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

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**FORM 8-K**

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

**Date of Report (Date of earliest event reported): December 20, 2017**

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**CATALYST BIOSCIENCES, INC.**

(Exact name of registrant as specified in its charter)

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

**000-51173**  
(Commission  
File Number)

**56-2020050**  
(IRS Employer  
Identification Number)

**260 Littlefield Ave.**  
**South San Francisco, California**  
(Address of principal executive offices)

**94080**  
(Zip Code)

**(650) 266-8674**  
Registrant's telephone number, including area code

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

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

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.

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## ITEM 1.01 Entry into a Material Definitive Agreement

On December 20, 2017, Catalyst Biosciences, Inc., a Delaware corporation (the “Company”), entered into an underwriting agreement (the “Underwriting Agreement”) with JonesTrading Institutional Services LLC, as representative for the several underwriters named therein (the “Underwriters”), in connection with a registered firm commitment underwritten public offering (the “Offering”) of 1,105,263 shares of the Company’s common stock (“Common Stock”). Subject to the terms and conditions of the Underwriting Agreement, the Company agreed to sell to the Underwriters, and the Underwriters agreed, severally and not jointly, to purchase from the Company, an aggregate of 1,105,263 shares of Common Stock, with an offering price to the public of at \$9.50 per share.

The Offering closed on December 22, 2017. The gross proceeds to the Company from this offering were approximately \$10.5 million, before deducting underwriting discounts and commissions, and other estimated offering expenses payable by the Company. All shares in the Offering were sold by the Company.

The Underwriting Agreement contains customary representations, warranties and agreements by the Company, customary conditions to closing, indemnification obligations of the Company and the Underwriter, including for liabilities under the Securities Act of 1933, as amended, other obligations of the parties and termination provisions. Pursuant to the terms of the Underwriting Agreement and related lock-up agreements, the Company agreed not to sell or transfer any Common Stock until January 31, 2018, and all of its directors and executive officers agreed not to sell or transfer any Common Stock held by them for 45 days after December 20, 2017 without first obtaining the written consent of the Underwriters’ representative, subject to certain exceptions, extensions and terms as set forth in the Underwriting Agreement.

The shares of Common Stock were issued pursuant to a shelf registration statement on Form S-3 (Registration Statement No. 333-210248) (the “Registration Statement”) previously filed with the Securities and Exchange Commission (the “SEC”) on March 16, 2016 and declared effective by the SEC on April 28, 2016, including the preliminary prospectus supplement dated December 19, 2017 and a prospectus supplement dated December 20, 2017, to the prospectus dated April 28, 2016.

A copy of the Underwriting Agreement is filed as Exhibit 1.1 to this Current Report and is incorporated herein by reference, and the description of the terms of the Underwriting Agreement is qualified in its entirety by reference to such exhibit. The Underwriting Agreement is also filed with reference to, and is hereby incorporated by reference into, the Registration Statement.

Attached as Exhibit 5.1 to this Current Report and incorporated herein by reference is a copy of the opinion of Morrison & Foerster LLP relating to the validity of the shares of Common Stock sold in the Offering (the “Legal Opinion”). The Legal Opinion is also filed with reference to, and is hereby incorporated by reference into, the Registration Statement.

## ITEM 8.01 Other Events

On December 20, 2017, the Company issued a press release announcing the pricing of the public offering described in Item 1.01. A copy of the press release is attached hereto as Exhibit 99.1

On December 22, 2017, the Company issued a press release announcing the closing of the public offering described in Item 1.01. A copy of the press release is attached hereto as Exhibit 99.2

## ITEM 9.01 Financial Statements and Exhibits

(d) Exhibits

<u>Exhibit No.</u>	<u>Description</u>
1.1	<a href="#"><u>Underwriting Agreement, dated December 20, 2017, by and between the Company and JonesTrading Institutional Services LLC as representative for the several underwriters named therein.</u></a>
5.1	<a href="#"><u>Opinion of Morrison &amp; Foerster LLP.</u></a>
99.1	<a href="#"><u>Press Release dated December 20, 2017.</u></a>
99.2	<a href="#"><u>Press Release dated December 22, 2017.</u></a>

**SIGNATURES**

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

CATALYST BIOSCIENCES, INC.

Date: December 22, 2017

By: /s/ Fletcher Payne

Name: Fletcher Payne

Title: CFO

## UNDERWRITING AGREEMENT

1,105,263 Shares

CATALYST BIOSCIENCES, INC.

Common Stock

(\$0.001 Par Value)

EQUITY UNDERWRITING AGREEMENT

December 20, 2017

c/o JonesTrading Institutional Services LLC  
As Representative of the  
Several Underwriters

JonesTrading Institutional Services LLC  
757 Third Avenue, 23<sup>rd</sup> Floor  
New York, NY 10017

Ladies and Gentlemen:

Catalyst Biosciences, Inc., a Delaware corporation (the “**Company**”), proposes, subject to the terms and conditions stated herein, to sell to the several underwriters (the “**Underwriters**”) named on Schedule I hereto for whom you are acting as representative (the “**Representative**”) an aggregate 1,105,263 shares (the “**Shares**”) of the Company’s common stock, \$0.001 par value (the “**Common Stock**”). The respective amounts of the Shares to be so purchased by the several Underwriters are set forth opposite their names on Schedule I hereto.

As the Representative, you have advised the Company that the several Underwriters are willing, acting severally and not jointly, to purchase the numbers of Shares set forth opposite their respective names on Schedule I hereto.

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

1. Representations and Warranties of the Company. The Company represents and warrants to each of the Underwriters as follows:

(a) The Company has filed with the Commission a registration statement on Form S-3 (No. 333-210248), including a related prospectus, covering the public offering and sale of up to \$50,000,000 of its common stock, preferred stock, debt securities, warrants and units from time to time pursuant to Rule 415 under the Act (as defined below), which registration statement was declared effective by the Commission on April 28, 2016. “**Registration Statement**” at any particular time means such registration statement in the form then filed with the Commission, including any amendment thereto, any document incorporated by reference therein and all 430B Information and all 430C Information with respect to such registration statement, that in any case has not been superseded or modified. Any reference to Registration Statement without reference to a time means the Registration Statement as of the Effective Time. For purposes of this definition, 430B Information shall be considered to be included in the Registration Statement as of the time specified in Rule 430B.

For purposes of this Agreement:

**“430B Information”** with respect to any registration statement, means information included in a prospectus then deemed to be a part of such registration statement pursuant to Rule 430B(e) or retroactively deemed to be part of such registration statement pursuant to Rule 430B(f).

**“430C Information”** with respect to any registration statement, means information included in a prospectus then deemed to be part of such registration statement pursuant to Rule 430C.

**“Act”** means the U.S. Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

**“Applicable Time”** means 9:00 A.M. (Eastern time) on the date of this Agreement.

**“Closing Date”** has the meaning defined in Section 2 hereof.

**“Commission”** means the U.S. Securities and Exchange Commission.

**“Effective Time”** of the Registration Statement relating to the Shares means the time of the first contract of sale of the Shares.

**“Exchange Act”** means the U.S. Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

**“Final Prospectus”** means the Statutory Prospectus that discloses the public offering price, other 430B Information and other final terms of the Shares and otherwise satisfies Section 10(a) of the Act.

**“General Use Free Writing Prospectus”** means any Issuer Free Writing Prospectus that is intended for general distribution to prospective investors, as evidenced by it being so specified in Schedule II to this Agreement.

**“Issuer Free Writing Prospectus”** means any “issuer free writing prospectus,” as defined in Rule 433, relating to the Shares 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).

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

“**Statutory Prospectus**” with reference to a particular time means the prospectus relating to the Shares that is included in a Registration Statement immediately prior to that time, including any document incorporated by reference therein and any 430B Information and all 430C Information. For purposes of the foregoing definition, 430B Information shall be considered to be included in the Statutory Prospectus only as of the actual time that a form of prospectus (including a prospectus supplement) is filed with the Commission pursuant to Rule 424(b) and not retroactively.

“**Significant Subsidiary**” means a “Significant Subsidiary” as defined in Rule 405.

“**Subsidiary**” means a corporation, general partnership, limited partnership, limited liability limited partnership, limited liability company or other entity, a majority of the outstanding voting or capital stock, partnership, membership or other voting or equity interests or general, limited or limited liability limited partnership interests, as the case may be, of which is majority owned or controlled, directly or indirectly, by the Company, or one or more other Subsidiaries of the Company.

Unless otherwise specified, a reference to a “rule” or “Rule” is to the indicated rule under the Act.

(b) (A) (1) At the time the Registration Statement initially became effective, (2) at the time of each amendment thereto for the purposes of complying with Section 10(a)(3) of the Act (whether by post-effective amendment, incorporated report or form of prospectus), (3) at the Effective Time and (4) on each Closing Date, the Registration Statement complied and will comply in all material respects to the requirements of the Act, and did not and will not include 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, and (B) (1) on its date, (2) at the time of filing of the Final Prospectus pursuant to Rule 424(b) and (3) on each Closing Date, the Final Prospectus will comply in all material respects to the requirements of the Act and will not include 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. The preceding sentence does not apply to statements in or omissions from any such document based upon written information furnished to the Company by any Underwriter specifically for use therein, it being understood and agreed that such information is only that described as such in Section 12 hereof.

(c) The Registration Statement is effective under the Act and no stop order preventing or suspending the effectiveness of the Registration Statement has been issued by the Commission and no proceedings for that purpose have been instituted or, to the knowledge of the Company, are threatened by the Commission. At the time the Registration Statement was filed with, and declared effective by, the Commission, the Company was eligible to register the Shares on Form S-3 promulgated under the Act, and as of the date hereof, remains eligible to use the Registration Statement pursuant to General Instruction I.B.6 of Form S-3. As of the close of trading on The NASDAQ Global Market (“**NASDAQ**”) on December 18, 2017, the aggregate market value of the outstanding voting and non-voting common equity (as defined in Rule 405) of the Company held by persons other than affiliates of the Company (pursuant to Rule 144 of the Act, those that directly, or indirectly through one or more intermediaries, control, or are controlled by, or are under common control with, the Company) (the “**Non-Affiliate Shares**”), was approximately \$48.1 million (calculated by multiplying (x) the price at which the common equity of the Company was last sold on NASDAQ on December 18, 2017 times (y) the number of Non-Affiliate Shares). The date of this Agreement is not more than three years subsequent to the initial effective time of the Registration Statement.

(d) As of the Applicable Time, none of (A) the General Use Free Writing Prospectus(es) issued at or prior to the Applicable Time, if any, and the preliminary prospectus supplement, dated December 19, 2017, including the base prospectus, filed March 16, 2016, and the other information, if any, stated in Schedule II to this Agreement, all considered together (collectively, the “**General Disclosure Package**”) and (B) any individual Limited Use Free Writing Prospectus, when considered together with the General Disclosure Package, included any untrue statement of a material fact or omitted to state any material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The preceding sentence does not apply to statements in or omissions from any Statutory Prospectus or any Issuer Free Writing Prospectus in reliance upon and in conformity with written information furnished to the Company by any Underwriter specifically for use therein, it being understood and agreed that such information furnished by any Underwriter consists of only the information described as such in Section 12 hereof.

