prospectus or the Prospectus, (b) agrees that all claims in respect of any such suit, action or proceeding may be heard and determined by any such court, (c) waives to the fullest extent permitted by applicable law, any immunity from the jurisdiction of any such court or from any legal process, (d) agrees not to commence any such suit, action or proceeding other than in such courts, and (e) waives, to the fullest extent permitted by applicable law, any claim that any such suit, action or proceeding is brought in an inconvenient forum.

17. UNDERWRITERS’ INFORMATION. The parties hereto acknowledge and agree that, for all purposes of this Agreement, the Underwriters’ Information consists solely of the second and tenth through twelfth paragraphs under the heading “Underwriting” in the Prospectus.

18. PARTIAL UNENFORCEABILITY. The invalidity or unenforceability of any section, paragraph, clause or provision of this Agreement shall not affect the validity or enforceability of any other section, paragraph, clause or provision hereof. If any section, paragraph, clause or provision of this Agreement is for any reason determined to be invalid or unenforceable, there shall be deemed to be made such minor changes (and only such minor changes) as are necessary to make it valid and enforceable.

19. GENERAL. This Agreement constitutes the entire agreement of the parties to this Agreement and supersedes all prior written or oral and all contemporaneous oral agreements, understandings and negotiations with respect to the subject matter hereof. In this Agreement, the masculine, feminine and neuter genders and the singular and the plural include one another. The section headings in this Agreement are for the convenience of the parties only and will not affect the construction or interpretation of this Agreement. This Agreement may be amended or modified, and the observance of any term of this Agreement may be waived, only by a writing signed by the Company and the Representative.

20. COUNTERPARTS. This Agreement may be signed in two counterparts, each of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument.

If the foregoing is in accordance with your understanding of the agreement between the Company and the several Underwriters, kindly indicate your acceptance in the space provided for that purpose below.

Very truly yours,

CATALYST PHARMACEUTICALS, INC.

By: /s/ Patrick J. McEnany

Name: Patrick J. McEnany

Title: CEO

Accepted as of the date first above written:

PIPER JAFFRAY & CO.

Acting on its own behalf and as Representative of several
Underwriters referred to in the foregoing Agreement

By: /s/ David W. Stadinski

Name: David W. Stadinski

Title: Managing Director

[*Signature Page to Underwriting Agreement*]

SCHEDULE I

Underwriters

<u>Name</u>	<u>Number of Shares of Firm Stock</u>
Piper Jaffray & Co.	8,857,143
SunTrust Robinson Humphrey, Inc.	3,857,143
H.C. Wainwright & Co.	857,143
Roth Capital Partners, LLC	714,286
Total	14,285,715

SCHEDULE II

Issuer Free Writing Prospectus:

None.

Pricing Information:

Number of Shares of Firm Stock:	14,285,715 shares
Number of Shares of Option Stock	2,142,857 shares
Price to the public:	\$ 3.50 per share
Underwriting Discount:	6.0%

SCHEDULE III

Lock-Up Agreement Signatories

Patrick J. McEnany
Philip H. Coelho
Richard Daly
Donald A. Denkhaus
Charles B. O’Keeffe
David S. Tierney
Gary Ingenito
Alicia Grande
Steven R. Miller

Form of Lock Up Agreement

November [●], 2017

PIPER JAFFRAY & CO.

As Representative of the Several Underwriters

U.S. Bancorp Center

800 Nicollet Mall

Minneapolis, Minnesota 55402

Re: Catalyst Pharmaceuticals, Inc. – Registration Statement on Form S-3

Dear Sirs:

This Lock Up Agreement is being delivered to you in connection with the proposed Underwriting Agreement (the “Underwriting Agreement”) between Catalyst Pharmaceuticals, Inc., a Delaware corporation (the “Company”), and Piper Jaffray & Co. (“Piper”), as representative of a group of underwriters (collectively, the “Underwriters”), to be named therein, and the other parties thereto (if any), relating to the proposed public offering of shares of common stock, par value \$0.001 per share (the “Common Stock”), of the Company.

