
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549**

FORM 8-K

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

Date of report (Date of earliest event reported): June 21, 2017

SANGAMO THERAPEUTICS, INC.

(Exact Name of Registrant as Specified in Its Charter)

Delaware
(State or Other Jurisdiction
of Incorporation)

000-30171
(Commission
File Number)

68-0359556
(IRS Employer
Identification No.)

501 Canal Blvd Richmond, California 94804
(Address of Principal Executive Offices) (Zip Code)

(510) 970-6000
(Registrant's Telephone Number, Including Area Code)

Not Applicable
(Former Name or Former Address, if Changed Since Last Report)

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

Item 1.01 Entry into a Material Definitive Agreement

On June 21, 2017, Sangamo Therapeutics, Inc. (the “Company”) entered into an underwriting agreement (the “Underwriting Agreement”) with Cowen and Company, LLC and Wells Fargo Securities, LLC as the representatives of the several underwriters named therein (the “Underwriters”), which provides for the issuance and sale in an underwritten public offering (the “Offering”) by the Company and the purchase by the Underwriters of 10,000,000 shares of common stock of the Company (the “Common Stock”). The shares in the Offering were sold at a public offering price of \$7.25 per share. The Company also granted the Underwriters an option to purchase up to 1,500,000 additional shares of Common Stock at the public offering price less the underwriting discounts and commissions. The Company estimates that the net proceeds from the offering will be approximately \$67.9 million, after deducting underwriting discounts and commissions and offering expenses payable by the Company, and assuming no exercise of the option by the Underwriters to purchase additional shares.

The Offering was made pursuant to the Company’s effective registration statement on Form S-3 (Registration No. 333-218294) and the prospectus dated June 9, 2017 included in such registration statement, as supplemented by a preliminary prospectus supplement dated June 20, 2017 and a final prospectus supplement dated June 21, 2017.

The foregoing description of the Underwriting Agreement does not purport to be complete and is qualified in its entirety by reference to the full text of the Underwriting Agreement, which is filed as Exhibit 1.1 hereto and is incorporated herein by reference. A copy of the opinion of Morgan, Lewis & Bockius LLP relating to the legality of the issuance and sale of the shares is attached as Exhibit 5.1 hereto.

On June 21, 2017, the Company issued a press release announcing the pricing of the Offering. A copy of this press release is attached as Exhibit 99.1 hereto and is incorporated herein by reference.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

The following exhibits are attached herewith:

<u>Exhibit</u>	<u>Description</u>
1.1	Underwriting Agreement, dated as of June 21, 2017
5.1	Opinion of Morgan, Lewis & Bockius LLP
99.1	Press release, dated as of June 21, 2017

SIGNATURES

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

Date: June 21, 2017

SANGAMO THERAPEUTICS, INC.

By: /s/ Alexander D. Macrae

Name: Alexander D. Macrae

Title: President, Chief Executive Officer

10,000,000 Shares

SANGAMO THERAPEUTICS, INC.

Common Stock, \$0.01 par value

UNDERWRITING AGREEMENT

June 21, 2017

COWEN AND COMPANY, LLC
WELLS FARGO SECURITIES, LLC
As Representatives of the several Underwriters

c/o Cowen and Company, LLC
599 Lexington Avenue
New York, New York 10022

c/o Wells Fargo Securities, LLC
375 Park Avenue
4th Floor
New York, New York 10152

Dear Sirs:

1. **INTRODUCTORY.** Sangamo Therapeutics, Inc., a Delaware corporation (the “**Company**”), proposes to sell, pursuant to the terms of this Agreement, to the several underwriters named in Schedule A hereto (the “**Underwriters**,” or, each, an “**Underwriter**”), an aggregate of 10,000,000 shares of common stock, \$0.01 par value (the “**Common Stock**”) of the Company. The aggregate of 10,000,000 shares so proposed to be sold is hereinafter referred to as the “**Firm Stock**”. The Company also proposes to sell to the Underwriters, upon the terms and conditions set forth in Section 3 hereof, up to an additional 1,500,000 shares of Common Stock (the “**Optional Stock**”). The Firm Stock and the Optional Stock are hereinafter collectively referred to as the “**Stock**”. Cowen and Company, LLC and Wells Fargo Securities, LLC are acting as representatives of the several Underwriters and in such capacity is hereinafter referred to as the “**Representatives**.”

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

(a) **Registration Statement.** A registration statement of the Company on Form S-3 (File No. 333-218294) (including all amendments thereto, the “**Initial Registration Statement**”) in respect of the Stock has been filed with the Securities and Exchange Commission (the “**Commission**”) pursuant to Rule 415 under the Securities Act of 1933, as amended (the “**Securities Act**”). The Company meets the requirements for use of Form S-3 under the Securities Act, and the rules and regulations of the Commission thereunder (the “**Rules and Regulations**”). The Initial Registration Statement and any post-effective amendment thereto, each in the form heretofore

delivered to you, and, excluding exhibits thereto, to you for each of the other Underwriters, have been declared effective by the Commission in such form and meet the requirements of the Securities Act, and the Rules and Regulations. The proposed offering of the Stock may be made pursuant to General Instruction I.B.1. of Form S-3. Other than (i) the Initial Registration Statement, (ii) a registration statement, if any, increasing the size of the offering filed pursuant to Rule 462(b) under the Securities Act and the Rules and Regulations (a "**Rule 462(b) Registration Statement**"), (iii) any Preliminary Prospectus (as defined below), (iv) the Prospectus (as defined below) contemplated by this Agreement to be filed pursuant to Rule 424(b) of the Rules and Regulations in accordance with Section 4(a) hereof and (v) any Issuer Free Writing Prospectus (as defined below), no other document with respect to the offer and sale of the Stock has heretofore been filed with the Commission. No stop order suspending the effectiveness of the Initial Registration Statement, any post-effective amendment thereto or the Rule 462(b) Registration Statement, if any, has been issued and no proceeding for that purpose or pursuant to Section 8A of the Securities Act has been initiated or threatened by the Commission (any preliminary prospectus included in the Initial Registration Statement or filed with the Commission pursuant to Rule 424 of the Rules and Regulations is hereinafter called a "**Preliminary Prospectus**"). The Initial Registration Statement including all exhibits thereto and including the information contained in the Prospectus filed with the Commission pursuant to Rule 424(b) of the Rules and Regulations and deemed by virtue of Rules 430A, 430B and 430C under the Securities Act to be part of the Initial Registration Statement at the time it became effective is hereinafter collectively called the "**Registration Statement**." If the Company has filed a Rule 462(b) Registration Statement, then any reference herein to the term "Registration Statement" shall be deemed to include such Rule 462 Registration Statement. The base prospectus included in the Initial Registration Statement at the time of effectiveness thereof, as supplemented by the final prospectus supplement relating to the offer and sale of the Stock, in the form filed pursuant to and within the time limits described in Rule 424(b) under the Rules and Regulations, is hereinafter called the "**Prospectus**."

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

(b) **General Disclosure Package.** As of the Applicable Time (as defined below) and as of the Closing Date or the Option Closing Date (as defined below), as the case may be, neither (i) the General Use Free Writing Prospectus (as defined below) issued at or prior to the Applicable Time, the Pricing Prospectus (as defined below) and the information included on Schedule C hereto, all considered together (collectively, the "**General Disclosure Package**"), (ii) any individual Limited Use Free Writing Prospectus (as defined below), nor (iii) the bona fide electronic roadshow (as defined in Rule 433(h)(5) of the Rules and Regulations); when considered together with the General Disclosure Package, included or will include any untrue statement of a material fact or omitted or will omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; *provided, however*, that the Company makes no representations or warranties as to information contained in or omitted from the Pricing Prospectus or any Issuer Free Writing Prospectus (as defined below), in reliance upon, and in conformity with, written information

furnished to the Company through the Representatives by or on behalf of any Underwriter specifically for inclusion therein, which information the parties hereto agree is limited to the Underwriter's Information (as defined in Section 17). As used in this paragraph (b) and elsewhere in this Agreement: As used in this paragraph (b) and elsewhere in this Agreement:

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

"Pricing Prospectus" means the Preliminary Prospectus relating to the Stock that is included in the Registration Statement immediately prior to the Applicable Time, including any document incorporated by reference therein.

"Issuer Free Writing Prospectus" means any "issuer free writing prospectus," as defined in Rule 433 of the Rules and Regulations relating to the Stock in the form filed or required to be filed with the Commission or, if not required to be filed, in the form retained in the Company's records pursuant to Rule 433(g) of the Rules and Regulations.

"General Use Free Writing Prospectus" means any Issuer Free Writing Prospectus that is identified on Schedule B to this Agreement.

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

(c) No Stop Orders; No Material Misstatements. No order preventing or suspending the use of any Preliminary Prospectus, any Issuer Free Writing Prospectus or the Prospectus relating to the proposed offering of the Stock has been issued by the Commission, and no proceeding for that purpose or pursuant to Section 8A of the Securities Act has been instituted or threatened by the Commission, and each Preliminary Prospectus, at the time of filing thereof, conformed in all material respects to the requirements of the Securities Act and the Rules and Regulations, and did not contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading; *provided, however*, that the Company makes no representations or warranties as to information contained in or omitted from any Preliminary Prospectus, in reliance upon, and in conformity with, written information furnished to the Company through the Representatives by or on behalf of any Underwriter specifically for inclusion therein, which information the parties hereto agree is limited to the Underwriter's Information.

(d) Registration Statement and Prospectus Contents. At the respective times the Registration Statement and any amendments thereto became or become effective as to the Underwriters and at each Closing Date, the Registration Statement and any amendments thereto conformed and will conform in all material respects to the requirements of the Securities Act and the Rules and Regulations and did not and will not contain any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading; and the Prospectus and any amendments or supplements thereto, at the time the Prospectus or any amendment or supplement thereto was issued and at each Closing Date, conformed and will conform in all material respects to the requirements of the Securities Act and the Rules and Regulations and did not and will not contain an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading; *provided, however*, that the foregoing representations and warranties in this paragraph (d) shall not apply to information contained in or omitted from the Registration Statement or the Prospectus, or any amendment or

supplement thereto, in reliance upon, and in conformity with, written information furnished to the Company through the Representatives by or on behalf of any Underwriter specifically for inclusion therein, which information the parties hereto agree is limited to the Underwriter's Information.