(e) The documents incorporated by reference into the Registration Statement, the General Disclosure Package and the Final Prospectus, at the time they were filed with the Commission (collectively, the “Incorporated Documents”), complied in all material respects with the requirements of the Exchange Act. Each such Incorporated Document, when taken together with the General Disclosure Package, did not as of the Applicable Time contain 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.

(f) 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 Shares or until any earlier date that the Company notified or notifies the Representative as described in the next sentence, did not, does not and will not include any information that conflicted, conflicts or will conflict with the information then contained in the Registration Statement. If at any time following the issuance of an Issuer Free Writing Prospectus, at a time when a prospectus relating to the Shares is (or but for the exemption in Rule 172 would be) required to be delivered under the Act by any Underwriter or dealer, there occurred or occurs an event or development as a result of which such Issuer Free Writing Prospectus conflicted or would conflict with the information then contained in the Registration Statement or as a result of which such Issuer Free Writing Prospectus, if republished immediately following such event or development, would include an untrue statement of a material fact or omitted or would 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, (i) the Company has promptly notified or will promptly notify the Representative and (ii) the Company has promptly amended or will promptly amend or supplement such Issuer Free Writing Prospectus to eliminate or correct such conflict, untrue statement or omission. This section does not apply to statements in or omissions from any Issuer Free Writing Prospectus in reliance upon and in conformity with written information furnished to the Company by any Underwriter specifically for use therein, it being understood and agreed that such information furnished by any Underwriter consists of only the information described as such in Section 12 hereof.

(g) The financial statements of the Company included or incorporated by reference in the Registration Statement, the General Disclosure Package and the Final Prospectus, together with the related notes and schedules, present fairly, in all material respects, the financial position of the Company and its Subsidiaries as of the dates indicated and the results of operations, cash flows and changes in stockholders' equity of the Company for the periods specified and have been prepared in compliance with the requirements of the Act and Exchange Act and in conformity with generally accepted accounting principles in the United States of America ("GAAP") applied on a consistent basis (except for (i) such adjustments to accounting standards and practices as are noted therein, (ii) in the case of unaudited interim financial statements, to the extent such financial statements may not include footnotes required by GAAP or may be condensed or summary statements and (iii) such adjustments which will not be material, either individually or in the aggregate) during the periods involved; the other financial and statistical data with respect to the Company and its Subsidiaries contained or incorporated by reference in the Registration Statement, the General Disclosure Package and the Final Prospectus, are accurately and fairly presented and prepared on a basis consistent with the financial statements and books and records of the Company and the Subsidiaries; there are no financial statements (historical or pro forma) that are required to be included or incorporated by reference in the Registration Statement, the General Disclosure Package or the Final Prospectus that are not included or incorporated by reference as required; the Company does not have any material liabilities or obligations, direct or contingent (including any off-balance sheet obligations), not described in the Registration Statement (excluding the exhibits thereto), the General Disclosure Package and the Final Prospectus; and all disclosures contained or incorporated by reference in the Registration Statement, the General Disclosure Package and the Final Prospectus, regarding "non-GAAP financial measures" (as such term is defined by the rules and regulations of the Commission) comply in all material respects with Regulation G of the Exchange Act and Item 10 of Regulation S-K under the Act, to the extent applicable.

(h) The General Disclosure Package and Final Prospectus delivered to the Underwriters for use in connection with the sale of the Shares pursuant to this Agreement will be identical to the versions of the General Disclosure Package and Final Prospectus created to be transmitted to the Commission for filing via EDGAR, except to the extent permitted by Regulation S-T.

(i) The Company and each of its Subsidiaries are duly organized, validly existing as a corporation or other entity and in good standing under the laws of its jurisdiction of organization. The Company and each of its Subsidiaries is, and will be, duly licensed or qualified as a foreign corporation for transaction of business and in good standing under the laws of each other jurisdiction in which its ownership or lease of property or the conduct of its business requires such license or qualification, and has all corporate power and authority necessary to own or hold its properties and to conduct its business as described in the Registration Statement, the General Disclosure Package and the Final Prospectus, except where the failure to be so qualified or in good standing or have such power or authority would not, individually or in the aggregate, have a material adverse effect on or affecting the assets, business, operations, earnings, properties, condition (financial or otherwise), prospects, stockholders' equity or results of operations of the Company and its Subsidiaries taken as a whole, or prevent or materially interfere with consummation of the transactions contemplated hereby (a "**Material Adverse Effect**").

(j) The Company has no Significant Subsidiaries, other than those subsidiaries listed on the Company's most recently filed Exhibit 21.1 with the Commission.



(k) Neither the Company nor any of its Subsidiaries is (i) in violation of its charter or by-laws or similar organizational documents; (ii) in default, and no event has occurred that, 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 or other agreement or instrument to which the Company or any of its Subsidiaries is a party or by which the Company or any of its Subsidiaries is bound or to which any of the property or assets of the Company or any of its Subsidiaries is subject; or (iii) in violation of any law or statute or any judgment, order, rule or regulation of any court or arbitrator or governmental or regulatory authority, except, in the case of each of clauses (ii) and (iii) above, for any such violation or default that would not, individually or in the aggregate, have a Material Adverse Effect. To the Company's knowledge, no other party under any material contract or other agreement to which it is a party is in default in any respect thereunder where such default would have a Material Adverse Effect.

(l) Subsequent to the respective dates as of which information is given in the Registration Statement, the General Disclosure Package and the Final Prospectus, (including any document deemed incorporated by reference therein), there has not been (i) any Material Adverse Effect other than as set forth in the Registration Statement, the General Disclosure Package and the Final Prospectus, (ii) any transaction which is material to the Company or the Subsidiaries, taken as a whole, (iii) any obligation or liability, direct or contingent (including any off-balance sheet obligations), incurred by the Company or any Subsidiaries which is material to the Company and the Subsidiaries taken as a whole, (iv) any material change in the capital stock or outstanding long-term indebtedness (other than (A) the grant of additional awards under equity incentive plans, (B) changes in the number of shares of outstanding Common Stock due to the issuance of shares upon exercise or conversion of securities exercisable for, or convertible into, Common Stock outstanding on the date hereof, (C) any repurchase of capital stock of the Company, (D) as a result of the sale of Shares, or (E) other than as publicly reported or announced), or (v) any dividend or distribution of any kind declared, paid or made on the capital stock of the Company other than in each case above in the ordinary course of business or as otherwise disclosed in the Registration Statement, the General Disclosure Package or the Final Prospectus (including any document deemed incorporated by reference therein).

(m) The issued and outstanding shares of capital stock of the Company have been validly issued, are fully paid and nonassessable and, other than as disclosed in the Registration Statement, the General Disclosure Package and the Final Prospectus, are not subject to any preemptive rights, rights of first refusal or similar rights. The Company has an authorized, issued and outstanding capitalization as set forth in the Registration Statement, the General Disclosure Package or the Final Prospectus as of the dates referred to therein (other than the grant of additional equity awards under the Company's existing stock option plans, or changes in the number of outstanding shares of Common Stock of the Company due to the issuance of shares upon the exercise or conversion of securities exercisable for, or convertible into, Common Stock outstanding on the date hereof) and such authorized capital stock conforms to the description thereof set forth in the Registration Statement, the General Disclosure Package and the Final Prospectus. The description of the securities of the Company in the Registration Statement, the General Disclosure Package and the Final Prospectus is complete and accurate in all material respects. As of the date referred to in the Registration Statement, the General Disclosure Package and the Final Prospectus, the Company does not have outstanding any options to purchase, or any rights or warrants to subscribe for, or any securities or obligations convertible into, or exchangeable for, or any contracts or commitments to issue or sell, any shares of capital stock or other securities.

(n) The Company has full legal right, power and authority to enter into this Agreement and perform the transactions contemplated hereby. This Agreement has been duly authorized, executed and delivered by the Company and is a legal, valid and binding agreement of the Company enforceable in accordance with its terms, except (i) to the extent that enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium or similar laws affecting creditors' rights generally and by general equitable principles and (ii) the indemnification and contribution provisions of Section 7 hereof may be limited by federal or state securities laws and public policy considered in respect thereof.

(o) The Shares, when they have been delivered and paid for in accordance with this Agreement on the Closing Date, will be duly and validly authorized and issued and fully paid and nonassessable, free and clear of any pledge, lien, encumbrance, security interest or other claim, including any statutory or contractual preemptive rights, resale rights, rights of first refusal or other similar rights, and will be registered pursuant to Section 12 of the Exchange Act. The Shares, when issued, will conform in all material respects to the description thereof set forth in or incorporated into the General Disclosure Package and the Final Prospectus.

(p) No consent, approval, authorization, order, registration or qualification of or with any court or arbitrator or governmental or regulatory authority is required for the execution, delivery and performance by the Company of this Agreement, the issuance and sale by the Company of the Shares, except for (i) such consents, approvals, authorizations, orders and registrations or qualifications as may be required under applicable state securities laws or by the by-laws and rules of the Financial Industry Regulatory Authority ("FINRA") or NASDAQ in connection with the sale of the Shares by the Underwriters, (ii) the registration of the Shares under the Act, and (iii) where the failure to obtain any such consent, approval, authorization, order, registration or qualification would, individually or in the aggregate, have a Material Adverse Effect.

(q) Except as set forth in the Registration Statement, the General Disclosure Package and the Final Prospectus, (i) no person, as such term is defined in Rule 1-02(q) of Regulation S-X promulgated under the Act (each, a "**Person**"), has the right, contractual or otherwise, to cause the Company to issue or sell to such Person any Common Stock or shares of any other capital stock or other securities of the Company, (ii) no Person has any preemptive rights, resale rights, rights of first refusal, or any other rights (whether pursuant to a "poison pill" provision or otherwise) to purchase any Common Stock or shares of any other capital stock or other securities of the Company, (iii) no Person has the right to act as an underwriter or as a financial advisor to the Company in connection with the offer and sale of Common Stock, and (iv) no Person has the right, contractual or otherwise, to require the Company to register under the Act any Common Stock or shares of any other capital stock or other securities of the Company, or to include any such shares or other securities in the Registration Statement or the offering contemplated thereby, whether as a result of the filing or effectiveness of the Registration Statement or the sale of the Shares as contemplated thereby or otherwise.

(r) EisnerAmper LLP (the "Accountant"), whose report on the financial statements of the Company is filed with the Commission as part of the Company's most recent Annual Report on Form 10-K filed with the Commission and incorporated into the Registration Statement, the General Disclosure Package and the Final Prospectus, are and, during the periods covered by their report, were an independent registered public accounting firm with respect to the Company within the meaning of the Act and the Public Company Accounting Oversight Board (United States). To the Company's knowledge, the Accountant is not in violation of the auditor independence requirements of the Sarbanes-Oxley Act of 2002 (the "**Sarbanes-Oxley Act**") with respect to the Company.

(s) All agreements between the Company and third parties expressly referenced in the General Disclosure Package and the Final Prospectus are legal, valid and binding obligations of the Company enforceable in accordance with their respective terms, except to the extent that (i) enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium or similar laws affecting creditors' rights generally and by general equitable principles and (ii) the indemnification provisions of certain agreements may be limited by federal or state securities laws or public policy considerations in respect thereof, and except for any unenforceability that, individually or in the aggregate, would not reasonably be expected to have a Material Adverse Effect.