In order to induce you and the other Underwriters to enter into the Underwriting Agreement, and in light of the benefits that the offering of the Common Stock will confer upon the undersigned in his or her capacity as an officer or director of the Company, and for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the undersigned agrees with each Underwriter that, during the period beginning on the date hereof through and including the date that is the 90th day after the date of the Underwriting Agreement (the “Lock-Up Period”), except as otherwise permitted herein, the undersigned will not, without the prior written consent of Piper, directly or indirectly, (i) offer, sell, assign, transfer, pledge, contract to sell, or otherwise dispose of, or announce the intention to otherwise dispose of, any shares of Common Stock (including, without limitation, Common Stock which may be deemed to be beneficially owned by the undersigned in accordance with the rules and regulations promulgated under the Securities Act of 1933, as the same may be amended or supplemented from time to time (such shares, the “Beneficially Owned Shares”)) or securities convertible into or exercisable or exchangeable for Common Stock, (ii) enter into any swap, hedge or similar agreement or arrangement that transfers in whole or in part, the economic risk of ownership of the Beneficially Owned Shares or securities convertible into or exercisable or exchangeable for Common Stock, whether now owned or hereafter acquired by the undersigned or with respect to which the undersigned has or hereafter acquires the power of disposition, or (iii) engage in any short selling of the Common Stock or securities convertible into or exercisable or exchangeable for Common Stock.

The restrictions set forth in the immediately preceding paragraph shall not apply to any transfers made by the undersigned (a) as a bona fide gift to any member of the immediate family (as defined below) of the undersigned or to a trust the beneficiaries of which are exclusively the undersigned or members of the undersigned’s immediate family, (b) by will or intestate succession upon the death of the undersigned or (c) as a bona fide gift to a charity or educational institution; provided, however, that it shall be a condition to the transfer that (i) the transferee executes and delivers to Piper, acting on behalf of the Underwriters, not later than one business day prior to such transfer, a written agreement, in substantially the form of this Lock Up Agreement (it being understood that any references to “immediate family” in the agreement executed by such transferee shall expressly refer only to the immediate family of the undersigned and not to the immediate family of the transferee) and otherwise reasonably

satisfactory in form and substance to Piper, and (ii) if the undersigned is required to file a report under Section 16(a) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), reporting a reduction in beneficial ownership of shares of Common Stock or Beneficially Owned Shares or any securities convertible into or exercisable or exchangeable for Common Stock or Beneficially Owned Shares during the Lock-Up Period, the undersigned shall include a statement in such report to the effect that such transfer is being made as a gift or by will or intestate succession. For purposes of this paragraph, “immediate family” shall mean a spouse, child, grandchild or other lineal descendant (including by adoption), father, mother, brother or sister of the undersigned; and “affiliate” shall have the meaning set forth in Rule 405 under the Securities Act of 1933, as amended.

Further, the restrictions set forth in this Lock Up Agreement shall not apply to the exercise of any of the undersigned’s rights to acquire shares of Common Stock or other securities of the Company issued pursuant to any stock option or similar equity incentive or compensation plan approved by the Board of Directors (“Board”) of the Company or a committee of the Board (“Equity Incentive Grants”), including (i) the delivery to the Company or forfeiture of any shares of Common Stock as payment for exercised shares in any “cashless” exercise, and (ii) the exercise of any previously granted stock option on a “cashless basis”; provided that such Equity Incentive Grant is already in effect as of the date of this Lock Up Agreement, and provided further that, to the extent the undersigned receives shares of Common Stock as part of an Equity Incentive Grant, the undersigned may offer, sell, contract to sell, or otherwise dispose of, or forfeit to the Company, up to the number of such shares of Common Stock necessary to satisfy withholding tax obligations incurred by the undersigned in connection with the receipt or exercise of such Equity Incentive Grant, and provided further, as a condition to any delivery, transfer or other disposition, that if the undersigned is required to file a report under Section 16(a) of the Exchange Act, reporting a reduction in beneficial ownership of shares of Common Stock or Beneficially Owned Shares or any securities convertible into or exercisable or exchangeable for Common Stock or Beneficially Owned Shares during the Lock-Up Period, the undersigned shall include a statement in such report, and if applicable an appropriate disposition transaction code, to the effect that such transfer is being made as a share delivery or forfeiture in connection with a net value exercise, or as a forfeiture or sale of shares solely to cover required tax withholding, as the case may be.

In order to enable this covenant to be enforced, the undersigned hereby consents to the placing of legends or stop transfer instructions with the Company’s transfer agent with respect to any Common Stock or securities convertible into or exercisable or exchangeable for Common Stock.