(e) Issuer Free Writing Prospectus. 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 Stock or until any earlier date that the Company notified or notifies the Representatives as described in Section 4(e), did not, does not and will not include any information that conflicted, conflicts or will conflict with the information contained in the Registration Statement, Pricing Prospectus or the Prospectus, including any document incorporated by reference therein and any prospectus supplement deemed to be a part thereof that has not been superseded or modified, or included or would include an untrue statement of a material fact or omitted or would omit to state a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading *provided, however*, that the foregoing representations and warranties in this paragraph (e) shall not apply to information contained in or omitted from the Registration Statement or the Prospectus, or any amendment or supplement thereto, in reliance upon, and in conformity with, written information furnished to the Company through the Representatives by or on behalf of any Underwriter specifically for inclusion therein, which information the parties hereto agree is limited to the Underwriter's Information.

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

(g) Financial Statements. The financial statements (including the related notes thereto) of the Company and its consolidated subsidiaries included or incorporated by reference in the Registration Statement, the General Disclosure Package and the Prospectus comply in all material respects with the applicable requirements of the Securities Act and the Exchange Act, as applicable, and present fairly in all material respects the financial position of the Company and its consolidated subsidiaries as of the dates indicated and the results of their operations and the changes in their cash flows for the periods specified; such financial statements have been prepared in conformity with generally accepted accounting principles in the United States applied on a consistent basis throughout the periods covered thereby, and any supporting schedules included or incorporated by reference in the Registration Statement present fairly in all material respects the information required to be stated therein. No other financial statements or supporting schedules are required to be included in the Registration Statement, the Prospectus or the General Disclosure Package.

(h) No Material Adverse Change. Since the date of the most recent financial statements of the Company included or incorporated by reference in the Registration Statement, the General Disclosure Package and the Prospectus, (i) there has not been any change in the capital stock

(other than the issuance of shares of Common Stock upon exercise of stock options and warrants described as outstanding in, and the grant of options and awards under existing equity incentive plans described in, the Registration Statement, the General Disclosure Package and the Prospectus), short-term debt or long-term debt of the Company or any of its subsidiaries, or any dividend or distribution of any kind declared, set aside for payment, paid or made by the Company on any class of capital stock, or any material adverse change, or any development involving a prospective material adverse change, in or affecting the business, properties, management, financial position, stockholders' equity, results of operations or prospects of the Company and its subsidiaries taken as a whole; (ii) neither the Company nor any of its subsidiaries has entered into any transaction or agreement (whether or not in the ordinary course of business) that is material to the Company and its subsidiaries taken as a whole or incurred any liability or obligation, direct or contingent, that is material to the Company and its subsidiaries taken as a whole; and (iii) neither the Company nor any of its subsidiaries has sustained any loss or interference with its business that is material to the Company and its subsidiaries taken as a whole and that is either from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor disturbance or dispute or any action, order or decree of any court or arbitrator or governmental or regulatory authority, except in each case as otherwise disclosed in the Registration Statement, the General Disclosure Package and the Prospectus.

(i) Distribution of Offering Materials. The Company has not, directly or indirectly, distributed and will not distribute any offering material in connection with the offering and sale of the Stock other than any Preliminary Prospectus, the Prospectus and other materials, if any, permitted under the Securities Act and consistent with Section 4(b) below. The Company will file with the Commission all Issuer Free Writing Prospectuses (other than a "road show" as described in Rule 433(d)(8) of the Rules and Regulations) in the time and manner required under Rules 163(b)(2) and 433(d) of the Rules and Regulations.

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

(k) Organization and Good Standing. The Company and each of its subsidiaries have been duly organized and are validly existing and in good standing under the laws of their respective jurisdictions of organization, are duly qualified to do business and are in good standing in each jurisdiction in which their respective ownership or lease of property or the conduct of their respective businesses requires such qualification, and have all power and authority necessary to own or hold their respective properties and to conduct the businesses in which they are engaged, 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 the business, properties, management, financial position, stockholders' equity, results of operations or prospects of the Company and its subsidiaries taken as a whole or on the performance by the Company of its obligations under this Agreement (a "**Material Adverse Effect**"). The Company does not own or control, directly or indirectly, any corporation, association or other entity other than the subsidiaries listed in Exhibit 21 to the Registration Statement.

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

(m) The Stock. The Stock to be issued and sold by the Company hereunder has been duly authorized and, when issued and delivered and paid for as provided herein, will be duly and validly issued, will be fully paid and non-assessable and will conform in all material respects to the descriptions thereof in the Registration Statement, the General Disclosure Package and the Prospectus; and the issuance of the Stock is not subject to any preemptive or similar rights.

(n) Capitalization. The Company has an authorized capitalization as set forth in the Registration Statement, the General Disclosure Package and the Prospectus under the heading “Capitalization”; all the outstanding shares of capital stock of the Company have been duly and validly authorized and issued and are fully paid and non-assessable and are not subject to any pre-emptive or similar rights; except as described in or expressly contemplated by the General Disclosure Package and the Prospectus, there are no outstanding rights (including, without limitation, pre-emptive rights), warrants or options to acquire, or instruments convertible into or exchangeable for, any shares of capital stock or other equity interest in the Company or any of its subsidiaries, or any contract, commitment, agreement, understanding or arrangement of any kind relating to the issuance of any capital stock of the Company or any such subsidiary, any such convertible or exchangeable securities or any such rights, warrants or options; the capital stock of the Company conforms in all material respects to the description thereof contained in the Registration Statement, the General Disclosure Package and the Prospectus; and all the outstanding shares of capital stock or other equity interests of each subsidiary owned, directly or indirectly, by the Company have been duly and validly authorized and issued, are fully paid and non-assessable except as otherwise described in the Registration Statement, the General Disclosure Package and the Prospectus, and are owned directly or indirectly by the Company, free and clear of any material lien, charge, encumbrance, security interest, restriction on voting or transfer or any other claim of any third party.

(o) Stock Options. With respect to the stock options (the “**Stock Options**”) granted pursuant to the stock-based compensation plans of the Company and its subsidiaries (the “**Company Stock Plans**”), (i) each Stock Option intended to qualify as an “incentive stock option” under Section 422 of the Code so qualifies, (ii) each such grant was made in accordance with the terms of the Company Stock Plans, the Exchange Act and all other applicable laws and regulatory rules or requirements, including the rules of The NASDAQ Global Select Market (the “**NASDAQ Market**”) and any other exchange on which Company securities are traded, and (iii) each such grant was properly accounted for in accordance with GAAP in the financial statements (including the related notes) of the Company and disclosed in the Company’s filings with the Commission in accordance with the Exchange Act and all other applicable laws.

(p) Due Authorization. The Company has full right, power and authority to execute and deliver this Agreement and to perform its obligations hereunder; and all action required to be taken for the due and proper authorization, execution and delivery by it of this Agreement and the consummation by it of the transactions contemplated hereby has been duly and validly taken.

(q) Description of the Underwriting Agreement. This Agreement conforms in all material respects to the description thereof contained in the Registration Statement, the General Disclosure Package and the Prospectus.

(r) No Violation or Default. 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 clauses (ii) and (iii) above, for any such default or violation that would not, individually or in the aggregate, have a Material Adverse Effect.

(s) **No Conflicts.** The execution, delivery and performance by the Company of this Agreement, the issuance and sale of the Stock and the consummation of the transactions contemplated by this Agreement or the General Disclosure Package and the Prospectus will not (i) conflict with or result in a breach or violation of any of the terms or provisions of, or constitute a default under, or result in the creation or imposition of any lien, charge or encumbrance upon any property or assets of the Company or any of its subsidiaries pursuant to, 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, (ii) result in any violation of the provisions of the charter or by-laws or similar organizational documents of the Company or any of its subsidiaries or (iii) result in the 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 clauses (i) and (iii) above, for any such conflict, breach, violation, default, lien, charge or encumbrance that would not, individually or in the aggregate, have a Material Adverse Effect.

(t) **No Consents Required.** No consent, approval, authorization, order, license, 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 of the Stock and the consummation of the transactions contemplated by this Agreement, except for the registration of the Stock under the Securities Act and such consents, approvals, authorizations, orders and registrations or qualifications as may be required by the Financial Industry Regulatory Authority, Inc. ("**FINRA**") and under applicable state securities laws in connection with the purchase and distribution of the Stock by the Underwriters.

(u) **Independent Auditors.** Ernst & Young LLP, who have audited certain financial statements of the Company and its subsidiaries is an independent registered public accounting firm with respect to the Company and its subsidiaries within the applicable rules and regulations adopted by the Commission and the Public Company Accounting Oversight Board (United States) (the "**PCAOB**") and as required by the Securities Act.

(v) **eXtensible Business Reporting Language.** The interactive data in eXtensible Business Reporting Language included or incorporated by reference in the Registration Statement fairly presents the information called for in all material respects and has been prepared in accordance with the Commission's rules and guidelines applicable thereto.

(w) **Legal Proceedings.** Except as described in the Registration Statement, the General Disclosure Package and the Prospectus, there are no legal, governmental or regulatory investigations, actions, suits or proceedings pending to which the Company or any of its subsidiaries is or may be a party or to which any property of the Company or any of its subsidiaries is or may be the subject that, individually or in the aggregate, if determined adversely to the Company or any of its subsidiaries, could reasonably be expected to have a Material Adverse Effect; no such investigations, actions, suits or proceedings are threatened or, to the knowledge of the Company, contemplated by any governmental or regulatory authority or threatened by others; and (i) there are no current or pending legal, governmental or regulatory actions, suits or proceedings that are required under the Securities Act to be described in the Registration Statement, the General Disclosure Package or the Prospectus that are not so described in the Registration Statement, the General Disclosure Package and the Prospectus and (ii) there are no statutes, regulations or contracts or other documents that are required under the

Securities Act to be filed as exhibits to the Registration Statement or described in the Registration Statement, the General Disclosure Package or the Prospectus that are not so filed as exhibits to the Registration Statement or described in the Registration Statement, the General Disclosure Package and the Prospectus.