(t) There are no legal, governmental or regulatory actions, suits or proceedings pending, nor, to the Company's knowledge, any legal, governmental or regulatory investigations, to which the Company or any of its Subsidiaries is a party or to which any property of the Company or any of its Subsidiaries is the subject that, individually or in the aggregate, if determined adversely to the Company or any of its Subsidiaries would have a Material Adverse Effect or materially and adversely affect the ability of the Company to perform its obligations under this Agreement; to the Company's knowledge, no such actions, suits or proceedings are threatened or contemplated by any governmental or regulatory authority or threatened by others; and there are no current or pending legal, governmental or regulatory investigations, actions, suits or proceedings that are required under the Act to be described in the General Disclosure Package and the Final Prospectus that are not so described.

(u) The Company and each of its Subsidiaries, possesses or has obtained, all licenses, certificates, consents, orders, approvals, permits and other authorizations issued by, and have made all declarations and filings with, the appropriate federal, state, local or foreign governmental or regulatory authorities that are necessary for the ownership or lease of their respective properties or the conduct of their respective businesses as described in the Registration Statement, the General Disclosure Package and the Final Prospectus (the "**Permits**"), except where the failure to possess, obtain or make the same would not, individually or in the aggregate, have a Material Adverse Effect. Neither Company nor any of its Subsidiaries has received written notice of any proceeding relating to revocation or modification of any such Permit or has any reason to believe that such Permit will not be renewed in the ordinary course, except where the failure to obtain any such renewal would not, individually or in the aggregate, have a Material Adverse Effect.

(v) Neither the Company nor any of its Subsidiaries has defaulted on any installment on indebtedness for borrowed money or on any rental on one or more long-term leases, which defaults, individually or in the aggregate, have a Material Adverse Effect. The Company has not filed a report pursuant to Section 13(a) or 15(d) of the Exchange Act since the filing of its last Annual Report on Form 10-K, indicating that it (i) has failed to pay any dividend or sinking fund installment on preferred stock or (ii) has defaulted on any installment on indebtedness for borrowed money or on any rental on one or more long-term leases, which defaults, individually or in the aggregate, could reasonably be expected to have a Material Adverse Effect.

(w) [Reserved].

(x) Neither the Company, nor any of its Subsidiaries, nor, to the Company's knowledge, any of its directors, officers or controlling persons has taken, directly or indirectly, any action designed, or that has constituted or would reasonably be expected to cause or result in, under the Exchange Act or otherwise, the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Shares.

(y) Neither the Company, nor any of its Subsidiaries or any related entities (i) is required to register as a “broker” or “dealer” in accordance with the provisions of the Exchange Act or (ii) directly or indirectly through one or more intermediaries, controls or is a “person associated with a member” or “associated person of a member” (within the meaning set forth in the FINRA Manual).

(z) The Company has not relied upon the Underwriters or legal counsel for the Underwriters for any legal, tax or accounting advice in connection with the offering and sale of the Shares.

(aa) The Company and each of its Subsidiaries has filed all federal, state, local and foreign tax returns which have been required to be filed and paid all taxes shown thereon through the date hereof, to the extent that such taxes have become due and are not being contested in good faith. Except as otherwise disclosed in or contemplated by the Registration Statement, the General Disclosure Package or the Final Prospectus, no tax deficiency has been determined adversely to the Company or any of its Subsidiaries which has had, individually or in the aggregate, a Material Adverse Effect. The Company has no knowledge of any federal, state or other governmental tax deficiency, penalty or assessment which has been or might be asserted or threatened against it which would have a Material Adverse Effect.

(bb) The Company and its Subsidiaries has good and valid title in fee simple to all items of real property and good and valid title to all personal property described in the Registration Statement, the General Disclosure Package or the Final Prospectus as being owned by it that are material to the business of the Company and the Subsidiaries, in each case free and clear of all liens, encumbrances and claims, except those that (i) do not materially interfere with the use made and proposed to be made of such property by the Company and the Subsidiaries or (ii) would not, individually or in the aggregate, have a Material Adverse Effect. Any real property described in the Registration Statement, the General Disclosure Package or the Final Prospectus as being leased by the Company is held by it under valid, existing and enforceable leases, except those that (A) do not materially interfere with the use made or proposed to be made of such property by the Company or (B) would not have a Material Adverse Effect.

(cc) The Company and its Subsidiaries own or possess adequate enforceable rights to use all patents, patent applications, trademarks (both registered and unregistered), service marks, trade names, trademark registrations, service mark registrations, copyrights, licenses and know-how (including trade secrets and other unpatented and/or unpatentable proprietary or confidential information, systems or procedures) (collectively, the “**Intellectual Property**”), necessary for the conduct of their businesses as conducted as of the date hereof, provided that the foregoing representation is made only to the Company’s knowledge as it concerns third-party Intellectual Property, and except to the extent that the failure to own or possess adequate rights to use such Intellectual Property would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect; the Company and its Subsidiaries have not received any written notice of any pending or threatened action, suit, proceeding or claim by any third party asserting infringement of third party intellectual property or challenging the Company’s or its Subsidiaries’ rights in or to any of their respective Intellectual Property or Intellectual Property owned or used by the Company or its Subsidiaries, which , if the subject of an unfavorable decision, would result in a Material Adverse Effect; there are no pending, or to the Company’s knowledge, threatened judicial proceedings or interference proceedings against the Company or its Subsidiaries challenging the Company’s or such Subsidiaries’ rights in or to the validity of the scope of any of the Company’s patents, patent applications or proprietary information.

(dd) The Company and its Subsidiaries (i) are in compliance with any and all applicable federal, state, local and foreign laws, rules, regulations, decisions and orders relating to the protection of human health and safety, the environment or hazardous or toxic substances or wastes, pollutants or contaminants (collectively, “**Environmental Laws**”); (ii) has received and is in compliance with all permits, licenses or other approvals required of it under applicable Environmental Laws to conduct its businesses as described in the Registration Statement and the Prospectus; and (iii) has not received notice of any actual or potential liability for the investigation or remediation of any disposal or release of hazardous or toxic substances or wastes, pollutants or contaminants, except, in the case of any of clauses (i), (ii) or (iii) above, for any such failure to comply or failure to receive required permits, licenses, other approvals or liability as would not, individually or in the aggregate, have a Material Adverse Effect.

(ee) The Company maintains systems of internal controls over financing reporting (as defined in Exchange Act Rule 13a-15 or 15d-15) designed to provide reasonable assurance 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 generally accepted accounting principles and to maintain asset accountability; (iii) access to assets is permitted only in accordance with management’s general or specific authorization; and (iv) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences. The Company is not aware of any material weaknesses in its internal control over financial reporting (other than as set forth in the General Disclosure Package and the Final Prospectus). Since the date of the latest audited financial statements of the Company included in the General Disclosure Package and the Final Prospectus, there has been no change in the Company’s internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, the Company’s internal control over financial reporting (other than as set forth in the General Disclosure Package and the Final Prospectus). The Company has established disclosure controls and procedures (as defined in Exchange Act Rules 13a-15 and 15d-15) for the Company and designed such disclosure controls and procedures to ensure that material information relating to the Company is made known to the certifying officers by others within those entities, particularly during the period in which the Company’s Annual Report on Form 10-K or Quarterly Report on Form 10-Q, as the case may be, is being prepared. The Company’s certifying officers have evaluated the effectiveness of the Company’s controls and procedures as of a date within 90 days prior to the filing date of the Form 10-K for the fiscal year most recently ended (such date, the “**Evaluation Date**”). The Company presented in its Form 10-K for the fiscal year most recently ended the conclusions of the certifying officers about the effectiveness of the disclosure controls and procedures based on their evaluations as of the Evaluation Date. Since the Evaluation Date, there have been no significant changes in the Company’s internal controls (as such term is defined in Item 307(b) of Regulation S-K under the Act) or, to the Company’s knowledge, in other factors that could significantly affect the Company’s internal controls. To the knowledge of the Company, the Company’s “disclosure controls and procedures” are effective.

(ff) The Company is not aware of any failure on the part of the Company or any of the Company's directors or officers, in their capacities as such, to comply with any applicable provisions of the Sarbanes-Oxley Act and the applicable rules and regulations promulgated thereunder in all material respects. Each of the principal executive officer and the principal financial officer of the Company (or each former principal executive officer of the Company and each former principal financial officer of the Company as applicable) has made all certifications required by Sections 302 and 906 of the Sarbanes-Oxley Act with respect to all reports, schedules, forms, statements and other documents required to be filed by it or furnished by it to the Commission during the past 12 months. For purposes of the preceding sentence, "principal executive officer" and "principal financial officer" shall have the meanings given to such terms in the Sarbanes-Oxley Act.

(gg) Neither the Company nor any of its Subsidiaries has incurred any liability for any finder's fees, brokerage commissions or similar payments in connection with the transactions herein contemplated, except as may otherwise exist with respect to the Underwriters pursuant to this Agreement.

(hh) No labor disturbance by or dispute with employees of the Company or any of its Subsidiaries exists or, to the knowledge of the Company, is threatened which would have a Material Adverse Effect.

(ii) Neither the Company nor any of its Subsidiaries is or after giving effect to the offering and sale of the Shares, will be an "investment company" or an entity "controlled" by an "investment company," as such terms are defined in the Investment Company Act of 1940, as amended (the "**Investment Company Act**").

(jj) The operations of the Company and its Subsidiaries are and have been conducted at all times in compliance with applicable financial record keeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the money laundering statutes of all jurisdictions to which the Company or its Subsidiaries are subject, the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any governmental agency (collectively, the "**Money Laundering Laws**"), except as would not have a Material Adverse Effect; and no action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company or any of its Subsidiaries with respect to the Money Laundering Laws is pending or, to the knowledge of the Company, threatened.

(kk) There are no transactions, arrangements and other relationships between and/or among the Company, and/or, to the knowledge of the Company, any of its affiliates and any unconsolidated entity, including, but not limited to, any structural finance, special purpose or limited purpose entity (each, an "**Off Balance Sheet Transaction**") that could reasonably be expected to affect materially the Company's liquidity or the availability of or requirements for its capital resources, including those Off Balance Sheet Transactions described in the Commission's Statement about Management's Discussion and Analysis of Financial Conditions and Results of Operations (Release Nos. 33-8056; 34-45321; FR-61), required to be described in the General Disclosure Package and the Final Prospectus which have not been described as required.

(ll) To the knowledge of the Company, each material employee benefit plan, within the meaning of Section 3(3) of the Employee Retirement Income Security Act of 1974, as amended ("**ERISA**"), that is maintained, administered or contributed to by the Company or any of its affiliates for employees or former employees of the Company and any of its Subsidiaries has been maintained in material compliance with its terms and the requirements of any applicable statutes, orders, rules and regulations, including but not limited to ERISA and the Internal Revenue Code of 1986, as amended (the "**Code**"); no prohibited transaction, within the meaning of Section 406 of ERISA or Section 4975 of the Code, has occurred which would result in a material liability to the Company with respect to any such plan excluding transactions effected pursuant to a statutory or administrative exemption; and for each such plan that is subject to the funding rules of Section 412 of the Code or Section 302 of ERISA, no "accumulated funding deficiency" as defined in Section 412 of the Code has been incurred, whether or not waived, and the fair market value of the assets of each such plan (excluding for these purposes accrued but unpaid contributions) exceeds the present value of all benefits accrued under such plan determined using reasonable actuarial assumptions.