The undersigned further agrees that (i) it will not, during the Lock-Up Period, make any demand or request for or exercise any right with respect to the registration under the Securities Act of 1933, as amended, of any shares of Common Stock or other Beneficially Owned Shares or any securities convertible into or exercisable or exchangeable for Common Stock or other Beneficially Owned Shares, and (ii) the Company may, with respect to any Common Stock or other Beneficially Owned Shares or any securities convertible into or exercisable or exchangeable for Common Stock or other Beneficially Owned Shares owned or held (of record or beneficially) by the undersigned, cause the transfer agent or other registrar to enter stop transfer instructions and implement stop transfer procedures with respect to such securities during the Lock-Up Period.

The undersigned hereby represents and warrants that the undersigned has full power and authority to enter into this Lock Up Agreement and is a valid and binding agreement of the undersigned. This Lock Up Agreement and all authority herein conferred are irrevocable and shall survive the death or incapacity of the undersigned and shall be binding upon the heirs, personal representatives, successors and assigns of the undersigned.

The undersigned acknowledges and agrees that whether or not any public offering of shares of Common Stock actually occurs depends on a number of factors, including market conditions.

Very truly yours,

(Name of Stockholder—Please Print)

(Signature)

Exhibit B

Catalyst Pharmaceuticals, Inc.

Chief Financial Officer's Certificate

Alicia Grande, in her capacity as Chief Financial Officer of Catalyst Pharmaceuticals, Inc., a Delaware corporation (the “**Company**”), pursuant to Section 6(q) of that certain Underwriting Agreement, dated as of November 28, 2017 (the “**Underwriting Agreement**”), by and between the Company and Piper Jaffray & Co., as representative to the several underwriters named therein (the “**Underwriters**”), hereby certifies that (capitalized terms used and not defined herein have the meanings ascribed to them in the Underwriting Agreement):

1. I, or members of my staff, have read the amounts circled on the copies of certain pages of the Registration Statement, General Disclosure Package and the Prospectus, attached hereto as Exhibit A.
2. With regard to these amounts, I, or members of my staff, compared such amounts to the corresponding amounts included in or derived from the Company's internal accounting records or schedules prepared by management from such accounting records for the applicable periods and found them to be in agreement.
3. These amounts are accurate in all material respects, and nothing has come to my attention that would cause me to believe that these amounts have been materially misstated or are materially misleading.
4. This certificate is to assist the Underwriters in conducting and documenting their investigation of the affairs of the Company in connection with the offering of the Stock covered by the Registration Statement, General Disclosure Package and the Prospectus.

[Signature page follows.]

IN WITNESS WHEREOF , the undersigned has executed this certificate this 30th day of November, 2017.

Catalyst Pharmaceuticals, Inc.

By: _____

Name: Alicia Grande

Title: Chief Financial Officer



Akerman LLP
Las Olas Centre II, Suite 1600
350 East Las Olas Boulevard
Fort Lauderdale, FL 33301-2999
T: 954 463 2700
F: 954 463 2224

November 28, 2017

Catalyst Pharmaceuticals, Inc.
355 Alhambra Circle
Suite 1250
Coral Gables, FL 33134

Re: Catalyst Pharmaceuticals, Inc.

Ladies and Gentlemen:

Reference is made to our opinion letter dated July 21, 2017 and included in Amendment No. 1 to the Registration Statement on Form S-3 (Registration No. 333-219259) filed with the Securities and Exchange Commission (the "Commission") on July 21, 2017, together with the Registration Statement on Form S-3 filed with the Commission on July 12, 2017 (together, the "Registration Statement") by Catalyst Pharmaceuticals, Inc. (the "Company") pursuant to the requirements of the Securities Act of 1933, as amended (the "Act").

We are rendering this supplemental opinion in connection with the prospectus supplement (the "Prospectus Supplement") dated November 28, 2017. The Prospectus Supplement relates to the offering by the Company of up to 16,428,572 shares of the Company's common stock, par value \$0.001 per share, that will be issued pursuant to the Prospectus Supplement (the "Shares"), which Shares are covered by the Registration Statement, together with the associated preferred stock purchase rights for Series A Junior Participating Preferred Stock, par value \$0.001 per share, of the Company (the "Rights"), issuable pursuant to the Rights Agreement, dated as of September 20, 2011, as amended, between the Company and Continental Stock Transfer and Trust Company, as rights agent (the "Rights Agreement"). We understand that the Shares are to be offered and sold in the manner set forth in the Registration Statement and the Prospectus Supplement.

This opinion letter is being furnished in accordance with the requirements of Item 601(e)(i) of Regulation S-K under the Act. This opinion letter is limited to the matters expressly stated herein and no opinions are to be inferred or implied beyond the opinions expressly so stated.