(x) Licenses or Permits. Except as otherwise described in each of the Registration Statement, the General Disclosure Package and the Prospectus, the Company and its subsidiaries possess all licenses, certificates, 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, except where the failure to possess or make the same would not, individually or in the aggregate, have a Material Adverse Effect; and except as described in each of the Registration Statement, the General Disclosure Package and the Prospectus, neither the Company nor any of its subsidiaries has received notice of any revocation or modification of any such license, certificate, permit or authorization or has any reason to believe that any such license, certificate, permit or authorization will not be renewed in the ordinary course that, individually or in the aggregate, if revoked, modified or failed to renew, could result in a Material Adverse Effect.

(y) Investment Company Act. The Company is not and, after giving effect to the offering and sale of the Stock and the application of the proceeds thereof as described in the Registration Statement, the General Disclosure Package and the Prospectus, will not be required to register as an “investment company” or an entity “controlled” by an “investment company” within the meaning of the Investment Company Act of 1940, as amended, and the rules and regulations of the Commission thereunder (collectively, the “**Investment Company Act**”).

(z) No Stabilization. The Company has not taken, directly or indirectly, any action designed to or that could reasonably be expected to cause or result in any stabilization or manipulation of the price of the Stock.

(aa) Intellectual Property. To the Company’s knowledge with respect to patents, patent applications, trade and service marks, trade and service mark registrations, and trade names only, the Company and its subsidiaries own, possess, or license, and otherwise have legally enforceable rights to all patents, patent applications, trade and service marks, trade and service mark registrations, trade names, copyrights, licenses, inventions, trade secrets, technology, and know-how, except with regard to off-the-shelf software provided by third parties, (collectively, the “**Intellectual Property Rights**”) necessary for the conduct of the Company’s business as now conducted or, to the knowledge of the Company, as proposed in the General Disclosure Package and the Prospectus to be conducted. Except as disclosed in the General Disclosure Package and the Prospectus, (i) to the knowledge of the Company, there are no rights of third parties to any such Intellectual Property Rights that conflict with the Company’s right to own, possess or license, as applicable, such Intellectual Property Rights; (ii) the Company is not aware of any material infringement by third parties of any such Intellectual Property Rights; (iii) there is no pending, or to the knowledge of the Company threatened, action, suit, proceeding or claim by others challenging the Company’s rights in or to own, possess and license such Intellectual Property Rights, and the Company is unaware of any facts which would form a reasonable basis for any such claim; (iv) there is no pending, or to the knowledge of the Company threatened, action, suit, proceeding or claim by others challenging the validity or scope of any such Intellectual Property Rights, and the Company is unaware of any facts which would form a reasonable basis for any such claim, except for any such action, suit, proceeding or claim that would not have a Material Adverse Effect; (v) there is no pending, or to the knowledge of the Company threatened, action, suit, proceeding or claim by others that the Company infringes or

otherwise violates any patent, trademark, copyright, trade secret or other proprietary rights of others, and the Company is unaware of any other fact which would form a reasonable basis for any such claim, except for any such action, suit, proceeding or claim that would not have a Material Adverse Effect; (vi) to the knowledge of the Company, there is no U.S. patent or published U.S. patent application (other than U.S. patents or U.S. patent applications of the Company) which contains claims that dominate or may dominate any Intellectual Property Rights described in the General Disclosure Package and the Prospectus as being owned by or licensed to the Company or that interferes with the issued or pending claims of any such Intellectual Property Rights, except for such claims and interferences that would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect; (vii) there is no prior art of which the Company is aware that may render any U.S. patent held by the Company invalid or any U.S. patent application held by the Company unpatentable which has not been disclosed to the U.S. Patent and Trademark Office, and (viii) to the knowledge of the Company, all pertinent prior art references known to the Company or its counsel during the prosecution of the patents and patent applications comprising the Intellectual Property Rights were disclosed to the relevant patent authority and, to the knowledge of the Company, neither such counsel nor the Company nor any licensor made any misrepresentation to, or concealed any material fact from, the relevant patent authority during such prosecution and the Company, and to the knowledge of the Company, any licensor, has complied with all applicable duty of candor requirements of the relevant patent authority with respect to such patents and patent applications. To the knowledge of the Company, all licenses to which the Company and its subsidiaries is a party relating to the Intellectual Property Rights are valid, subsisting, enforceable, and in good standing and the Company and its subsidiaries has, in all material respects, complied with its respective contractual obligations pursuant to all such licenses relating to the Intellectual Property Rights and has not committed any material breach thereof (declared or undeclared). The Company is not a party to or bound by any options, licenses, or agreements with respect to the intellectual property rights of any other person or entity that are required to be disclosed in General Disclosure Package and the Prospectus and that are not disclosed therein. None of the Intellectual Property Rights used by the Company and its subsidiaries has been obtained by them or is being used by them in violation of any material contractual obligations binding on the Company, its subsidiaries or, to the knowledge of the Company, any of their officers, directors, or employees. Except as required to be set forth in the General Disclosure Package, (i) the Company and its subsidiaries are not obligated to pay a material royalty, grant a license or provide other consideration to any third party in connection with the Intellectual Property Rights and (ii) no third party, including any academic or governmental organization, possess material rights to the Intellectual Property Rights owned by the Company.

(bb) Title to Real and Personal Property. The Company and its subsidiaries have good and marketable title in fee simple (in the case of real property) to, or have valid and marketable rights to lease or otherwise use, all items of real and personal property and assets that are material to the respective businesses of the Company and its subsidiaries, in each case free and clear of all liens, encumbrances, claims and defects and imperfections of title except those that (i) do not materially interfere with the use made and proposed to be made of such property by the Company and its subsidiaries or (ii) could not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect.

(cc) Compliance with Laws. The Company has not been advised, and has no reason to believe, that it and each of its subsidiaries are not conducting business in compliance with all applicable laws, rules and regulations of the jurisdictions in which it is conducting business, except where failure to be so in compliance would not result in a Material Adverse Effect. Except as described in the General Disclosure Package, each of the Company and its subsidiaries: (A) is and at all times has been in material compliance with all statutes, rules or 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, manufactured or distributed by the Company ("**Applicable Laws**"); (B) has not, within the past five years, received any FDA Form 483, notice of adverse finding, warning letter, untitled letter or other correspondence or notice from the U.S. Food and Drug Administration (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**"); (C) possesses all material Authorizations and such Authorizations are valid and in full force and effect and the Company is not in material violation of any term of any such Authorizations; (D) has not received 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 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; (E) 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 and has no knowledge that the FDA or any other federal, state, local or foreign governmental or regulatory authority is considering such action; (F) has filed, obtained, maintained or submitted all material reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Applicable Laws or Authorizations and that all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were materially complete and correct on the date filed (or were corrected or supplemented by a subsequent submission); and (G) has not, either voluntarily or involuntarily, initiated, conducted, or issued or caused to be initiated, conducted or issued, any recall, market withdrawal or replacement, safety alert, "dear doctor" letter, or other notice or action relating to the alleged lack of safety or efficacy of any product or any alleged product defect or violation and, to the Company's knowledge, no third party has initiated, conducted or intends to initiate any such notice or action.

(dd) Clinical Studies. The studies, tests and preclinical and clinical trials conducted by or on behalf of the Company or any of its subsidiaries were and, if still pending, are being conducted in all material respects in accordance with experimental protocols, procedures and controls pursuant to accepted professional scientific standards and all Applicable Laws and Authorizations, including, without limitation, the Federal Food, Drug and Cosmetic Act and the rules and regulations promulgated thereunder (collectively, "**FFDCA**"); the descriptions of the results of such studies, tests and trials contained in the Registration Statement and the General Disclosure Package are accurate and complete in all material respects and fairly present the data derived from such studies, tests and trials; except as disclosed in the General Disclosure Package, the Company is not aware of any studies, tests or trials, the results of which the Company believes reasonably call into question the study results, test results, or trial results described or referred to in the Registration Statement and the General Disclosure Package when viewed in the context in which such results are described and the clinical state of development; and, since December 31, 2009, the Company has not received any notices or correspondence from the FDA or any other federal, state, local or foreign governmental or regulatory authority requiring the termination, suspension or material modification of any studies, tests or preclinical or clinical trials conducted by or on behalf of the Company.

(ee) No Labor Dispute. 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 contemplated or threatened, and the Company is not aware of any existing or imminent labor disturbance by, or dispute with, the employees of any of its or its subsidiaries' principal suppliers, contractors or customers, except as would not have a Material Adverse Effect.

(ff) Compliance with ERISA. The Company and its subsidiaries and any “**employee benefit plan**” (as defined in Section 3(3) of the Employee Retirement Income Security Act of 1974, as amended (collectively with the regulations and published interpretations thereunder, “**ERISA**”)) established or maintained by the Company, its subsidiaries or their “**ERISA Affiliates**” (as defined below) (“**Company Benefit Plans**”) are in compliance in all material respects with ERISA. “**ERISA Affiliate**” means, with respect to the Company or a subsidiary, any member of any group of organizations described in Sections 414(b), (c), (m) or (o) of the Internal Revenue Code of 1986, as amended, and the regulations and published interpretations thereunder (the “**Code**”) of which the Company or such subsidiary is a member. No Company Benefit Plan is a multiemployer plan (as defined in Section 4001(a)(3) and Section 3(37) of ERISA) or a “multiple employer plan” (as defined in Section 4063 or 4064 of ERISA). Furthermore, no Company Benefit Plan is a “defined benefit plan” as defined in Section 3(35) of ERISA or plan subject to Part 3, Subtitle B of Title I of ERISA, Section 412 of the Code or Title IV of ERISA. None of the Company, its subsidiaries or any of their ERISA Affiliates has incurred or reasonably expects to incur any material liability under Sections 4975 or 4980B of the Code. Each Company Benefit Plan that is intended to be qualified under Section 401(a) of the Code is so qualified and nothing has occurred, whether by action or failure to act, which would cause the loss of such qualification, except where such act or failure to act would not, individually or in the aggregate, result in a Material Adverse Effect.