(mm) No forward-looking statement (within the meaning of Section 27A of the Act and Section 21E of the Exchange Act) (a “**Forward Looking Statement**”) contained in the Registration Statement, the General Disclosure Package and the Final Prospectus has been made or reaffirmed without a reasonable basis or has been disclosed other than in good faith. The Forward Looking Statements incorporated by reference in the Registration Statement, the General Disclosure Package and the Final Prospectus from the Company’s Annual Report on Form 10-K for the fiscal year most recently ended (i) are within the coverage of the safe harbor for forward looking statements set forth in Section 27A of the Act, Rule 175(b) under the Act or Rule 3b-6 under the Exchange Act, as applicable, (ii) were made by the Company with a reasonable basis and in good faith and reflect the Company’s good faith commercially reasonable best estimate of the matters described therein, and (iii) have been prepared in accordance with Item 10 of Regulation S-K under the Act.

(nn) Neither the issuance, sale and delivery of the Shares nor the application of the proceeds thereof by the Company as described in the Registration Statement, the General Disclosure Package and the Final Prospectus will violate Regulation T, U or X of the Board of Governors of the Federal Reserve System or any other regulation of such Board of Governors.

(oo) The Company and each of its Subsidiaries carries, or is covered by, insurance in such amounts and covering such risks as the Company and each of its Subsidiaries reasonably believes is adequate for the conduct of its business and as is customary for companies engaged in similar businesses in similar industries.

(pp) (i) Neither the Company, nor to the Company’s knowledge, the Subsidiaries, nor to the Company’s knowledge, any of its executive officers has, in the past five years, made any unlawful contributions to any candidate for any political office (or failed fully to disclose any contribution in violation of law) or made any contribution or other payment to any official of, or candidate for, any federal, state, municipal, or foreign office or other person charged with similar public or quasi-public duty in violation of any law or of the character required to be disclosed in the General Disclosure Package and the Final Prospectus; (ii) no relationship, direct or indirect, exists between or among the Company or, to the Company’s knowledge, the Subsidiaries or any of their affiliates, on the one hand, and the directors, officers and stockholders of the Company or any Subsidiary, that is required by the Act to be described in the Registration Statement, the General Disclosure Package and the Final Prospectus that is not so described; (iii) no relationship, direct or indirect, exists between or among the Company, or any of its affiliates, on the one hand, and the directors, officers, stockholders or directors of the Company that is required by the rules of FINRA to be described in the Registration Statement, the General Disclosure Package and the Final Prospectus that is not so described; (iv) there are no contracts or other documents that are required under the Act to be filed as exhibits to the Registration Statement that are not so filed; (v) there are no material outstanding loans or advances or material guarantees of indebtedness by the Company or any Subsidiary to or for the benefit of any of its officers or directors or any of the members of the families of any of them; (vi) neither the Company nor any Subsidiary has offered, or caused any placement agent to offer, Common Stock to any person with the intent to influence unlawfully (A) a customer or supplier of the Company or any Subsidiary to alter the customer’s or supplier’s level or type of business with the Company or any Subsidiary or (B) a trade journalist or publication to write or publish favorable information about the Company or any Subsidiary or any of its products or services, and, (vii) neither the Company nor the Subsidiaries nor, to the Company’s knowledge, any employee or agent of the Company or the Subsidiaries has made any payment of funds of the Company or the Subsidiaries or received or retained any funds in violation of any law, rule or regulation (including, without limitation, the Foreign Corrupt Practices Act of 1977, which payment, receipt or retention of funds is of a character required to be disclosed in the Registration Statement, the General Disclosure Package or the Final Prospectus).

(qq) The Company and each of its Subsidiaries (A) to its knowledge, is and at all times has been in material compliance with all statutes, rules and regulations applicable to the ownership, testing, development, manufacture, packaging, processing, use, distribution, marketing, labeling, promotion, sale, offer for sale, storage, import, export or disposal of any product under development or manufactured by the Company or its Subsidiaries (“**Applicable Laws**”), (B) has not received any Form 483 from the FDA, notice of adverse finding, warning letter, or other written correspondence or notice from the FDA or any other federal, state, local or foreign governmental or regulatory authority alleging or asserting material noncompliance with any Applicable Laws or any licenses, certificates, approvals, clearances, authorizations, permits and supplements or amendments thereto required by any such Applicable Laws (“**Authorizations**”), which would, individually or in the aggregate, result in a Material Adverse Effect; (C) possesses all material Authorizations and such Authorizations are valid and in full force and effect and the Company and each of its Subsidiaries are not in material violation of any term of any such Authorizations, except where any failure to possess, lack of validity or failure to be in full force and effect would not, individually or in the aggregate, have a Material Adverse Effect; (D) has not received written notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from the FDA or any other federal, state, local or foreign governmental or regulatory authority or third party alleging that any Company product, operation or activity is in material violation of any Applicable Laws or Authorizations and has no knowledge that the FDA or any other federal, state, local or foreign governmental or regulatory authority or third party is considering any such claim, litigation, arbitration, action, suit, investigation or proceeding against the Company or any of its Subsidiaries; (E) other than as described in the Registration Statement, the General Disclosure Package and the Final Prospectus, has not received notice that the FDA or any other federal, state, local or foreign governmental or regulatory authority has taken, is taking or intends to take action to limit, suspend, modify or revoke any material Authorizations that would have a Material Adverse Effect and has no knowledge that the FDA or any other federal, state, local or foreign governmental or regulatory authority is considering such action; and (F) to its knowledge, has filed, obtained, maintained or submitted all reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Applicable Laws or Authorizations except where the failure to file such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments would not result in a Material Adverse Effect, 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).



(rr) All clinical trials conducted by the Company or on behalf of the Company were, and, if still pending are, to the Company's knowledge, being conducted in all material respects in compliance with all Applicable Laws and in accordance with their experimental protocols submitted to the FDA and other comparable regulatory authorities; the descriptions of the results of such clinical trials contained in the Registration Statement, the General Disclosure Package and the Final Prospectus are accurate in all material respects, and the Company has no knowledge of any other clinical trials, the results of which reasonably call into question the clinical trial results described or referred to in the Registration Statement, the General Disclosure Package and the Final Prospectus when viewed in the context in which such results are described; and other than as described in the Registration Statement, the General Disclosure Package and the Final Prospectus, the Company has not received any written notices or correspondence from the FDA or any other domestic or foreign governmental agency requiring the termination or suspension of any clinical trials conducted by or on behalf of the Company that are described in the Registration Statement, the General Disclosure Package and the Final Prospectus or the results of which are referred to in the Registration Statement, the General Disclosure Package and the Final Prospectus.

(ss) The Company was not and is not an ineligible issuer as defined in Rule 405 under the Act at the times specified in Rules 164 and 433 under the Act in connection with the offering of the Shares.

(tt) [Reserved].

(uu) Neither the execution of this Agreement, nor the issuance, offering or sale of the Shares, nor the consummation of any of the transactions contemplated herein and therein, nor the compliance by the Company with the terms and provisions hereof and thereof will conflict with, or will result in a breach of, any of the terms and provisions of, or has constituted or will constitute a default under, or has resulted in or will result in the creation or imposition of any lien, charge or encumbrance upon any property or assets of the Company pursuant to the terms of any contract or other agreement to which the Company may be bound or to which any of the property or assets of the Company is subject, except (i) such conflicts, breaches or defaults as may have been waived and (ii) such conflicts, breaches and defaults that would not have a Material Adverse Effect; nor will such action result (x) in any violation of the provisions of the organizational or governing documents of the Company, or (y) in any material violation of the provisions of any statute or any order, rule or regulation applicable to the Company or of any court or of any federal, state or other regulatory authority or other government body having jurisdiction over the Company.

(vv) Neither the Company or any of its Subsidiaries or, to the knowledge of the Company, any director, officer, agent, employee, affiliate or representative of the Company or its Subsidiaries is a government, individual or entity (in this paragraph (xx), "**Person**") that is, or is owned or controlled by a Person that is, currently subject to any U.S. sanctions administered by the Office of Foreign Assets Control of the U.S. Department of the Treasury ("**OFAC**"); provided however, that for the purposes of this paragraph (xx), no person shall be an affiliate of the Company or any Subsidiary solely by reason of owning less than a majority of any class of voting securities of the Company or any Subsidiary. The Company will not directly or indirectly use the proceeds of the offering of the Shares hereunder, 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.

(ww) Stock Transfer Taxes. On each Settlement Date, all stock transfer or other taxes (other than income taxes) which are required to be paid in connection with the sale and transfer of the Shares to be sold hereunder will be, or will have been, fully paid or provided for by the Company and all laws imposing such taxes will be or will have been fully complied with.

The Company acknowledges that the Underwriters and, for purposes of the opinions to be delivered pursuant to this Agreement, counsel to the Company and counsel to the Underwriters, will rely upon the accuracy and truthfulness of the foregoing representations and hereby consents to such reliance.

2. Purchase, Sale and Delivery of the Shares.

(a) On the basis of the representations, warranties and covenants herein contained, and subject to the conditions herein set forth, the Company agrees to sell to the Underwriters and each Underwriter agrees, severally and not jointly, to purchase, at a price of \$8.835 per share, the number of Shares set forth opposite the name of each Underwriter on Schedule I hereto, subject to adjustments in accordance with Section 8 hereof.

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

3. Offering by the Underwriters.

It is understood that the several Underwriters propose to offer the Shares to the public as set forth in the Final Prospectus. The Representative may from time to time thereafter change the public offering price and other selling terms. It is further understood that you will act as the Representative for the Underwriters in the offering and sale of the Shares.

4. Covenants of the Company. The Company covenants and agrees with the several Underwriters that:

(a) The Company has filed or will (A) prepare and timely file with the Commission under Rule 424(b) under the Act each Statutory Prospectus (including the Final Prospectus) in a form approved by the Representative, and (B) not file any amendment to the Registration Statement or distribute an amendment or supplement to the General Disclosure Package or the Final Prospectus or document incorporated by reference therein of which the Representative shall not previously have been advised and furnished with a copy or to which the Representative shall have reasonably objected in writing or which is not in compliance with the Act.

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

(c) The Company will advise the Representative promptly (A) of receipt of any comments from the Commission, (B) when any supplement to any Statutory Prospectus, any Issuer Free Writing Prospectus, or any amendment to the Final Prospectus has been filed, (C) of any request of the Commission for amendment of the Registration Statement or for supplement to the General Disclosure Package or any Statutory Prospectus or for any additional information, (D) of the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or any order preventing or suspending the use of any Statutory Prospectus, any Issuer Free Writing Prospectus, the Final Prospectus, or of the institution of any proceedings for that purpose or pursuant to Section 8A of the Act, (E) of the occurrence of any event or development within the Prospectus Delivery Period as a result of which any Statutory Prospectus, the General Disclosure Package, any Issuer Free Writing Prospectus, or Final Prospectus, as then amended or supplemented would include any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances existing when any Statutory Prospectus, the General Disclosure Package, any such Issuer Free Writing Prospectus or Final Prospectus is delivered to a purchaser, not misleading, and (F) of the receipt by the Company of any notice with respect to any suspension of the qualification of the Shares for offer and sale in any jurisdiction or the initiation or, to the knowledge of the Company, threatening of any proceeding for such purpose. The Company will use its best efforts to prevent the issuance of any order referred to in clause (D) or (F) of this paragraph and to obtain as soon as possible the lifting thereof, if issued.