We have acted as your counsel in connection with the preparation of the Registration Statement and the Prospectus Supplement. In connection with this opinion letter, we have examined the Registration Statement, including the Prospectus contained therein (the “Prospectus”), the Prospectus Supplement, the Underwriting Agreement that is an exhibit to the Registration Statement (the “Underwriting Agreement”) and such corporate records, documents, instruments and certificates of public officials and of the Company that we have deemed necessary for the purpose of rendering the opinions set forth herein. We have also reviewed such matters of law as we considered necessary or appropriate as a basis for the opinions set forth below.

With your permission, we have made and relied upon the following assumptions, without any investigation or inquiry by us, and our opinion expressed below is subject to, and limited and qualified by the effect of, such assumptions: (i) all corporate records furnished to us by the Company are accurate and complete; (ii) the Registration Statement, the Prospectus Supplement, and the Underwriting Agreement filed by the Company with the Commission are identical to the forms of the documents that we have reviewed; (iii) all statements as to factual matters that are contained in the Registration Statement (including the exhibits to the Registration Statement) and the Prospectus Supplement are accurate and complete; (iv) the Company will sell and issue the Shares in accordance with the manner described in the Prospectus Supplement and the terms of the Underwriting Agreement; and (v) with respect to documents that we reviewed in connection with this opinion letter, all documents submitted to us as certified, facsimile or photostatic copies conform to the originals of such documents, all such original documents are authentic, the signatures on all documents are genuine, and all natural persons who have executed any of the documents have the legal capacity to do so.

Based on the foregoing, and subject to the further assumptions and qualifications set forth below, it is our opinion that the Shares and related Rights have been duly authorized and when the Shares are issued and delivered in accordance with the manner described in the Prospectus Supplement and the terms of the Underwriting Agreement, the Shares will be validly issued, fully paid and non-assessable shares of the Company’s common stock, and the related Rights, when issued in accordance with the Rights Agreement, will be validly issued preferred stock purchase rights for the Series A Junior Participating Preferred Stock.

We express no opinion as to matters governed by laws of any jurisdiction other than the General Corporation Law of the State of Delaware. We neither express nor imply any obligation with respect to any other laws or the laws of any other jurisdiction or of the United States. For purposes of this opinion, we assume that the Shares will be issued in compliance with all applicable state securities or blue sky laws.

This opinion does not address the determination a court of competent jurisdiction may make regarding whether the board of directors of the Company would be required to redeem or terminate, or take other action with respect to, the Rights at some future time based on the facts and circumstances existing at that time. This opinion assumes the members of the board of directors of the Company have acted in a manner consistent with their fiduciary duties as required under applicable law in adopting the Rights Agreement. This opinion addresses the Rights and the Rights Agreement in their entirety, and it is not settled whether the invalidity of any particular provision of a Rights Agreement or of Rights issued thereunder would result in invalidating such Rights in their entirety.

We assume no obligation to update or supplement this opinion letter if any applicable laws change after the date of this opinion letter or if we become aware after the date of this opinion letter of any facts, whether existing before or arising after the date hereof, that might change the opinions expressed above. Without limiting the generality of the foregoing, we neither express nor imply any opinion regarding the contents of the Registration Statement or the Prospectus Supplement, other than as expressly stated herein with respect to the Shares.

This opinion letter is furnished in connection with the filing of the Prospectus Supplement and may not be relied upon for any other purpose without our prior written consent in each instance. Further, no portion of this letter may be quoted, circulated or referred to in any other document for any other purpose without our prior written consent.

We hereby consent to the use of our name under the heading "Legal Matters" in the Prospectus Supplement filed by the Company with the Commission. We further consent to the filing of this opinion letter with the Commission in connection with the filing of the Prospectus Supplement referred to above. In giving this consent, we do not admit that we are within the category of persons whose consent is required under Section 7 of the Act or the rules and regulations of the Commission issued thereunder.

Sincerely,

/s/ Akerman LLP

AKERMAN LLP

**FOR IMMEDIATE RELEASE****Catalyst Pharmaceuticals, Inc.
Announces Proposed Public Offering of Common Stock**

CORAL GABLES, FL, November 27, 2017 — **Catalyst Pharmaceuticals, Inc.** (NasdaqCM: CPRX) announced today that it has commenced an underwritten public offering of 11 million shares of its common stock. Catalyst also intends to grant the underwriters a 30-day option to purchase up to an additional 15% of the shares of common stock offered in the public offering on the same terms and conditions, to cover over-allotments, if any. The offering is subject to market conditions and there can be no assurance as to whether or when the offering may be completed, or the actual size or terms of the offering. All of the shares in the offering are being sold by Catalyst.