(gg) Environmental Laws and Hazardous Materials. Except as described in the General Disclosure Package and the Prospectus or except as would not, singly or in the aggregate, result in a Material Adverse Effect, (i) the Company has not been advised, and has no reason to believe, that either the Company or any of its subsidiaries is in violation of any applicable federal, state, local or foreign statute, law, rule, regulation, ordinance, code or rule of common law or any binding and enforceable judicial or administrative interpretation thereof, including any binding and enforceable judicial or administrative order, consent, decree or judgment, relating to pollution or protection of human health or the environment (including, without limitation, ambient air, surface water, groundwater, land surface or subsurface strata), including, without limitation, laws and regulations relating to the release or threatened release of chemicals, pollutants, contaminants, wastes, toxic substances, hazardous substances, petroleum or petroleum products (collectively, “**Hazardous Materials**”) or to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of Hazardous Materials (collectively, “**Environmental Laws**”), (ii) the Company has not been advised, and has no reason to believe, that the Company and its subsidiaries do not have all permits, authorizations and approvals required under any applicable Environmental Laws to operate the business of the Company as currently conducted or are not each in compliance with their requirements, (iii) there are no pending or to the Company’s knowledge, threatened administrative, regulatory or judicial actions, suits, demands, demand letters, claims, liens, notices of noncompliance or violation, investigation or proceedings relating to any Environmental Law against the Company or any of its subsidiaries and (iv) the Company has not been advised, and has no reason to believe, that there are any events or circumstances that might reasonably be expected to form the basis of an order for clean-up or remediation, or an action, suit or proceeding by any private party or governmental body or agency, against the Company or any of its subsidiaries relating to Hazardous Materials pursuant to any applicable Environmental Laws.

(hh) Taxes. The Company and its subsidiaries have paid all federal, state, local and foreign taxes and filed all tax returns required to be paid or filed through the date hereof; and except as otherwise disclosed in the Registration Statement, the General Disclosure Package and the Prospectus, there is no tax deficiency that has been, or could reasonably be expected to be, asserted against the Company or any of its subsidiaries or any of their respective properties or assets.

(ii) Insurance. The Company and its subsidiaries have insurance covering their respective properties, operations, personnel and businesses, including business interruption insurance, which insurance is in amounts and insures against such losses and risks as are adequate to protect the Company and its subsidiaries and their respective businesses; and neither the Company nor any of its subsidiaries has (i) received notice from any insurer or agent of such insurer that capital improvements or other expenditures are required or necessary to be made in order to continue such insurance or (ii) any reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage at reasonable cost from similar insurers as may be necessary to continue its business, except for such notices or non-renewal that would not result in a Material Adverse Effect.

(jj) Accounting Controls. The Company and its subsidiaries maintain systems of “internal control over financial reporting” (as defined in Rule 13a-15(f) of the Exchange Act) that comply with the requirements of the Exchange Act and have been designed by, or under the supervision of, their respective principal executive and principal financial officers, or persons performing similar functions, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles, including, but not limited to, internal accounting controls sufficient 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; (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; and (v) interactive data in eXtensible Business Reporting Language included or incorporated by reference in the Registration Statement fairly presents the information called for in all material respects and is prepared in accordance with the Commission’s rules and guidelines applicable thereto. Except as disclosed in the Registration Statement, the General Disclosure Package and the Prospectus, there are no material weaknesses in the Company’s internal controls. Based on the most recent evaluation of its disclosure controls and procedures, the Company is not aware of: (i) any significant deficiencies and material weaknesses in the design or operation of internal controls over financial reporting which have materially adversely affected or are reasonably likely to materially adversely affect the Company’s ability to record, process, summarize and report financial information; and (ii) any fraud, whether or not material, that involves management or other employees who have a significant role in the Company’s internal controls over financial reporting.

(kk) Disclosure Controls. The Company and its subsidiaries maintain an effective system of “disclosure controls and procedures” (as defined in Rule 13a-15(e) of the Exchange Act) that complies with the requirements of the Exchange Act and that has been designed to ensure that information required to be disclosed by the Company in reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Commission’s rules and forms, including controls and procedures designed to ensure that such information is accumulated and communicated to the Company’s management as appropriate to allow timely decisions regarding required disclosure. The Company and its subsidiaries have carried out evaluations of the effectiveness of their disclosure controls and procedures as required by Rule 13a-15 of the Exchange Act.

(ll) No Undisclosed Relationships. No relationship, direct or indirect, exists between or among the Company or any of its subsidiaries, on the one hand, and the directors, officers, stockholders, customers or suppliers of the Company or any of its subsidiaries, on the other, that is required by the Securities Act to be described in the Registration Statement and the Prospectus and that is not so described in such documents and in the General Disclosure Package.

(mm) No Registration Rights. Except as disclosed in the General Disclosure Package, no person has the right to require the Company or any of its subsidiaries to register any securities for sale under the Securities Act by reason of the filing of the Registration Statement with the Commission or the issuance and sale of the Stock.

(nn) No Broker's Fees. Neither the Company nor any of its subsidiaries is a party to any contract, agreement or understanding with any person (other than this Agreement) that would give rise to a valid claim against the Company or any of its subsidiaries or any Underwriter for a brokerage commission, finder's fee or like payment in connection with the offering and sale of the Stock.

(oo) No Restrictions on Subsidiaries. No subsidiary of the Company is currently prohibited, directly or indirectly, under any agreement or other instrument to which it is a party or is subject, from paying any dividends to the Company, from making any other distribution on such subsidiary's capital stock or similar ownership interest, from repaying to the Company any loans or advances to such subsidiary from the Company or from transferring any of such subsidiary's properties or assets to the Company or any other subsidiary of the Company.

(pp) Forward-Looking Statements. No forward-looking statement (within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act) included or incorporated by reference in any of the Registration Statement, the General Disclosure Package or the Prospectus has been made or reaffirmed without a reasonable basis or has been disclosed other than in good faith.

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

(rr) No Unlawful Payments. Neither the Company nor any of its subsidiaries nor, to the Company's Knowledge, any employee or agent of the Company or any subsidiary, has (i) used any corporate funds for unlawful contributions, gifts, entertainment or other unlawful expenses relating to political activity, (ii) made any unlawful payment to foreign or domestic government officials or employees or to foreign or domestic political parties or campaigns from corporate funds, (iii) violated any provision of the Foreign Corrupt Practices Act of 1977, as amended or (iv) made any other unlawful payment.

(ss) Statistical and Market Data. Nothing has come to the attention of the Company that has caused the Company to believe that the statistical and market-related data included or incorporated by reference in the Registration Statement, the General Disclosure Package and the Prospectus is not based on or derived from sources that are reliable and accurate in all material respects.

(tt) No Outstanding Loans or Other Extensions of Credit. Since the adoption of Section 13(k) of the Exchange Act, neither the Company nor any of its subsidiaries has extended or maintained credit, arranged for the extension of credit, or renewed any extension of credit, in the form of a personal loan, to or for any director or executive officer (or equivalent thereof) of the Company and/or such subsidiary except for such extensions of credit as are expressly permitted by Section 13(k) of the Exchange Act.

(uu) No Rating. There are (and prior to the Closing Date, will be) no debt securities or preferred stock issued or guaranteed by the Company or any of its subsidiaries that are rated by a “nationally recognized statistical rating organization”, as such term is defined in Section 3(a)(62) of the Exchange Act.

(vv) Compliance with Money Laundering Laws. The operations of the Company and its subsidiaries are and have been conducted at all times in material compliance with all applicable financial recordkeeping and reporting requirements, including those of the Bank Secrecy Act, as amended by Title III of the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 (USA PATRIOT Act), and the applicable anti-money laundering statutes of jurisdictions where the Company and its subsidiaries conduct business, the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any governmental agency (collectively, the “**Anti-Money Laundering Laws**”), and no action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company or any of its subsidiaries with respect to the Anti-Money Laundering Laws is pending or, to the knowledge of the Company, threatened.

(ww) Compliance with OFAC.

- (A) Neither the Company nor any of its subsidiaries, nor any director, officer or employee thereof, nor, the Company’s knowledge, any agent, affiliate or representative of the Company or any of its subsidiaries, is an individual or entity (“**Person**”) that is, or is owned or controlled by a Person that is: (i) the subject of any sanctions administered or enforced by the U.S. Department of Treasury’s Office of Foreign Assets Control (“**OFAC**”), the United Nations Security Council (“**UNSC**”), the European Union (“**EU**”), Her Majesty’s Treasury (“**HMT**”), or other relevant sanctions authority (collectively, “**Sanctions**”), nor (ii) located, organized or resident in a country or territory that is the subject of Sanctions (including, without limitation, Cuba, Iran, North Korea, Sudan and Syria).
- (B) The Company will not, directly or indirectly, use the proceeds of the offering, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other Person: (i) to fund or facilitate any activities or business of or with any Person or in any country or territory that, at the time of such funding or facilitation, is the subject of Sanctions; or in any other manner that will result in a violation of Sanctions by any Person (including any Person participating in the offering, whether as underwriter, advisor, investor or otherwise).
- (C) For the past five (5) years, the Company and its subsidiaries have not knowingly engaged in, are not now knowingly engaged in, and will not engage in, any dealings or transactions with any Person, or in any country or territory, that at the time of the dealing or transaction is or was the subject of Sanctions.

(xx) **No Associated Persons; FINRA Matters.** Neither the Company nor any of its affiliates (within the meaning of FINRA Rule 5121(f)(1)) directly or indirectly controls, is controlled by, or is under common control with, or is an associated person (within the meaning of Article I, Section 1(ee) of the By-laws of FINRA) of, any member firm of FINRA. In accordance with FINRA Conduct Rule 5110(b)(7)(C)(i), the Stock has been registered with the Commission on Form S-3 under the Securities Act pursuant to the standards for such Form S-3 in effect prior to October 21, 1992.

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

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

The purchase price per share to be paid by the Underwriters to the Company for the Stock will be \$6.8150 per share (the "**Purchase Price**").