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

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

(f) The Company will comply with the Act and the Exchange Act, so as to permit the completion of the distribution of the Shares as contemplated in this Agreement and the Final Prospectus. If during the period in which a prospectus (or, in lieu thereof, the notice referred to under Rule 173(a) under the Act) is required by law to be delivered by an Underwriter or dealer, any event or development 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 any Statutory Prospectus or the General Disclosure Package in order to make the statements therein, in the light of the circumstances existing at the time the Statutory Prospectus or General Disclosure Package is delivered to a purchaser, not misleading in any material respect, or, if it is necessary at any time to amend or supplement any Statutory Prospectus or the General Disclosure Package to comply with any law, the Company promptly will either (i) prepare and file with the Commission an appropriate amendment to the Registration Statement or supplement to any Statutory Prospectus or General Disclosure Package, or (ii) prepare and file with the Commission an appropriate filing under the Exchange Act which shall be incorporated by reference in the Final Prospectus so that the Final Prospectus as so amended or supplemented will not, in the light of the circumstances when it is so delivered, be misleading in any material respect, or so that the Final Prospectus will comply with the law.

(g) The Company will make generally available to its security holders, as soon as it is practicable to do so, but in any event not later than 15 months after the effective date of the Registration Statement, an earning statement (which need not be audited) in reasonable detail, covering a period of at least 12 consecutive months beginning after the effective date of the Registration Statement, which earning statement shall satisfy the requirements of Section 11(a) of the Act and Rule 158 under the Act and will advise you in writing when such statement has been so made available.

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

(i) No offering, pledge, sale, contract to sell, short sale or other disposition of any shares of Common Stock of the Company or other securities convertible into or exchangeable or exercisable for shares of Common Stock or derivative of Common Stock (or agreement for such) will be made for a period starting after the date of the Final Prospectus and extending to, but not including, January 31, 2018, directly or indirectly, by the Company otherwise than hereunder or with the prior written consent of the Representative. Notwithstanding the foregoing, the Company may (i) sell the Shares to the Underwriters, (ii) issue shares of Common Stock upon exercise, conversion, or exchange of option or other securities, (iii) file one or more registrations statements registering the secondary sale of shares of Common Stock or securities convertible into or exchangeable or exercisable for shares of Common Stock, (iv) issue shares of Common Stock, options to purchase shares of Common Stock or restricted stock units or similar equity securities pursuant to any stock option, stock bonus or other stock plan or arrangement described in the Registration Statement or Final Prospectus, (v) issue shares of Common Stock, options, restricted stock units or similar equity securities to the Company's directors as compensation for their services as directors, (vi) enter into agreements providing for the issuance by the Company of shares of Common Stock or any security convertible into or exchangeable or exercisable for shares of Common Stock in connection with the acquisition by the Company or any of its subsidiaries of the securities, business, property or other assets of another person or entity (including pursuant to an employee benefit plan assumed by the Company in connection with such acquisition), and issue any such securities pursuant to any such agreement, and (vii) enter into agreements providing for the issuance of shares of Common Stock or any security convertible into or exercisable for shares of Common Stock in connection with joint ventures, commercial relationships, debt financing or other strategic transactions, and issue any such securities pursuant to any such agreements; provided that in the case of clauses (vi) and (vii), the aggregate number of shares of Common Stock that the Company may sell or issue or agree to sell or issue pursuant to clauses (vi) and (vii), taken together, shall not exceed 5.0% of the total number of shares of Common Stock issued and outstanding immediately subsequent to the completion of the transactions contemplated by this Agreement.

(j) The Company shall maintain the listing of the Shares, subject to notice of issuance, on the NASDAQ.

(k) The Company has caused each officer (as such term is defined in Rule 16a-1(f) of the Exchange Act) and director of the Company to execute and deliver to you, on or prior to the date of this agreement, a letter or letters, substantially in the form attached hereto as Exhibit A (the “**Lockup Agreement**”).

(l) The Company shall apply the net proceeds of its sale of the Shares substantially in the manner described under the caption “Use of Proceeds” in the Registration Statement, the General Disclosure Package and the Final Prospectus.

(m) The Company shall not invest, or otherwise use the proceeds received by the Company from its sale of the Shares in such a manner as would require the Company or any of the Subsidiaries to register as an investment company under the Investment Company Act.

(n) The Company will maintain a transfer agent and, if necessary under the jurisdiction of incorporation of the Company, a registrar for the Common Stock.

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

#### 5. Costs and Expenses.

The Company will pay all costs, expenses and fees incident to the performance of the obligations of the Company under this Agreement, including, without limiting the generality of the foregoing, the following: (i) accounting fees of the Company; (ii) the fees and disbursements of counsel for the Company; (iii) all costs and expenses related to the transfer and delivery of the Shares to the Underwriters, including any transfer or other taxes payable thereon; (iv) any roadshow expenses; (v) the cost of printing and delivering to, or as requested by, the Underwriters copies of the Registration Statement, any Statutory Prospectuses, the Issuer Free Writing Prospectuses, the Final Prospectus, this Agreement, the listing application, any Blue Sky survey, in each case, any supplements or amendments thereto; (vi) the filing fees of the Commission; (vii) the filing fees and reasonable and documented expenses (including related fees and expenses of counsel for the Underwriter) incident to securing any required review by FINRA of the terms of the sale of the Shares; (viii) all expenses and application fees related to the listing of the Shares on NASDAQ; (ix) the cost of printing certificates, if any, representing the Shares; (x) the costs and charges of any transfer agent, registrar or depository; (xi) the reasonable and documented expenses of the Underwriter, including the related fees and disbursements of counsel for the Underwriters, incident to the offer and sale of the Shares under this Agreement by the Underwriter, and (xii) the reasonable and documented expenses, including the related fees and expenses of counsel for the Underwriters, incurred in connection with the qualification of the Shares under foreign or state securities or Blue Sky laws and the preparation, printing and distribution of a Blue Sky memorandum. Notwithstanding the foregoing, in no event shall the amount of expenses reimbursed to the Underwriters in connection with clauses (vii), (xi) and (xii) above exceed \$50,000 in the aggregate.

## 6. Conditions of Obligations of the Underwriters.

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

(a) The Final Prospectus shall have been filed with the Commission in accordance with the Rule 424(b) under the Act. Prior to the Closing Date, no stop order suspending the effectiveness of the Registration Statement shall have been issued and no proceedings for that purpose shall have been instituted or, to the knowledge of the Company or the Underwriters, shall be contemplated by the Commission.

(b) The Representative shall have received on the Closing Date, (i) a written opinion of Morrison & Foerster LLP (“Company Counsel”) as to corporate and securities matters and (ii) a negative assurance letter from Company Counsel, each dated the Closing Date, addressed to the Underwriters and in form and substance reasonably acceptable to the Underwriters.

(c) The Representative shall have received from Duane Morris LLP, counsel for the Underwriters, an opinion and negative assurance letter, dated the Closing Date, with respect to such matters as the Representative may reasonably request, and such counsel shall have received such documents and information as they may reasonably request to enable them to pass upon such matters.

(d) You shall have received, on each of the date hereof and the Closing Date, a letter dated the date hereof or the Closing Date, as the case may be, in form and substance satisfactory to you, of the Accountant confirming that they are an independent registered public accounting firm with respect to the Company and the Subsidiaries within the meaning of the Act and the PCAOB and stating that in their opinion the financial statements and schedules examined by them and included or incorporated by reference in the Registration Statement, the General Disclosure Package and the Final Prospectus comply in form in all material respects with the applicable accounting requirements of the Act; and containing such other statements and information as is ordinarily included in accountants’ “comfort letters” to underwriters with respect to the financial statements and certain financial and statistical information contained in the Registration Statement, the General Disclosure Package and the Final Prospectus.

(e) The Representative shall have received on the Closing Date a certificate or certificates of the Chief Executive Officer and the Chief Financial Officer of the Company to the effect that, as of the Closing Date, each of them severally represents as follows:

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

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

(iii) For the period from and including the date of this Agreement through and including such date, there has not been any material adverse change or any change or development, that individually or in the aggregate, would reasonably be expected to have a material adverse change in the business, management, properties, assets, rights, operations, condition (financial or otherwise) or prospects of the Company and the Subsidiaries taken as a whole, whether or not arising in the ordinary course of business, except as set forth in the General Disclosure Package and the Final Prospectus.

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

(g) The Company shall have submitted a listing of additional shares notification form to NASDAQ with respect to the Shares and shall have received no objection thereto from NASDAQ.

(h) The Lockup Agreements described in Section 4(k) hereof are in full force and effect.

(i) No action shall have been taken and no statute, rule, regulation or order shall have been enacted, adopted or issued by any federal, state or foreign governmental or regulatory authority that would, as of the Closing Date, prevent the issuance or sale of the Shares by the Company; and no injunction or order of any federal, state or foreign court shall have been issued that would, as of the Closing Date, prevent the issuance or sale of the Shares by the Company.

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

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

In such event, the Company and the Underwriters shall not be under any obligation to each other (except to the extent provided in Sections 5 and 7 hereof).

#### 7. Indemnification.

(a) The Company agrees:

(i) to indemnify and hold harmless each Underwriter, the directors and officers of each Underwriter and each person, if any, who controls any Underwriter within the meaning of either Section 15 of the Act or Section 20 of the Exchange Act, against any losses, claims, damages or liabilities to which such Underwriter or any such controlling person may become subject under the Act or otherwise, insofar as such losses, claims, damages or liabilities (or actions or proceedings in respect thereof) arise out of or are based upon (i) any untrue statement or alleged untrue statement of any material fact contained in the Registration Statement, any Statutory Prospectus, any Issuer Free Writing Prospectus, the Final Prospectus or any amendment or supplement thereto, (ii) with respect to the Registration Statement or any amendment or supplement thereto, the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading or (iii) with respect to any Statutory Prospectus, any Issuer Free Writing Prospectus, the Final Prospectus or any amendment or supplement thereto, the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading in the light of the circumstances under which they were made; *provided, however*, that the Company will not be liable in any such case to the extent that any such loss, claim, damage or liability (or action or proceeding in respect thereof) arises out of or is based upon an untrue statement or alleged untrue statement, or omission or alleged omission made in the Registration Statement, any Statutory Prospectus, any Issuer Free Writing Prospectus, the Final Prospectus, or such amendment or supplement, in reliance upon and in conformity with written information furnished to the Company by or through the Representative specifically for use therein, it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in Section 12 hereof; and

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

(b) Each Underwriter severally and not jointly will indemnify and hold harmless the Company, each of its directors, each of its officers who have signed the Registration Statement, and each person, if any, who controls the Company within the meaning of the Act, against any losses, claims, damages or liabilities to which the Company or any such director, officer, or controlling person may become subject under the Act or otherwise, insofar as such losses, claims, damages or liabilities (or actions or proceedings in respect thereof) arise out of or are based upon (i) any untrue statement or alleged untrue statement of any material fact contained in the Registration Statement, any Statutory Prospectus, any Issuer Free Writing Prospectus, the Final Prospectus or any amendment or supplement thereto, (ii) with respect to the Registration Statement or any amendment or supplement thereto, the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading or (iii) with respect to any Statutory Prospectus, any Issuer Free Writing Prospectus, the Final Prospectus or any amendment or supplement thereto, the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading in the light of the circumstances under which they were made; and will reimburse any legal or other expenses reasonably incurred by the Company or any such director, officer, or controlling person in connection with investigating or defending any such loss, claim, damage, liability, action or proceeding; *provided, however*, that each Underwriter will be liable in each case to the extent, but only to the extent, that such untrue statement or alleged untrue statement or omission or alleged omission has been made in the Registration Statement, any Statutory Prospectus, any Issuer Free Writing Prospectus, the Final Prospectus or such amendment or supplement, in reliance upon and in conformity with written information furnished to the Company by or through the Representative specifically for use therein, it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in Section 12 hereof. This indemnity agreement will be in addition to any liability which such Underwriter may otherwise have.