Piper Jaffray & Co. is acting as the lead bookrunner. SunTrust Robinson Humphrey, Inc. is also acting as a bookrunner.

Catalyst plans to use the net proceeds from the offering (i) to fund clinical studies of Firdapse[®] for the treatment of MuSK-antibody positive Myasthenia Gravis (MuSK-MG) and Spinal Muscular Atrophy (SMA), (ii) to fund pre-commercialization activities for Firdapse[®], and (iii) for general corporate purposes.

The offering will be made pursuant to a prospectus supplement to Catalyst's prospectus, dated July 26, 2017, which was filed as a part of Catalyst's effective \$150 million shelf registration statement (No. 333-219259). This press release shall not constitute an offer to sell or the solicitation of an offer to buy any securities nor will 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 registration or qualification under the securities laws of any such state or other jurisdiction.

When available, copies of the preliminary prospectus supplement and the accompanying prospectus relating to these securities will be available on the Investor Relations section of the Company's website and on the SEC's website located at <http://www.sec.gov>. Copies may also be obtained by contacting Piper Jaffray & Co., Attention: Prospectus Department, 800 Nicollet Mall, J12S03, Minneapolis, MN 55402, or by telephone at 800-747-3924, or by e-mail at prospectus@pjc.com, or by contacting SunTrust Robinson Humphrey by mail at 3333 Peachtree Road NE, Atlanta, GA 30326, Attention: Prospectus Department, by telephone at (404) 926-5744, or by e-mail at STRH.Prospectus@suntrust.com.

About Catalyst Pharmaceuticals

Catalyst Pharmaceuticals is a biopharmaceutical company focused on developing and commercializing innovative therapies for people with rare debilitating, chronic neuromuscular and neurological diseases, including Lambert-Eaton myasthenic syndrome (LEMS), congenital myasthenic syndromes (CMS), MuSK antibody positive myasthenia gravis, and infantile spasms. Firdapse[®] has received Breakthrough Therapy Designation from the U.S. Food and Drug Administration (FDA) for the treatment of LEMS and Orphan Drug Designation for LEMS, CMS and myasthenia gravis. Firdapse[®] is the first and only approved drug in Europe for symptomatic treatment in adults with LEMS.

Catalyst is also developing CPP-115 to treat refractory infantile spasms, and possibly refractory Tourette's Disorder. CPP-115 has been granted U.S. Orphan Drug Designation for the treatment of infantile spasms by the FDA and has been granted E.U. Orphan Medicinal Product Designation for the treatment of West syndrome by the European Commission. In addition, Catalyst is developing a generic version of Sabril[®] (vigabatrin).

Forward-Looking Statements

This press release contains forward-looking statements. Forward-looking statements involve known and unknown risks and uncertainties, which may cause Catalyst's actual results in future periods to differ materially from forecasted results. A number of factors, including whether the offering described in this press release will be completed and those other factors described in Catalyst's Annual Report on Form 10-K for the fiscal year 2016, the preliminary prospectus supplement related to the proposed offering, and Catalyst's other filings with the U.S. Securities and Exchange Commission (SEC), could adversely affect Catalyst. Copies of Catalyst's filings with the SEC are available from the SEC's website at <http://www.sec.gov>, may be found on Catalyst's website, or may be obtained upon request from Catalyst. Catalyst does not undertake any obligation to update the information contained herein, which speaks only as of this date.

Investor Contact

Brian Korb
The Trout Group LLC
(646) 378-2923
bkorb@troutgroup.com

Company Contact

Patrick J. McEnany
Catalyst Pharmaceuticals
Chief Executive Officer
(305) 420-3200
pmcenany@catalystpharma.com

Media Contacts

David Schull
Russo Partners
(212) 845-4271
(212) 845-4272
david.schull@russopartnersllc.com

#

Page 2



FOR IMMEDIATE RELEASE

**Catalyst Pharmaceuticals, Inc.
Prices Previously Announced Public Offering of Common Stock**

CORAL GABLES, FL, November 28, 2017 — **Catalyst Pharmaceuticals, Inc.** (NasdaqCM: CPRX) today announced the pricing of its previously announced underwritten public offering. The Company announced that it is selling 14,285,715 shares of its common stock in the public offering at an offering price of \$3.50 per share. In connection with the offering, Catalyst has also granted the underwriters a 30-day option to purchase up to an additional 2,142,857 shares of common stock to cover over-allotments, if any. All of the shares in the offering are being sold by Catalyst.