The Company will deliver the Firm Stock to the Representatives for the respective accounts of the several Underwriters, through the facilities of The Depository Trust Company issued in such names and in such denominations as the Representatives may direct by notice in writing to the Company given at or prior to 12:00 Noon, New York time, on the second (2nd) full business day preceding the Closing Date against payment of the aggregate Purchase Price therefor by wire transfer in federal (same day) funds to an account at a bank specified by the Company payable to the order of the Company for the Firm Stock sold by them all at the offices of Proskauer Rose LLP, New York, New York. Time shall be of the essence, and delivery at the time and place specified pursuant to this Agreement is a further condition of the obligations of each Underwriter hereunder. The time and date of the delivery and closing shall be at 10:00 A.M., New York time, on June 26, 2017, in accordance with Rule 15c6-1 of the Exchange Act. The time and date of such payment and delivery are herein referred to as the "**Closing Date**". The Closing Date and the location of delivery of, and the form of payment for, the Firm Stock may be varied by agreement between the Company and the Representatives.

The Underwriters may purchase all or less than all of the Optional Stock. The price per share to be paid for the Optional Stock shall be the Purchase Price. The Company agrees to sell to the Underwriters the number of shares of Optional Stock specified in the written notice delivered by the Representatives to the Company described below and the Underwriters agree, severally and not jointly, to purchase such shares of Optional Stock. The option granted hereby may be exercised as to all or any part of the Optional Stock at any time, and from time to time, *provided however*, that notice of such exercise must be delivered not more than thirty (30) days subsequent to the date of this Agreement. No Optional Stock shall be sold and delivered unless the Firm Stock previously has been, or simultaneously is, sold and delivered. The right to purchase the Optional Stock or any portion thereof may be surrendered and terminated at any time upon notice by the Representatives to the Company.

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

The Company will deliver the Optional Stock to the Representatives for the respective accounts of the several Underwriters through the facilities of The Depository Trust Company issued in such names and in such denominations as the Representatives may direct by notice in writing to the Company given at or prior to 12:00 Noon, New York time, on the second (2nd) full business day preceding the Option Closing Date against payment of the aggregate Purchase Price therefor by wire transfer in federal (same day) funds to an account at a bank acceptable to the Representatives payable to the order of the Company all at the offices of Proskauer Rose LLP, New York, New York. Time shall be of the essence, and delivery at the time and place specified pursuant to this Agreement is a further condition of the obligations of each Underwriter hereunder.

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

4. *FURTHER AGREEMENTS.* The Company agrees with the several Underwriters:

(a) Required Filings; Amendments or Supplements; Notice to the Representatives. To prepare the Rule 462(b) Registration Statement, if necessary, in a form approved by the Representatives and file such Rule 462(b) Registration Statement with the Commission by 10:00 P.M., New York time, on the date hereof, and the Company shall at the time of filing either pay to the Commission the filing fee for the Rule 462(b) Registration Statement or give irrevocable instructions for the payment of such fee pursuant to Rule 111(b) under the Rules and Regulations; to prepare the Prospectus in a form approved by the Representatives containing information previously omitted at the time of effectiveness of the Registration Statement in reliance on Rules 430A, 430B or 430C of the Rules and Regulations and to file such Prospectus pursuant to Rule 424(b) of the Rules and Regulations not later than the second business (2nd) day following the execution and delivery of this Agreement or, if applicable, such earlier time as may be required by the Securities Act; to notify the Representatives immediately of the Company's intention to file or prepare any supplement or amendment to the Registration Statement or to the Prospectus and to make no amendment or supplement to the Registration Statement, the General Disclosure Package or to the Prospectus to which the Representatives shall reasonably object by notice to the Company after a reasonable period to review; to advise the Representatives, promptly after it receives notice thereof, of the time when any amendment to the Registration Statement has been filed or becomes effective or any supplement to the General Disclosure Package or the Prospectus or any amended Prospectus or any Issuer Free Writing Prospectus has been filed and to furnish the Underwriter with copies thereof; to file promptly all material required to be filed by the Company with the Commission pursuant to Rules 433(d) or 163(b)(2) of the Rules and Regulations, as the case may be; to file promptly all reports and any definitive proxy or information statements required to be filed by the Company with the Commission pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act subsequent to the date of the Prospectus and for so long as the delivery of a prospectus (or in lieu thereof, the notice referred to in Rule 173(a) of the Rules and Regulations) is required in connection with the offering or sale of the Stock; to advise the Representatives, promptly after it receives notice thereof, of the issuance by the Commission of any stop order or of any order preventing or suspending the use of any Preliminary Prospectus, any Issuer Free Writing Prospectus or the Prospectus, of the suspension of the qualification of the Stock for offering or sale in any jurisdiction, of the initiation or threatening of any proceeding for any such purpose, or of any request by the Commission for the amending or supplementing of the Registration Statement, the General Disclosure Package or the Prospectus or for additional information; and, in the event of the issuance of any stop order or of any order preventing or suspending the use of any Preliminary Prospectus, any Issuer Free Writing Prospectus or the Prospectus or suspending any such qualification, and promptly to use its best efforts to obtain the withdrawal of such order.

(b) **Permitted Free Writing Prospectus.** The Company represents and agrees that, unless it obtains the prior consent of the Representatives, it has not made and will not make any offer relating to the Stock that would constitute a “free writing prospectus” as defined in Rule 405 of the Rules and Regulations unless the prior written consent of the Representatives has been received (each, a “**Permitted Free Writing Prospectus**”); *provided* that the prior written consent of the Representatives hereto shall be deemed to have been given in respect of the Issuer Free Writing Prospectus included in **Schedule B** hereto. The Company represents that it has treated and agrees that it will treat each Permitted Free Writing Prospectus as an Issuer Free Writing Prospectus, comply with the requirements of Rules 164 and 433 of the Rules and Regulations applicable to any Issuer Free Writing Prospectus, including the requirements relating to timely filing with the Commission, legending and record keeping and will not take any action that would result in an Underwriter or the Company being required to file with the Commission pursuant to Rule 433(d) of the Rules and Regulations a free writing prospectus prepared by or on behalf of such Underwriter that such Underwriter otherwise would not have been required to file thereunder.

(c) **Ongoing Compliance.** If at any time prior to the date when a prospectus relating to the Stock is required to be delivered (or in lieu thereof, the notice referred to in Rule 173(a) under the Securities Act) any event occurs or condition exists as a result of which the Prospectus as then amended or supplemented would include any untrue statement of a material fact, or omit to state any material fact necessary to make the statements therein, in light of the circumstances under which they were made when the Prospectus is delivered (or in lieu thereof, the notice referred to in Rule 173(a) of the Rules and Regulations), not misleading, or if it is necessary at any time to amend or supplement the Registration Statement or the Prospectus or to file under the Exchange Act any document incorporated by reference in the Prospectus to comply with the Securities Act or the Exchange Act, that the Company will promptly notify the Representatives thereof and upon their request will prepare an appropriate amendment or supplement or upon their request make an appropriate filing pursuant to Section 13 or 14 of the Exchange Act in form and substance satisfactory to the Representatives which will correct such statement or omission or effect such compliance and will use its reasonable best efforts to have any amendment to the Registration Statement declared effective as soon as possible. The Company will furnish without charge to each Underwriter and to any dealer in securities as many copies as the Representatives may from time to time reasonably request of such amendment or supplement. In case any Underwriter is required to deliver a prospectus (or in lieu thereof, the notice referred to in Rule 173(a) of the Rules and Regulations) relating to the Stock, the Company upon the request of the Representatives will prepare promptly an amended or supplemented Prospectus as may be necessary to permit compliance with the requirements of Section 10(a)(3) of the Securities Act and deliver to such Underwriter as many copies as such Underwriter may request of such amended or supplemented Prospectus complying with Section 10(a)(3) of the Securities Act.

(d) **Amendment to General Disclosure Package.** If the General Disclosure Package is being used to solicit offers to buy the Stock at a time when the Prospectus is not yet available to prospective purchasers and any event shall occur as a result of which, in the judgment of the Company or in the reasonable opinion of the Underwriters, it becomes necessary to amend or supplement the General Disclosure Package in order to make the statements therein, in the light of the circumstances then prevailing, not misleading, or to make the statements therein not conflict with the information contained or incorporated by reference in the Registration Statement then on file and not superseded or modified, or if it is necessary at any time to amend or supplement the General Disclosure Package to comply with any law, the Company promptly will either (i)

prepare, file with the Commission (if required) and furnish to the Underwriters and any dealers an appropriate amendment or supplement to the 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 General Disclosure Package so that the General Disclosure Package as so amended or supplemented will not, in the light of the circumstances then prevailing, be misleading or conflict with the Registration Statement then on file, or so that the General Disclosure Package will comply with law.

(e) Amendment to Issuer Free Writing Prospectus. If at any time following issuance of an Issuer Free Writing Prospectus there occurred or occurs an event or development as a result of which such Issuer Free Writing Prospectus conflicted or will conflict with the information contained in the Registration Statement, Pricing Prospectus or Prospectus, including any document incorporated by reference therein and any prospectus supplement deemed to be a part thereof and not superseded or modified or included or would include an untrue statement of a material fact or omitted or would omit to state a material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances prevailing at the subsequent time, not misleading, the Company has promptly notified or will promptly notify the Representatives so that any use of the Issuer Free Writing Prospectus may cease until it is amended or supplemented and has promptly amended or will promptly amend or supplement, at its own expense, such Issuer Free Writing Prospectus to eliminate or correct such conflict, untrue statement or omission. The foregoing sentence 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 through the Representatives by or on behalf of any Underwriter specifically for inclusion therein, which information the parties hereto agree is limited to the Underwriter's Information.

(f) Delivery of Registration Statement. To the extent not available on the Commission's Electronic Data Gathering, Analysis and Retrieval system or any successor system ("**EDGAR**"), upon the request of the Representatives, to furnish promptly to the Representatives and to counsel for the Underwriters a signed copy of the Registration Statement as originally filed with the Commission, and of each amendment thereto filed with the Commission, including all consents and exhibits filed therewith.