(c) In case any proceeding (including any governmental investigation) shall be instituted involving any person in respect of which indemnity may be sought pursuant to this Section 7, such person (the “**indemnified party**”) shall promptly notify the person against whom such indemnity may be sought (the “**indemnifying party**”) in writing. No indemnification provided for in Section 7(a) or (b) hereof shall be available to any party who shall fail to give notice as provided in this Section 7(c) if the indemnifying party was materially prejudiced by the failure to give such notice, but the failure to give such notice shall not relieve the indemnifying party or parties from any liability which it or they may have to the indemnified party for contribution or otherwise than on account of the provisions of Section 7(a) or (b) hereof. In case any such proceeding shall be brought against any indemnified party and it shall notify the indemnifying party of the commencement thereof, the indemnifying party shall be entitled to participate therein and, to the extent that it shall wish, jointly with any other indemnifying party similarly notified, to assume the defense thereof, with counsel reasonably satisfactory to such indemnified party and shall pay as incurred the reasonable and documented fees and disbursements of such counsel related to such proceeding. In any such proceeding, any indemnified party shall have the right to retain its own counsel at its own expense. Notwithstanding the foregoing, the indemnifying party shall pay as incurred (or within 30 days of presentation) the fees and expenses of separate counsel retained by the indemnified party in the event (i) the indemnifying party and the indemnified party shall have mutually agreed to the retention of such counsel, (ii) the named parties to any such proceeding (including any impleaded parties) include both the indemnifying party and the indemnified party and representation of both parties by the same counsel would be inappropriate due to actual or potential conflicts of interests between them or (iii) the indemnifying party shall have failed to assume the defense and employ counsel reasonably acceptable to the indemnified party within a reasonable period of time after notice of commencement of the action. Such separate counsel shall be designated in writing by you in the case of parties indemnified pursuant to Section 7(a) hereof and by the Company in the case of parties indemnified pursuant to Section 7(b) hereof. The indemnifying party shall not be liable for any compromise or settlement of any pending or threatened claim, action or proceeding, or for any consent to the entry of any judgment in any pending or threatened claim, action or proceeding, in each case effected without its written consent but if settled or compromised with such written consent of the indemnifying party or if there be a final judgment for the plaintiff, the indemnifying party agrees to indemnify the indemnified party from and against any loss or liability by reason of such settlement, compromise or judgment. In addition, the indemnifying party will not, without the prior written consent of the indemnified party, settle or compromise or consent to the entry of any judgment in any pending or threatened claim, action or proceeding of which indemnification may be sought hereunder (whether or not any indemnified party is an actual or potential party to such claim, action or proceeding) unless such settlement, compromise or consent (i) includes an unconditional release of each indemnified party from all liability arising out of such claim, action or proceeding 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. If at any time an indemnified party shall have requested an indemnifying party to reimburse the indemnified party for fees and expenses of counsel to which it is entitled to be reimbursed under this Section 7, such indemnifying party agrees that it shall be liable for any settlement of any proceeding effected without its written consent if (i) such settlement is entered into more than 60 days after receipt by such indemnifying party of the aforesaid request, (ii) such indemnifying party shall have received notice of the terms of such settlement at least 45 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 and the other provisions of this Section 7 prior to the date of such settlement.

(d) To the extent the indemnification provided for in this Section 7 is unavailable to or insufficient to hold harmless an indemnified party under Section 7(a) or (b) hereof in respect of any losses, claims, damages or liabilities (or actions or proceedings in respect thereof) referred to therein, then each indemnifying party shall contribute to the amount paid or payable by such indemnified party as a result of such losses, claims, damages or liabilities (or actions or proceedings in respect thereof) in such proportion as is appropriate to reflect the relative benefits received by the Company on the one hand and the Underwriters on the other from the offering of the Shares. If, however, the allocation provided by the immediately preceding sentence is not permitted by applicable law then each indemnifying party shall contribute to such amount paid or payable by such indemnified party in such proportion as is appropriate to reflect not only such relative benefits but also the relative fault of the Company on the one hand and the Underwriters on the other in connection with the statements or omissions which resulted in such losses, claims, damages or liabilities (or actions or proceedings in respect thereof), as well as any other relevant equitable considerations. The relative benefits received by the Company on the one hand and the Underwriters on the other shall be deemed to be in the same proportion as the net proceeds from the offering (before deducting expenses) received by the Company bear to the total underwriting discounts and commissions received by the Underwriters, in each case as set forth in the table on the cover page of the Final Prospectus. The relative fault shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Company on the one hand or the Underwriters on the other and the parties’ relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission.

(e) The Company, and the Underwriters agree that it would not be just and equitable if contributions pursuant to this Section 7(e) were determined by pro rata allocation (even if the Underwriters were treated as one entity for such purpose) or by any other method of allocation which does not take account of the equitable considerations referred to above in this Section 7(e). The amount paid or payable by an indemnified party as a result of the losses, claims, damages or liabilities (or actions or proceedings in respect thereof) referred to above in this Section 7(e) shall be deemed to include any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim. Notwithstanding the provisions of this Section 7(e), (i) no Underwriter shall be required to contribute any amount in excess of the underwriting discounts and commissions applicable to the Shares purchased by such Underwriter, and (ii) no person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The Underwriters' obligations in this Section 7(e) to contribute are several in proportion to their respective underwriting obligations and not joint.

(f) In any proceeding relating to the Registration Statement, any Statutory Prospectus, any Issuer Free Writing Prospectus, the Final Prospectus or any supplement or amendment thereto, each party against whom contribution may be sought under this Section 7 hereby consents to the exclusive jurisdiction of (i) the federal courts of the United States of America located in the City and County of New York, Borough of Manhattan and (ii) the courts of the State of New York located in the City and County of New York, Borough of Manhattan.

(g) The indemnity and contribution agreements contained in this Section 7 and the representations and warranties of the Company set forth in this Agreement shall remain operative and in full force and effect, regardless of (i) any investigation made by or on behalf of any Underwriter, its directors or officers or any person controlling any Underwriter, the Company, its directors or officers or any persons controlling the Company, (ii) acceptance of any Shares and payment therefor hereunder, and (iii) any termination of this Agreement. A successor to any Underwriter, its directors or officers or any person controlling any Underwriter, or to the Company, its directors or officers, or any person controlling the Company, shall be entitled to the benefits of the indemnity, contribution and reimbursement agreements contained in this Section 7.

#### 8. Default by Underwriters.

If on the Closing Date, any Underwriter shall fail to purchase and pay for the portion of the Shares which such Underwriter has agreed to purchase and pay for on such date (otherwise than by reason of any default on the part of the Company), you, as Representative of the Underwriters, shall use your reasonable efforts to procure within 36 hours thereafter one or more of the other Underwriters, or any others, to purchase from the Company such amounts as may be agreed upon and upon the terms set forth herein, the Shares which the defaulting Underwriter or Underwriters failed to purchase. If during such 36 hours you, as such Representative, shall not have procured such other Underwriters, or any others, to purchase the Shares agreed to be purchased by the defaulting Underwriter or Underwriters, then (a) if the aggregate number of shares with respect to which such default shall occur does not exceed 10% of the Shares to be purchased on the Closing Date, the other Underwriters shall be obligated, severally, in proportion to the respective numbers of Shares which they are obligated to purchase hereunder, to purchase the Shares which such defaulting Underwriter or Underwriters failed to purchase, or (b) if the aggregate number of shares of Shares with respect to which such default shall occur exceeds 10% of the Shares to be purchased on the Closing Date, the Company or you as the Representative of the Underwriters will have the right, by written notice given within the next 36-hour period to the parties to this Agreement, to terminate this Agreement without liability on the part of the non-defaulting Underwriters or of the Company except to the extent provided in Sections 5 and 7 hereof. In the event of a default by any Underwriter or Underwriters, as set forth in this Section 8, the Closing Date, may be postponed for such period, not exceeding seven days, as you, as Representative, may determine in order that the required changes in the Registration Statement, the General Disclosure Package or in the Final Prospectus or in any other documents or arrangements may be effected. The term "Underwriter" includes any person substituted for a defaulting Underwriter. Any action taken under this Section 8 shall not relieve any defaulting Underwriter from liability in respect of any default of such Underwriter under this Agreement.

#### 9. Notices.

All notices, consents, approvals, waivers or other communications (each, a "**Notice**") required or permitted hereunder, except as herein otherwise specifically provided, shall be in writing and shall be (i) delivered personally or by commercial messenger, (ii) sent via a recognized overnight courier service, (iii) sent by registered or certified mail, postage pre-paid and return receipt requested, or (iv) sent by e-mail or facsimile transmission, provided confirmation of receipt is received by sender and the original Notice is sent or delivered contemporaneously by an additional method provided in this Section 9; in each case so long as such Notice is addressed to the intended recipient thereof as set forth below. Any party may change its address specified below by giving each party Notice of such change in accordance with this Section 9. Any Notice shall be deemed given upon actual receipt (or refusal of receipt).