Piper Jaffray & Co. is acting as the lead bookrunner. SunTrust Robinson Humphrey, Inc. is also acting as a bookrunner. H.C. Wainwright & Co. is acting as lead manager and Roth Capital Partners is acting as co-manager for the offering.

Net proceeds from the offering, after underwriting discounts and commissions and other offering expenses, are expected to be approximately \$46.6 million. Catalyst plans to use the net proceeds from the offering (i) to fund clinical studies of Firdapse[®] for the treatment of MuSK-antibody positive Myasthenia Gravis (MuSK-MG) and Spinal Muscular Atrophy (SMA), (ii) to fund pre-commercialization activities for Firdapse[®], and (iii) for general corporate purposes. The offering is subject to customary closing conditions and is expected to close on November 30, 2017.

The shares are being offered pursuant to a shelf registration statement on Form S-3 (File No. 333-219529) filed pursuant to the Securities Act of 1933, as amended, which was previously filed with, and declared effective by, the Securities and Exchange Commission. A prospectus supplement relating to this offering will be filed with the SEC and will be available on the SEC's website at <http://www.sec.gov>.

This press release shall not constitute an offer to sell or the solicitation of an offer to buy any securities nor will 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 registration or qualification under the securities laws of any such state or other jurisdiction.

When available, copies of the prospectus supplement and the accompanying prospectus relating to these securities will be available on the Investor Relations section of the Company's website and on the SEC's website located at <http://www.sec.gov>. Copies may also be obtained by contacting Piper Jaffray & Co., Attention: Prospectus Department, 800 Nicollet Mall, J12S03, Minneapolis, MN 55402, or by telephone at 800-747-3924, or by e-mail at prospectus@pjc.com, or by contacting SunTrust Robinson Humphrey, Inc. by mail at 3333 Peachtree Road NE, Atlanta, GA 30326, Attention: Prospectus Department, by telephone at (404) 926-5744, or by e-mail at STRH.Prospectus@suntrust.com.

About Catalyst Pharmaceuticals

Catalyst Pharmaceuticals is a biopharmaceutical company focused on developing and commercializing innovative therapies for people with rare debilitating, chronic neuromuscular and neurological diseases, including Lambert-Eaton myasthenic syndrome (LEMS), congenital myasthenic syndromes (CMS), MuSK antibody positive myasthenia gravis, and infantile spasms. Firdapse[®] has received Breakthrough Therapy Designation from the U.S. Food and Drug Administration (FDA) for the treatment of LEMS and Orphan Drug Designation for LEMS, CMS and myasthenia gravis. Firdapse[®] is the first and only approved drug in Europe for symptomatic treatment in adults with LEMS.

Catalyst is also developing CPP-115 to treat refractory infantile spasms, and possibly refractory Tourette's Disorder. CPP-115 has been granted U.S. Orphan Drug Designation for the treatment of infantile spasms by the FDA and has been granted E.U. Orphan Medicinal Product Designation for the treatment of West syndrome by the European Commission. In addition, Catalyst is developing a generic version of Sabril[®] (vigabatrin).

Forward-Looking Statements

This press release contains forward-looking statements. Forward-looking statements involve known and unknown risks and uncertainties, which may cause Catalyst's actual results in future periods to differ materially from forecasted results. A number of factors, including whether the offering described in this press release will be closed and those other factors described in Catalyst's Annual Report on Form 10-K for the fiscal year 2016, the prospectus supplement related to the offering, and Catalyst's other filings with the U.S. Securities and Exchange Commission (SEC), could adversely affect Catalyst. Copies of Catalyst's filings with the SEC are available from the SEC's website at <http://www.sec.gov>, may be found on Catalyst's website, or may be obtained upon request from Catalyst. Catalyst does not undertake any obligation to update the information contained herein, which speaks only as of this date.

Investor Contact

Brian Korb
The Trout Group LLC
(646) 378-2923
bkorb@troutgroup.com

Company Contact

Patrick J. McEnany
Catalyst Pharmaceuticals
Chief Executive Officer
(305) 420-3200
pmcenany@catalystpharma.com

Media Contacts

David Schull
Russo Partners
(212) 845-4271
(212) 845-4272
david.schull@russopartnersllc.com

#

Page 2