(g) Delivery of Copies. Upon request of the Representatives, to the extent not available on EDGAR, to deliver promptly to the Representatives in New York City such number of the following documents as the Representatives shall reasonably request: (i) conformed copies of the Registration Statement as originally filed with the Commission (in each case excluding exhibits), (ii) each Preliminary Prospectus, (iii) any Issuer Free Writing Prospectus, (iv) the Prospectus (the delivery of the documents referred to in clauses (i), (ii), (iii) and (iv) of this paragraph (g) to be made not later than 10:00 A.M., New York time, on the business day following the execution and delivery of this Agreement), (v) conformed copies of any amendment to the Registration Statement (excluding exhibits), (vi) any amendment or supplement to the General Disclosure Package or the Prospectus (the delivery of the documents referred to in clauses (v) and (vi) of this paragraph (g) to be made not later than 10:00 A.M., New York City time, on the business day following the date of such amendment or supplement) and (vii) any document incorporated by reference in the General Disclosure Package or the Prospectus (excluding exhibits thereto) (the delivery of the documents referred to in clause (vi) of this paragraph (g) to be made not later than 10:00 A.M., New York City time, on the business day following the date of such document).

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

(i) **Blue Sky Compliance.** To take promptly from time to time such actions as the Representatives may reasonably request to qualify the Stock for offering and sale under the securities or Blue Sky laws of such jurisdictions (domestic or foreign) as the Representatives may reasonably designate and to continue such qualifications in effect, and to comply with such laws, for so long as required to permit the offer and sale of Stock in such jurisdictions; *provided* that the Company and its subsidiaries shall not be obligated to (i) qualify as foreign corporations in any jurisdiction in which they are not so qualified, (ii) file a general consent to service of process in any jurisdiction or (iii) subject itself to taxation in any such jurisdiction if it is not otherwise so subject.

(j) **Reports.** Upon request, during the period of three (3) years from the date hereof, to deliver to each of the Underwriters, (i) as soon as they are available, copies of all reports or other communications (financial or other) furnished to stockholders, and (ii) as soon as they are available, copies of any reports and financial statements furnished or filed with the Commission or any national securities exchange on which the Stock is listed. However, so long as the Company is subject to the reporting requirements of either Section 13 or Section 15(d) of the Exchange Act and is timely filing reports EDGAR, it is not required to furnish such reports or statements to the Underwriters.

(k) **Lock-Up.** For a period of 90 days after the date of the Prospectus (the “**Lock-Up Period**”), the Company will not (i) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, or otherwise transfer or dispose of, directly or indirectly, or file with the Commission a registration statement under the Securities Act relating to, any shares of Stock or any securities convertible into or exercisable or exchangeable for Stock, or publicly disclose the intention to make any offer, sale, pledge, disposition or filing, or (ii) enter into any swap or other agreement that transfers, in whole or in part, any of the economic consequences of ownership of the Stock or any such other securities, whether any such transaction described in clause (i) or (ii) above is to be settled by delivery of Stock or such other securities, in cash or otherwise, without the prior written consent of the Representatives, other than (i) the Company’s sale of the Shares hereunder, (ii) the issuance of restricted Common Stock, restricted stock units or options to acquire Common Stock pursuant to the Company’s employee benefit plans, qualified stock option plans or other employee compensation plans as such plans are in existence on the date hereof and described in the Registration Statement and the Prospectus, (iii) issuances of Common Stock upon the exercise or settlement of options or restricted stock units disclosed as outstanding in Registration Statement and the Prospectus; (iv) the issuance by the Company of up to 3,500,000 shares of Common Stock as consideration for strategic alliances, occurring after the date of this Agreement; provided that each recipient of shares pursuant to this clause (iv) agrees that all such shares remain subject to restrictions substantially similar to those contained in this subsection (k); or (v) the purchase or sale of the Company’s securities pursuant to a plan, contract or instruction, if any, that satisfies all of the requirements of Rule 10b5-1(c)(1)(i)(B) that was in effect prior to the date hereof. The Company also agrees that during such period, the Company will not file any registration statement, preliminary prospectus or prospectus, or any amendment or supplement thereto, under the Securities Act for any such transaction or which registers, or offers for sale, Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock, except for (A) a registration statement on Form S-8 relating to employee benefit plans and (B) any resale registration statement required by any registration rights or similar rights to have any securities registered by the Company under the Securities Act described in the General Disclosure Package during the Lock-Up Period.

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

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

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

(o) Registrar and Transfer Agent. To maintain, at its expense, a registrar and transfer agent for the Stock.

(p) Use of Proceeds. To apply the net proceeds from the sale of the Stock as set forth in the Registration Statement, the General Disclosure Package and the Prospectus under the heading "Use of Proceeds," and except as disclosed in the General Disclosure Package, the Company does not intend to use any of the proceeds from the sale of the Stock hereunder to repay any outstanding debt owed to any affiliate of any Underwriter.

(q) Exchange Listing. To use its reasonable best efforts to list, subject to notice of issuance, the Stock on the NASDAQ Market.

(r) Sarbanes-Oxley Act. The Company and its subsidiaries will use their best efforts to comply with all effective applicable provisions of the Sarbanes-Oxley Act.

(s) Performance of Covenants and Satisfaction of Conditions. To use its reasonable best efforts to do and perform all things required to be done or performed under this Agreement by the Company prior to each Closing Date and to satisfy all conditions precedent to the delivery of the Firm Stock and the Optional Stock.

5. PAYMENT OF EXPENSES. The Company agrees to pay, or reimburse if paid by any Underwriter, whether or not the transactions contemplated hereby are consummated or this Agreement is terminated: (a) the costs incident to the authorization, issuance, sale, preparation and delivery of the Stock and any taxes payable in that connection; (b) the costs incident to the registration of the Stock under the Securities Act; (c) the costs incident to the preparation, printing and distribution of the Registration Statement, any Preliminary Prospectus, any Issuer Free Writing Prospectus, the General Disclosure Package, the Prospectus, any amendments, supplements and exhibits thereto or any document incorporated by reference therein and the costs of printing, reproducing and distributing, the "Agreement Among Underwriters" between the Representatives and the Underwriters, the Master Selected Dealers'

Agreement, the Underwriters' Questionnaire, this Agreement and any closing documents by mail, telex or other means of communications; (d) the fees and expenses (including related fees and expenses of counsel for the Underwriters up to \$10,000) incurred in connection with securing any required review by FINRA of the terms of the sale of the Stock and any filings made with FINRA; (e) any applicable listing or other fees; (f) the fees and expenses (including related fees and expenses of counsel to the Underwriters) of qualifying the Stock under the securities laws of the several jurisdictions as provided in Section 4(i) and of preparing, printing and distributing wrappers, Blue Sky Memoranda and Legal Investment Surveys; (g) the cost of preparing and printing stock certificates; (h) all fees and expenses of the registrar and transfer agent of the Stock; (i) the costs and expenses of the Company relating to investor presentations on any "road show" undertaken in connection with the marketing of the offering of the Stock, including, without limitation, expenses associated with the preparation or dissemination of any electronic road show, expenses associated with the production of road show slides and graphics, fees and expenses of any consultants engaged in connection with the road show presentations with the prior approval of the Company, travel and lodging expenses of the officers of the Company and such consultants, including the cost of any aircraft chartered in connection with the road show, and (j) all other costs and expenses incident to the offering of the Stock or the performance of the obligations of the Company under this Agreement (including, without limitation, the fees and expenses of the Company's counsel and the Company's independent accountants); *provided* that, except to the extent otherwise provided in this Section 5 and in Sections 10 and 11, the Underwriters shall pay their own costs and expenses, including the fees and expenses of their counsel not contemplated herein, any transfer taxes on the resale of any Stock by them and the expenses of advertising any offering of the Stock made by the Underwriters.

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

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

(b) No Material Misstatements. None of the Underwriters shall have discovered and disclosed to the Company on or prior to such Closing Date that the Registration Statement or any amendment or supplement thereto contains an untrue statement of a fact which, in the opinion of counsel for the Underwriters, is material or omits to state any fact which, in the opinion of such counsel, is material and is required to be stated therein or is necessary to make the statements therein not misleading, or that the General Disclosure Package, any Issuer Free Writing Prospectus or the Prospectus or any amendment or supplement thereto contains an untrue statement of fact which, in the opinion of such counsel, is material or omits to state any fact which, in the opinion of such counsel, is material and is necessary in order to make the statements, in the light of the circumstances in which they were made, not misleading.

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

(d) Opinion and 10b-5 Statement of Counsel for the Company. Morgan Lewis & Bockius LLP shall have furnished to the Representatives such counsel's written opinion and 10b-5 Statement, as counsel to the Company, addressed to the Underwriters and dated such Closing Date, in form and substance reasonably satisfactory to the Representatives.

(e) Opinion and 10b-5 Statement of Counsel for the Underwriters. The Representatives shall have received from Proskauer Rose LLP, counsel for the Underwriters, such opinion or opinions and 10b-5 Statement, dated such Closing Date, with respect to such matters as the Underwriters may reasonably require, and the Company shall have furnished to such counsel such documents as they request for enabling them to pass upon such matters.

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

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

(h) Officer's Certificate. The Company shall have furnished to the Representatives a certificate, dated such Closing Date, of its Chief Executive Officer and Chief Financial Officer stating in their respective capacities as officers of the Company on behalf of the Company that (i) no stop order suspending the effectiveness of the Registration Statement (including, for avoidance of doubt, any Rule 462(b) Registration Statement), or any post-effective amendment thereto, shall be in effect and no proceedings for such purpose shall have been instituted or, to their knowledge, threatened by the Commission, (ii) for the period from and including the date of this Agreement

through and including such Closing Date, there has not occurred any Material Adverse Effect, (iii) to their knowledge, after reasonable investigation, as of such Closing Date, the representations and warranties of the Company in this Agreement are true and correct and the Company has complied with all agreements and satisfied all conditions on its part to be performed or satisfied hereunder at or prior to such Closing Date, and (iv) there has not been, subsequent to the date of the most recent audited financial statements included or incorporated by reference in the General Disclosure Package, any Material Adverse Effect in the financial position or results of operations of the Company, or any change or development that, singularly or in the aggregate, would reasonably be expected to involve a Material Adverse Effect, except as set forth in the General Disclosure Package and the Prospectus.