To the Underwriters:

JonesTrading Institutional Services LLC  
32133 Lindero Canyon Road, Suite 208  
Westlake Village, CA 91361  
Fax No.: (818) 879-5481  
Attn: Trent McNair  
Email: trentm@jonestrading.com

With a copy to:

JonesTrading Institutional Services LLC  
155 Federal Street, Suite 1002  
Boston, MA 02110  
Attn: Steve Chmielewski, Esq.  
E-mail: steve@jonestrading.com

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

Duane Morris LLP  
One Riverfront Plaza  
1037 Raymond Boulevard, Suite 1800  
Newark, NJ 07102  
Attention: Dean Colucci, Esq.  
email: dmcolucci@duanemorris.com

To the Company:

Catalyst Biosciences, Inc.  
60 Littlefield Avenue  
South San Francisco, CA 94080  
Attn: Fletcher Payne  
E-mail: fpayne@catbio.com

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

Morrison & Foerster LLP  
755 Page Mill Road  
Palo Alto  
California 94304-1018  
Attn: Stephen Thau  
E-mail: sthau@mof.com

#### 10. Termination.

This Agreement may be terminated by you by notice to the Company (a) at any time prior to the Closing Date if any of the following has occurred: (i) since the respective dates as of which information is given in the Registration Statement, the General Disclosure Package and the Final Prospectus, any material adverse change or any development, that individually or in the aggregate, would reasonably be expected to have a material adverse change in the earnings, business, management, properties, assets, rights, operations, condition (financial or otherwise) or prospects of the Company and the Subsidiaries taken as a whole, whether or not arising in the ordinary course of business, except as set forth in the General Disclosure Package and the Final Prospectus; (ii) any outbreak or escalation of hostilities or declaration of war or national emergency or other national or international calamity or crisis (including, without limitation, an act of terrorism) or change in economic or political conditions if the effect of such outbreak, escalation, declaration, emergency, calamity, crisis or change on the financial markets of the United States would, in your judgment, materially impair the investment quality of the Shares; (iii) suspension of trading in securities generally on the New York Stock Exchange or the NASDAQ Global Market or limitation on prices (other than limitations on hours or numbers of days of trading) for securities on any such exchange; (iv) the enactment, publication, decree or other promulgation of any statute, regulation, rule or order of any court or other governmental authority which in your opinion materially and adversely affects or may materially and adversely affect the business or operations of the Company; (v) the declaration of a banking moratorium by the United States or New York State authorities; (vi) any downgrading, or placement on any watch list for possible downgrading, in the rating of any of the Company's debt securities or preferred stock by any "nationally recognized statistical rating organization" (within the meaning of Rule 15c3-1(c)(2)(vi)(F) under the Exchange Act) or any public announcement by such organization that it has under surveillance or review, or has changed its outlook with respect to, its rating of any such debt securities or preferred stock (other than an announcement with positive implications of a possible upgrading); or (vii) the suspension of trading of the Company's common stock by NASDAQ, the Commission or any other governmental authority; or (b) as provided in Section 6 and 8 of this Agreement.

#### 11. Successors.

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

12. Information Provided by Underwriters.

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

13. Miscellaneous.

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

The Company acknowledges and agrees that each Underwriter in providing investment banking services to the Company in connection with the offering, including in acting pursuant to the terms of this Agreement, has acted and is acting as an independent contractor and not as a fiduciary and the Company and does not intend such Underwriter to act in any capacity other than as an independent contractor, including as a fiduciary or in any other position of higher trust. Additionally, neither the Representative nor any other Underwriter is advising the Company or any other person as to any legal, tax, investment, accounting or regulatory matters in any jurisdiction. The Company shall consult with their own advisors concerning such matters and shall be responsible for making their own independent investigation and appraisal of the transactions contemplated hereby, and the Underwriters shall have no responsibility or liability to the Company with respect thereto. Any review by the Underwriters of the Company, the transactions contemplated hereby or other matters relating to such transactions will be performed solely for the benefit of the Underwriters and shall not be on behalf of the Company.

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

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

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

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

Very truly yours,

CATALYST BIOSCIENCES, INC.

By: /s/ Fletcher Payne

Name: Fletcher Payne

Title: CFO

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

JONESTRADING INSTITUTIONAL SERVICES LLC

As Representative of the several  
Underwriters listed on Schedule I hereto

By: JonesTrading Institutional Services LLC

By: /s/ Trent McNair

Name: Trent McNair

Title: CFO

SCHEDULE I

SCHEDULE OF UNDERWRITERS

<u>Underwriter</u>	<u>Number of Shares to be Purchased</u>
JonesTrading Institutional Services LLC	442,105
Ladenburg Thalmann & Co. Inc.	331,579
LifeSci Capital LLC	331,579
Total	<u>1,105,263</u>

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SCHEDULE II

None.

Ann. A-2

LOCK-UP AGREEMENT

December 20, 2017

Catalyst Biosciences, Inc.  
60 Littlefield Avenue  
South San Francisco, CA 94080

JonesTrading Institutional Services LLC  
757 3<sup>rd</sup> Avenue  
New York, New York 10017

Ladies and Gentlemen:

The undersigned understands that JonesTrading Institutional Services LLC, as representative (the “**Representative**”) of the several underwriters (the “**Underwriters**”), proposes to enter into an Underwriting Agreement (the “**Underwriting Agreement**”) with Catalyst Biosciences, Inc. (the “**Company**”), providing for the public offering by the Underwriters of common stock, par value \$0.001 per share (the “**Common Stock**”), of the Company (the “**Public Offering**”). To induce the Underwriters to continue their efforts in connection with the Public Offering, the undersigned agrees that, without the prior written consent of the Representative, the undersigned will not, directly or indirectly, offer, sell, pledge, contract to sell (including any short sale), grant any option to purchase or otherwise dispose of any shares of Common Stock (including, without limitation, shares of Common Stock of the Company which may be deemed to be beneficially owned by the undersigned currently or hereafter in accordance with the rules and regulations of the Securities and Exchange Commission (the “**Commission**”), shares of Common Stock which may be issued upon exercise of a stock options or warrants and any other security convertible into or exchangeable for Common Stock), or enter into any Hedging Transaction (as defined below) relating to the Common Stock (each of the foregoing referred to as a “**Disposition**”) commencing on the date hereof and continuing until, and including, the date that is 45 days after the date of the final prospectus relating to the Public Offering (the “**Lock-Up Period**”). The foregoing restriction is expressly intended to preclude the undersigned from engaging in any Hedging Transaction or other transaction which is designed to, or reasonably expected to, lead to, or result in, a Disposition during the Lock-Up Period even if the securities would be disposed of by someone other than the undersigned. “**Hedging Transaction**” means any short sale (whether or not against the box) or any purchase, sale or grant of any right (including, without limitation, any put or call option) with respect to any security (other than a broad-based market basket or index) that includes, relates to or derives any significant part of its value from the Common Stock.

The restrictions set forth in the preceding paragraph shall not apply to:

(1) if the undersigned is a natural person, 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 direct or indirect 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;

Ex. C-1

(2) if the undersigned is affiliated with a corporation, partnership, limited liability company or other business entity, any transfers by such corporation, partnership, limited liability company or other business entity to any current or former stockholder, partner (which for additional clarity, includes limited partners) or member of, or owner of a similar equity interest in, the undersigned, as the case may be, (including, for the avoidance of doubt, a fund managed by the same manager or managing member or general partner or management company or by an entity controlling, controlled by, or under common control with such manager or managing member or general partner or management company as the undersigned or who shares a common investment advisor with the undersigned) if, in any such case, such transfer is not for value;

(3) if the undersigned is affiliated with a corporation, partnership, limited liability company or other business entity, any transfer made by such corporation, partnership, limited liability company or other business entity (a) in connection with the sale or other bona fide transfer in a single transaction of all or substantially all of the capital stock, partnership interests, membership interests or other similar equity interests, as the case may be, or all or substantially all of the assets, of such corporation, partnership, limited liability company or other business entity, in any such case not undertaken for the purpose of avoiding the restrictions imposed by this agreement or (b) to another corporation, partnership, limited liability company or other business entity so long as the transferee is an affiliate (as defined below) of such corporation, partnership, limited liability company or other business entity and such transfer is not for value;

(4) if the undersigned holds securities of the Company in a trust, transfers to the settlor or beneficiary of such trust or to the estate of a beneficiary of such trust;

(5) transactions relating to (i) shares of Common Stock acquired by the undersigned in the Offering and (ii) shares of Common Stock or other securities convertible into or exercisable or exchangeable for Common Stock acquired in open market transactions after completion of the Offering, provided that no filing under Section 16(a) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") shall be required or shall be voluntarily made in connection with subsequent sales of Common Stock or other securities acquired by you in the Offering or in such open market transactions during the Lock-Up Period;

(6) any transaction relating to the transfer of shares of Common Stock to the Company pursuant to an agreement under which the Company has the option to repurchase shares upon termination of service of the undersigned or has a right of first refusal with respect to the transfer of such shares by the undersigned;

(7) the entry, by the undersigned, at any time on or after the date of the Underwriting Agreement, of any trading plan providing for the sale of Common Stock by the undersigned, which trading plan meets the requirements of Rule 10b5-1 under the Exchange Act, provided, however, that such plan does not provide for, or permit, the sale of any Common Stock during the Lock-Up Period and no public announcement or filing is voluntarily made or required regarding such plan during the Lock-Up Period;

(8) sales of Common Stock pursuant to a trading plan in existence on the date of the Underwriting Agreement and disclosed to the Representative, providing for the sale of Common Stock by the undersigned, which trading plan meets the requirements of Rule 10b5-1(c) under the Exchange Act,

(9) any transfers made by the undersigned to the Company to satisfy tax withholding obligations pursuant to the Company's equity incentive plans or arrangements disclosed in the Prospectus (as defined in the Underwriting Agreement in connection with the vesting or exercise of the Company's securities issued pursuant to such plan or arrangements);

(10) the transfer of shares of Common Stock or any security convertible into or exercisable or exchangeable for Common Stock pursuant to a liquidation, tender offer, merger, consolidation, binding share exchange or other similar transaction involving a change in control of the Company that results in all of the Company's stockholders having the right to exchange their Common Stock for cash, securities or other property; provided that if such transaction is not consummated, any such securities shall remain subject to the restrictions set forth in this agreement;

(11) any transfers of securities of the Company pursuant to a court order or settlement agreement related to the distribution of assets in connection with the dissolution of marriage or civil union; and

(12) the exercise of any option, warrant or other right to acquire shares of Common Stock, the settlement of any stock-settled stock appreciation rights, restricted stock or restricted stock units, including through a "net" or cashless exercise, granted and outstanding as of the date hereof or at the closing date of this Offering, or the conversion of any convertible security of the Company in accordance with its terms, including, without limitation, the convertible redeemable notes issued by the Company to stockholders of Targacept, Inc. on or about August 19, 2015;

provided, however, that (A) in the case of any transfer described in clause (1), (2), (3), (4), (10) or (11) above, it shall be a condition to the transfer that the transferee executes and delivers to the Representative, not later than one business day prior to such transfer, a written agreement, in substantially the form of this 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 satisfactory in form and substance to the Representative, and (B) in the case of any transfer described in clause (1), (2), (3), (4), (6), (8), (9), or (11) above, 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 any securities convertible into or exercisable or exchangeable for Common Stock during the Lock-Up Period, the undersigned shall include a statement in such report to the effect that, (i) in the case of any transfer pursuant to clause (1) above, such transfer is being made as a gift or by will or intestate succession, (ii) in the case of any transfer pursuant to clause (2) above, such transfer is being made to a stockholder, partner or member of, or owner of a similar equity interest in, the undersigned and is not a transfer for value, (iii) in the case of any transfer pursuant to clause (3) above, such transfer is being made either (a) in connection with the sale or other bona fide transfer in a single transaction of all or substantially all of the undersigned's capital stock, partnership interests, membership interests or other similar equity interests, as the case may be, or all or substantially all of the undersigned's assets or (b) to another corporation, partnership, limited liability company or other business entity that is an affiliate of the undersigned and such transfer is not for value or, in the case of any transfer pursuant to clause (4) above, such transfer is being made to a beneficiary of the undersigned and is not a transfer for value, and (iv) in the case of any transfer pursuant to clause (6), above, such transfer is being made pursuant to a right of repurchase or rights of first refusal by the Company, or, in the case of any transfer pursuant to clause (8) above, such transfer is being made pursuant to a trading plan meets the requirements of Rule 10b5-1(c) under the Exchange Act, or, in the case of any transfer pursuant to clause (9) above, such transfer is being made to satisfy tax withholding obligations, or, in the case of any transfer pursuant to clause (10) above, that such transfer is being made pursuant to a change in control transaction, or, in the case of any transfer pursuant to clause (11) above, such transfer is being made pursuant to a court order or settlement agreement related to the distribution of assets in connection with the dissolution of marriage or civil union. For purposes of clause (9), "change in control" shall mean the transfer (whether by tender offer, merger, consolidation or similar transaction), in one transaction or a series of related transactions, to a person or group of affiliated persons (other than an Underwriter of the Offering), of the Company's voting securities if, after such transfer, such person or group of affiliated persons would hold more than 50% of the outstanding voting securities of the Company (or the surviving entity). 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.