(i) No Material Adverse Effect. Since the date of the latest audited financial statements included in the General Disclosure Package or incorporated by reference in the General Disclosure Package as of the date hereof, (i) neither the Company nor any of its subsidiaries shall have sustained any loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree, otherwise than as set forth in the General Disclosure Package, and (ii) there shall not have been any change in the capital stock or long-term debt of the Company or any of its subsidiaries, or any change, or any development involving a prospective change, in or affecting the business, general affairs, management, financial position, stockholders' equity or results of operations of the Company and its subsidiaries, otherwise than as set forth in the General Disclosure Package, the effect of which, in any such case described in clause (i) or (ii) of this paragraph (i), is, in the judgment of the Representative, so material and adverse as to make it impracticable or inadvisable to proceed with the sale or delivery of the Stock on the terms and in the manner contemplated in the General Disclosure Package.

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

(k) Reserved.

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

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

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

(o) Lock Up Agreements. The Representatives shall have received the written agreements, substantially in the form of Exhibit I hereto, of the officers and directors of the Company listed in Schedule D to this Agreement.

(p) Secretary's Certificate. The Company shall have furnished to the Representatives a Secretary's Certificate of the Company, in form and substance reasonably satisfactory to counsel for the Underwriters and customary for the type of offering contemplated by this Agreement.

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

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

7. INDEMNIFICATION AND CONTRIBUTION.

(a) Indemnification of Underwriters by the Company. The Company shall indemnify and hold harmless:

each Underwriter, its affiliates, directors, officers, managers, members, employees, representatives and agents and each person, if any, who controls any Underwriter within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act (collectively the "**Underwriter Indemnified Parties**," and each an "**Underwriter Indemnified Party**") against any loss, claim, damage, expense or liability whatsoever (or any action, investigation or proceeding in respect thereof), joint or several, to which such Underwriter Indemnified Party may become subject, under the Securities Act or otherwise, insofar as such loss, claim, damage, expense, liability, action, investigation or proceeding arises out of or is based upon (A) any untrue statement or alleged untrue statement of a material fact contained in any Preliminary Prospectus, any Issuer Free Writing Prospectus, any "issuer information" filed or required to be filed pursuant to Rule 433(d) of the Rules and Regulations, the Registration Statement, the Prospectus, or in any amendment or supplement thereto or document incorporated by reference therein or in any materials or information provided to investors by, or with the approval of, the Company in connection with the marketing of the offering of the Common Stock, including any roadshow or investor presentations made to investors by the Company (whether in person or electronically) ("**Marketing Materials**") or (B) the omission or alleged omission to state in any Preliminary Prospectus, any Issuer Free Writing

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

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

(c) Promptly after receipt by an indemnified party under this Section 7 of notice of the commencement of any action, the indemnified party shall, if a claim in respect thereof is to be

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

any indemnified party. Subject to the provisions of the following sentence, no indemnifying party shall be liable for settlement of any pending or threatened action or any claim whatsoever that is effected without its written consent (which consent shall not be unreasonably withheld or delayed), but if settled with its written consent, if its consent has been unreasonably withheld or delayed or if there be a judgment for the plaintiff in any such matter, the indemnifying party agrees to indemnify and hold harmless any indemnified party from and against any loss or liability by reason of such settlement or judgment. In addition, if at any time an indemnified party shall have requested that an indemnifying party reimburse the indemnified party for fees and expenses of counsel, such indemnifying party agrees that it shall be liable for any settlement of the nature contemplated by Section 7(a) effected without its written consent if (i) such settlement is entered into more than forty-five (45) days after receipt by such indemnifying party of the request for reimbursement, (ii) such indemnifying party shall have received notice of the terms of such settlement at least thirty (30) days prior to such settlement being entered into and (iii) such indemnifying party shall not have reimbursed such indemnified party in accordance with such request prior to the date of such settlement.

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

(e) The Company and the Underwriters agree that it would not be just and equitable if contributions pursuant to Section 7(d) above were to be determined by pro rata allocation or by any other method of allocation which does not take into account the equitable considerations referred to Section 7(d) above. The amount paid or payable by an indemnified party as a result of the loss, claim, damage, expense, liability, action, investigation or proceeding referred to in Section 7(d) above shall be deemed to include, subject to the limitations set forth above, any legal or other expenses reasonably incurred by such indemnified party in connection with investigating,

preparing to defend or defending against or appearing as a third party witness in respect of, or otherwise incurred in connection with, any such loss, claim, damage, expense, liability, action, investigation or proceeding. Notwithstanding the provisions of this Section 7, no Underwriters shall be required to contribute any amount in excess of the amount by which the total underwriting discounts and commissions received by such Underwriter with respect to the offering of the Stock exceeds the amount of any damages which the Underwriter has otherwise paid or become liable to pay by reason of any untrue or alleged untrue statement, omission or alleged omission, act or alleged act or failure to act or alleged failure to act. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The Underwriters' obligations to contribute as provided in this Section 7 are several in proportion to their respective underwriting obligations and not joint.

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

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

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

If the remaining Underwriters or substituted Underwriters are required hereby or agree to take up all or part of the shares of Stock of a defaulting Underwriter or Underwriters on such Closing Date as provided in this Section 10, (i) the Company shall have the right to postpone such Closing Dates for a

period of not more than five (5) full business days in order that the Company may effect whatever changes may thereby be made necessary in the Registration Statement or the Prospectus, or in any other documents or arrangements, and the Company agrees promptly to file any amendments to the Registration Statement or supplements to the Prospectus which may thereby be made necessary, and (ii) the respective numbers of shares to be purchased by the remaining Underwriters or substituted Underwriters shall be taken as the basis of their underwriting obligation for all purposes of this Agreement. Nothing herein contained shall relieve any defaulting Underwriter of its liability to the Company or the other Underwriters for damages occasioned by its default hereunder. Any termination of this Agreement pursuant to this Section 10 shall be without liability on the part of any non-defaulting Underwriter or the Company, except that the representations, warranties, covenants, indemnities, agreements and other statements set forth in Section 2, the obligations with respect to expenses to be paid or reimbursed pursuant to Sections 5 and 9 and the provisions of Section 7 and Sections 11 through 21, inclusive, shall not terminate and shall remain in full force and effect.

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

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

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

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

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

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

13. *SURVIVAL OF INDEMNITIES, REPRESENTATIONS, WARRANTIES, ETC.* The respective indemnities, covenants, agreements, representations, warranties and other statements of the Company and the several Underwriters, as set forth in this Agreement or made by them respectively, pursuant to this Agreement, shall remain in full force and effect, regardless of any investigation made by or on behalf of any Underwriter, the Company or any person controlling any of them and shall survive delivery of and payment for the Stock. Notwithstanding any termination of this Agreement, including without limitation any termination pursuant to Section 8 or Section 10, the indemnities, covenants, agreements, representations, warranties and other statements forth in Sections 2, 5, 7 and 9 and Sections 11 through 21, inclusive, of this Agreement shall not terminate and shall remain in full force and effect at all times.

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

(a) if to the Underwriters, shall be delivered or sent by mail, telex, facsimile transmission or email to Cowen and Company, LLC, 599 Lexington Avenue, New York, NY 10022, Attention: Bradley Friedman, Attention: Head of Equity Capital Markets, Fax: 646-562-1249 with a copy to the General Counsel, Fax: 646-562-1124; and Wells Fargo Securities, LLC, 375 Park Avenue, New York, New York 10152, Attention: Equity Syndicate Department (fax no: (212) 214-5918).

(b) if to the Company, shall be delivered or sent by mail, telex, facsimile transmission or email to Sangamo Therapeutics, Inc., Attention: Kathy Yi, Chief Financial Officer, 501 Canal Boulevard, Suite A100, Richmond, California 94805, Fax: 510-236-8951; with copies to Morgan, Lewis & Bockius LLP, 2 Palo Alto Square, 3000 El Camino Real, Suite 700, Palo Alto, CA 94306-2122, Attention: Albert Lung, Fax: 650-843-4001.

provided, however, that any notice to an Underwriter pursuant to Section 8 shall be delivered or sent by mail, or facsimile transmission to such Underwriter at its address set forth in its acceptance telex to the Representatives, which address will be supplied to any other party hereto by the Representatives upon request. Any such statements, requests, notices or agreements shall take effect at the time of receipt thereof.

15. *DEFINITION OF CERTAIN TERMS.* For purposes of this Agreement, (a) “*affiliate*” has the meaning set forth in Rule 405 under the Securities Act, (b) “*business day*” means any day on which the New York Stock Exchange, Inc. is open for trading and (c) “*subsidiary*” has the meaning set forth in Rule 405 of the Rules and Regulations.

16. *GOVERNING LAW. This Agreement shall be governed by and construed in accordance with the laws of the State of New York, including without limitation Section 5-1401 of the New York General Obligations.* The Company irrevocably (a) submits to the non-exclusive jurisdiction of the Federal and state courts in the Borough of Manhattan in The City of New York for the purpose of any suit, action or other proceeding arising out of this Agreement or the transactions contemplated by this Agreement, the Registration Statement and any Preliminary Prospectus or the Prospectus, (b) agrees that all claims in respect of any such suit, action or proceeding may be heard and determined by any such court, (c) waives to the fullest extent permitted by applicable law, any immunity from the jurisdiction of any such court or from any legal process, (d) agrees not to commence any such suit, action or proceeding other than in such courts, and (e) waives, to the fullest extent permitted by applicable law, any claim that any such suit, action or proceeding is brought in an inconvenient forum.

17. *UNDERWRITERS’ INFORMATION.* The parties hereto acknowledge and agree that, for all purposes of this Agreement, the Underwriters’ Information consists solely of the following information in the Prospectus: the concession figure appearing in the second sentence of the eighth paragraph and the ninth, tenth and eleventh paragraphs under the heading “Underwriting.”

18. *AUTHORITY OF THE REPRESENTATIVES.* In connection with this Agreement, the Representatives will act for and on behalf of the several Underwriters, and any action taken under this Agreement by the Representatives, will be binding on all the Underwriters.