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

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

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

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

If (i) the Company notifies the Representative or the Representative notifies the Company in writing that such party does not intend to proceed with the Offering, (ii) the Underwriting Agreement is not executed by December 31, 2017, or (iii) the Underwriting Agreement (other than the provisions thereof which survive termination) shall terminate or be terminated for any reason prior to payment for and delivery of any Common Stock to be sold thereunder, then this Agreement shall immediately be terminated and the undersigned shall automatically be released from all of his or her obligations under this Agreement.

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

*Print Name:*



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SAN DIEGO, SAN FRANCISCO,  
SHANGHAI, SINGAPORE, TOKYO,  
WASHINGTON, D.C.

December 22, 2017

Catalyst Biosciences, Inc.  
260 Littlefield Avenue  
South San Francisco, CA 94080

Re: Issuance and Sale of 1,105,263 Shares of Common Stock of Catalyst Biosciences, Inc.

Ladies and Gentlemen:

We are acting as counsel to Catalyst Biosciences, Inc., a Delaware corporation (the “**Company**”), in connection with the issuance and sale of 1,105,263 shares of the Company’s common stock, par value \$0.001 per share (the “**Shares**”), pursuant to a Registration Statement on Form S-3 (File No. 333-210248) (the “**Registration Statement**”) filed with the Securities and Exchange Commission (the “**Commission**”) under the Securities Act of 1933, as amended (the “**Act**”), and declared effective by the Commission on April 28, 2016, the related prospectus included therein (the “**Prospectus**”), and the prospectus supplement filed with the Commission pursuant to Rule 424(b) promulgated under the Act (the “**Prospectus Supplement**”). The Shares are to be offered and sold in the manner described in the Registration Statement, the Prospectus and the Prospectus Supplement.

In connection with this opinion, we have examined originals or copies, certified or otherwise identified to our satisfaction, of: (i) the Fourth Amended and Restated Certificate of Incorporation of the Company, as amended through the date hereof; (ii) the Bylaws of the Company, as amended through the date hereof; (iii) certain resolutions of the Board of Directors of the Company and the Transaction Committee of the Board, relating to the issuance, sale and registration of the Shares; (iv) the Registration Statement; (v) the Prospectus; (vi) the Prospectus Supplement; and (vii) the Underwriting Agreement between the Company and the several underwriters thereto. In addition, we have examined originals or copies, certified or otherwise identified to our satisfaction, of certain other records, documents, instruments and certificates of public officials and of the Company, and we have made such inquiries of officers of the Company and public officials and considered such questions of law as we have deemed necessary for purposes of rendering the opinions set forth herein. Our opinion is limited to the matters stated herein and no opinion is implied or may be inferred beyond the matters expressly stated. As to certain factual matters, we have relied upon a certificate of an officer of the Company and have not sought to independently verify such matters.

In rendering the opinion set forth below, we have assumed the genuineness of all signatures, the legal capacity of natural persons, the authenticity of all documents submitted to us as originals, the conformity to original documents of all documents submitted to us as duplicates or certified or conformed copies and the authenticity of the originals of such latter documents.

Based upon, subject to and limited by the foregoing, we are of the opinion that the Shares have been duly and validly authorized and upon issuance, delivery and payment therefor in the manner contemplated by the Registration Statement, the Prospectus Supplement and the Prospectus, will be legally issued, fully paid and nonassessable.

We express no opinion as to matters governed by any laws other than the Delaware General Corporation Law and the federal laws of the United States of America, as in effect on the date hereof.

We hereby consent to the filing of this opinion as an exhibit to the Registration Statement and to the reference to our firm under the caption "Legal Matters" in the Prospectus Supplement. In giving such permission, we do not admit hereby that we come within the category of persons whose consent is required under Section 7 of the Act, or the rules and regulations of the Commission thereunder. This opinion is expressed as of the date hereof, and we disclaim any undertaking to advise you of any subsequent changes in the facts stated or assumed herein or of any subsequent changes in applicable law.

Very truly yours,

/s/ Morrison & Foerster LLP



## Catalyst Biosciences Announces Pricing of Public Offering of Common Stock

**SOUTH SAN FRANCISCO, Calif. – Dec. 20, 2017** – Catalyst Biosciences, Inc. (NASDAQ: CBIO), a clinical-stage biopharmaceutical company focused on developing novel medicines to address hematology indications (the Company), today announced the pricing of an underwritten public offering of 1,105,263 shares of its common stock, offered at a price of \$9.50 per share to the public. The gross proceeds to the Company from this offering are expected to be approximately \$10.5 million, before deducting underwriting discounts and commissions and other estimated offering expenses payable by the Company. All of the shares in the offering are to be sold by the Company. The offering is expected to close on or about December 22, 2017, subject to the satisfaction of customary closing conditions.

JonesTrading Institutional Services LLC and Ladenburg Thalmann & Co. Inc. are acting as Joint Book-running Managers and LifeSci Capital LLC is acting as a Co-Manager for the proposed offering.

A shelf registration statement on Form S-3 relating to the public offering of the shares of common stock described above was filed with the Securities and Exchange Commission (SEC) and is effective. A final prospectus supplement relating to the offering will be filed with the SEC and will be available on the SEC's web site at [www.sec.gov](http://www.sec.gov). When available, copies of the final prospectus supplement may also be obtained from JonesTrading Institutional Services LLC, 32133 Lindero Canyon Road, Suite 208, Westlake Village, CA 91361, Attention: Compliance Department, or via telephone at (844) 566-6587 or via email at [syndicate@jonestrading.com](mailto:syndicate@jonestrading.com).

This press release shall not constitute an offer to sell or the solicitation of an offer to buy any of the securities described herein. There shall not be any offer, solicitation of an offer to buy, or sale of securities in any state or jurisdiction in which such an offering, solicitation, or sale would be unlawful prior to registration or qualification under the securities laws of any such state or jurisdiction.

### About Catalyst

Catalyst is a clinical-stage biopharmaceutical company developing novel medicines to address hematology indications. Catalyst is focused on the field of hemostasis, including the subcutaneous prophylaxis of hemophilia and facilitating surgery in individuals with hemophilia.

### Forward-Looking Statements

This press release contains forward-looking statements that involve substantial risks and uncertainties. All statements pertaining to the Company's expectations regarding the completion of the offering described in this press release constitute forward-looking statements. All statements, other than statement of historical facts (including, but not limited to, statements that contain words such as "will," "believes," "plans," "anticipates," "expects," "estimates") are forward-looking statements. Actual results or events could differ materially from the plans, intentions, expectations and projections disclosed in the forward-looking statements. Various important factors could cause actual results or events to differ materially from the forward-looking statements that the Company makes, including, but not limited to, the risk that trials and studies may be delayed and may not have satisfactory outcomes, that human trials will not replicate the results from animal studies, that potential adverse effects may arise from the testing or use of the Company's products, including the generation of antibodies, the risk that costs required to develop or manufacture the Company's products will be higher than anticipated, competition and other factors that affect our ability to establish collaborations on commercially reasonable terms and other risks described in the "Risk Factors" section of the Company's Annual Report on Form 10-K for the year ended December 31, 2016 and the Company's Quarterly Reports on Form 10-Q for the quarters ended March 31, 2017, June 30, 2017, and September 30, 2017 along with other filings with the Securities and Exchange Commission. The Company does not assume any obligation to update any forward-looking statements, except as required by law.



**Contacts:**

**Investors:**

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**Source:** Catalyst Biosciences, Inc.

**Media:**

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LifeSci Public Relations  
1.646.751.4361  
jo@lifescipublicrelations.com



## Catalyst Biosciences Announces Closing of Public Offering of Common Stock

**SOUTH SAN FRANCISCO, Calif. – Dec. 22, 2017** – Catalyst Biosciences, Inc. (NASDAQ: CBIO), a clinical-stage biopharmaceutical company focused on developing novel medicines to address hematology indications (the Company), today announced the closing of an underwritten public offering of 1,105,263 shares of its common stock, offered at a price of \$9.50 per share to the public. The gross proceeds to the Company from this offering were approximately \$10.5 million, before deducting underwriting discounts and commissions and other estimated offering expenses payable by the Company. All of the shares in the offering were sold by the Company.

JonesTrading Institutional Services LLC and Ladenburg Thalmann & Co. Inc. are acting as Joint Book-running Managers and LifeSci Capital LLC is acting as a Co-Manager for the proposed offering.

A shelf registration statement on Form S-3 relating to the public offering of the shares of common stock described above was filed with the Securities and Exchange Commission (SEC) and is effective. A final prospectus supplement relating to the offering has been filed with the SEC and is available on the SEC's web site at [www.sec.gov](http://www.sec.gov). Copies of the final prospectus supplement may also be obtained from JonesTrading Institutional Services LLC, 32133 Lindero Canyon Road, Suite 208, Westlake Village, CA 91361, Attention: Compliance Department, or via telephone at (844) 566-6587 or via email at [syndicate@jonestrading.com](mailto:syndicate@jonestrading.com).

This press release shall not constitute an offer to sell or the solicitation of an offer to buy any of the securities described herein. There shall not be any offer, solicitation of an offer to buy, or sale of securities in any state or jurisdiction in which such an offering, solicitation, or sale would be unlawful prior to registration or qualification under the securities laws of any such state or jurisdiction.

### About Catalyst

Catalyst is a clinical-stage biopharmaceutical company developing novel medicines to address hematology indications. Catalyst is focused on the field of hemostasis, including the subcutaneous prophylaxis of hemophilia and facilitating surgery in individuals with hemophilia.

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This press release contains forward-looking statements that involve substantial risks and uncertainties. All statements, other than statement of historical facts (including, but not limited to, statements that contain words such as “will,” “believes,” “plans,” “anticipates,” “expects,” “estimates”) are forward-looking statements. Actual results or events could differ materially from the plans, intentions, expectations and projections disclosed in the forward-looking statements. Various important factors could cause actual results or events to differ materially from the forward-looking statements that the Company makes, including, but not limited to, the risk that trials and studies may be delayed and may not have satisfactory outcomes, that human trials will not replicate the results from animal studies, that potential adverse effects may arise from the testing or use of the Company's products, including the generation of antibodies, the risk that costs required to develop or manufacture the Company's products will be higher than anticipated, competition and other factors that affect our ability to establish collaborations on commercially reasonable terms and other risks described in the “Risk Factors” section of the Company's Annual Report on Form 10-K for the year ended December 31, 2016 and the Company's Quarterly Reports on Form 10-Q for the quarters ended March 31, 2017, June 30, 2017, and September 30, 2017 along with other filings with the Securities and Exchange Commission. The Company does not assume any obligation to update any forward-looking statements, except as required by law.

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