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

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

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

If the foregoing is in accordance with your understanding please indicate your acceptance of this Agreement by signing in the space provided for that purpose below.

Very truly yours,

SANGAMO THERAPEUTICS, INC.

By: /s/ Kathy Y. Yi

Name: Kathy Y. Yi

Title: Chief Financial Officer

Accepted as of
the date first above written:

COWEN AND COMPANY, LLC

WELLS FARGO SECURITIES, LLC

Each acting on its own behalf
and as Representative of the several
Underwriters listed on Schedule A to this
Agreement.

By: COWEN AND COMPANY, LLC

By: /s/ Jason Fenton

Name: Jason Fenton

Title: Managing Director

By: WELLS FARGO SECURITIES, LLC

By: /s/ David Herman

Name: David Herman

Title: Director

SCHEDULE A

Name	Number of Shares of Firm Stock to be Purchased	Number of Shares of Optional Stock to be Purchased
Cowen and Company, LLC	6,000,000	900,000
Wells Fargo Securities, LLC	4,000,000	600,000
Total	<u>10,000,000</u>	<u>1,500,000</u>

SCHEDULE B

General Use Free Writing Prospectuses

None

SCHEDULE C

Pricing Information

Firm Stock to be Sold: 10,000,000 shares

Offering Price: \$7.25 per share

Underwriting Discounts and Commissions: 6.00%

Estimated Net Proceeds to the Company (after underwriting discounts and commissions, but before transaction expenses): \$68,150,000

SCHEDULE D

Alexander D. Macrae

Kathy Y. Yi

Edward R. Conner

Curt A. Herberts, III

Robert F. Carey

Stephen G. Dilly

Steven Mento

H. Stewart Parker

Saira Ramasastry

William R. Ringo

Exhibit I

LOCK-UP AGREEMENT

____, 2017

COWEN AND COMPANY, LLC
WELLS FARGO SECURITIES, LLC

As Representatives of
the several Underwriters listed in
Schedule 1 to the Underwriting
Agreement referred to below

c/o Cowen and Company, LLC
599 Lexington Avenue
New York, New York 1002

c/o Wells Fargo Securities, LLC
375 Park Avenue
4th Floor
New York, New York 10152

Re: Sangamo Therapeutics, Inc. — Public Offering

Ladies and Gentlemen:

The undersigned understands that you, as Representatives of the several Underwriters, propose to enter into an underwriting agreement (the “Underwriting Agreement”) with Sangamo Therapeutics, Inc., a Delaware corporation (the “Company”), providing for the public offering (the “Public Offering”) by the several Underwriters named in Schedule 1 to the Underwriting Agreement (the “Underwriters”), of common stock of the Company (the “Securities”). Capitalized terms used herein and not otherwise defined shall have the meanings set forth in the Underwriting Agreement.

In consideration of the Underwriters’ agreement to purchase and make the Public Offering of the Securities, and for other good and valuable consideration receipt of which is hereby acknowledged, the undersigned hereby agrees that, without the prior written consent of the Representatives on behalf of the Underwriters, the undersigned will not, during the period ending 90 days after the date of the prospectus relating to the Public Offering (the “Lock-Up Period”), (1) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, or otherwise transfer or dispose of, directly or indirectly, any shares of Common Stock, \$0.01 per share par value, of the Company (the “Common Stock”) or any securities convertible into or exercisable or exchangeable for Common Stock (including without limitation, Common Stock or such other securities which may be deemed to be beneficially owned by the undersigned in accordance with the

rules and regulations of the Securities and Exchange Commission (such shares or securities, the “Beneficially Owned Shares”) and securities which may be issued upon exercise of a stock option or warrant), or publicly disclose the intention to make any offer, sale, pledge or disposition, (2) enter into any swap or other agreement that transfers, in whole or in part, any of the economic consequences of ownership of the Common Stock or such other securities, whether any such transaction described in clause (1) or (2) above is to be settled by delivery of Common Stock or such other securities, in cash or otherwise or (3) make any demand for or exercise any right with respect to the registration of any shares of Common Stock or any security convertible into or exercisable or exchangeable for Common Stock, in each case other than:

(a) transfers of Beneficially Owned Shares, Common Stock or securities convertible into or exercisable or exchangeable for Common Stock (i) as a bona fide gift or gifts, (ii) to any trust for the direct or indirect benefit of the undersigned or the immediate family of the undersigned or (iii) by will or intestacy to the undersigned’s legal representative, heir or legatee;

(b) pursuant to any contract, instruction or plan complying with Rule 10b5-1 under the Securities Exchange Act of 1934, as amended, that has been entered into by the undersigned prior to the date of this agreement;

(c) the acquisition or exercise of any stock option issued pursuant to the Company’s existing stock option plan, including any exercise effected by the delivery of shares of Common Stock held by the undersigned;

(d) any conversion of restricted stock units into shares of Common Stock as provided in the applicable restricted stock unit issuance agreement;

(e) any transfer of shares of Common Stock to the Company in connection with the undersigned’s tax withholding obligation upon issuance of such shares pursuant to the applicable restricted stock unit issuance agreement; or

(f) the establishment of a trading plan pursuant to Rule 10b5-1 under the Exchange Act for the transfer of Common Stock, provided that such plan does not provide for the transfer and sale of Common Stock during the Lock-Up Period, and provided further that no public announcement of the establishment or existence of such plan, and no filing with the Securities and Exchange Commission or any other regulatory authority in respect thereof or for transactions thereunder or contemplated thereby, by the undersigned, the Company or any other person, shall be required, and no announcement or filing shall be made voluntarily by the undersigned, the Company or any other person prior to the expiration of the Lock-Up Period;

In the case of any transfer or distribution pursuant to clause (a) above, each donee or distributee or transferee shall execute and deliver to the Representatives a lock-up letter for the balance of the Lock-up Period in the form of this paragraph. For the avoidance of doubt, any shares of Common Stock received by the undersigned upon the exercise of a stock option or conversion of restricted stock units as described in foregoing clauses (c) and (d) shall be subject to the restrictions under this Letter Agreement.

If the undersigned is an officer or director of the Company, (i) the Representatives on behalf of the Underwriters agrees that, at least three business days before the effective date of any release or waiver of the foregoing restrictions in connection with a transfer of shares of Common Stock, the Representatives on behalf of the Underwriters will notify the Company of the impending release or waiver, and (ii) the Company has agreed in the Underwriting Agreement to announce the impending release or waiver by press release through a major news service at least two business days before the

effective date of the release or waiver. Any release or waiver granted by the Representatives on behalf of the Underwriters hereunder to any such officer or director shall only be effective two business days after the publication date of such press release. The provisions of this paragraph will not apply if (a) the release or waiver is effected solely to permit a transfer not for consideration and (b) the transferee has agreed in writing to be bound by the same terms described in this letter to the extent and for the duration that such terms remain in effect at the time of the transfer.

In furtherance of the foregoing, the Company, and any duly appointed transfer agent for the registration or transfer of the securities described herein, are hereby authorized to decline to make any transfer of securities if such transfer would constitute a violation or breach of this Letter Agreement.

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

The undersigned understands that, if (i) the Underwriting Agreement does not become effective by July 31, 2017, (ii) the Underwriting Agreement (other than the provisions thereof which survive termination) shall terminate or be terminated prior to payment for and delivery of the Common Stock to be sold thereunder, or (iii) the Company notifies the Representatives in writing that it will not be proceeding with the Public Offering prior to the execution of the Underwriting Agreement, the undersigned shall be released from, all obligations under this Letter Agreement. The undersigned understands that the Underwriters are entering into the Underwriting Agreement and proceeding with the Public Offering in reliance upon this Letter Agreement.

This Letter Agreement and any claim, controversy or dispute arising under or related to this Letter Agreement shall be governed by and construed in accordance with the laws of the State of New York, without regard to the conflict of laws principles thereof.

[Signature Page Follows]

Very truly yours,

[NAME OF STOCKHOLDER]

By:

Name:

Title:

June 21, 2017

Sangamo Therapeutics, Inc.
501 Canal Boulevard
Richmond, CA 94804

Re: Sangamo Therapeutics, Inc. Registration Statement on Form S-3 (File No. 333-218294)

Ladies and Gentlemen:

We have acted as counsel to Sangamo Therapeutics, Inc., a Delaware corporation (the “Company”), in connection with the filing of (i) the referenced Registration Statement (as amended, the “Registration Statement”) under the Securities Act of 1933, as amended (the “Securities Act”), filed with the Securities and Exchange Commission (the “SEC”), (ii) the preliminary prospectus supplement of the Company dated June 20, 2017, including the accompanying base prospectus dated June 7, 2017 (the “Base Prospectus”), which was filed by the Company with the SEC on June 20, 2017 pursuant to Rule 424(b) promulgated under the Securities Act (the “Preliminary Prospectus Supplement”), and (iii) the final prospectus supplement of the Company dated June 21, 2017, including the accompanying Base Prospectus, which final prospectus supplement was filed by the Company with the SEC on June 7, 2017 pursuant to Rule 424(b) promulgated under the Securities Act (the “Prospectus”), relating to the offering and sale by the Company of up to 10,000,000 shares of its Common Stock per share, plus an additional 1,500,000 shares of Common Stock that the underwriters have an option to purchase (collectively, the “Shares”). The Shares are to be issued and sold by the Company pursuant to an Underwriting Agreement dated June 21, 2017 (the “Underwriting Agreement”) between the Company and Cowen and Company, LLC and Wells Fargo Securities, LLC as representatives of the several underwriters.

In connection with this opinion letter, we have examined the Registration Statement, the Preliminary Prospectus Supplement, the Prospectus and originals, or copies certified or otherwise identified to our satisfaction, of the Certificate of Incorporation of the Company, the Bylaws of the Company, the Underwriting Agreement and such other documents, records and other instruments, including resolutions adopted by the board of directors of the Company and the pricing committee thereof at meetings or by written consent, as we have deemed appropriate for purposes of the opinion set forth herein.

We have assumed the genuineness of all signatures, the legal capacity of all natural persons, the authenticity of the documents submitted to us as originals, the conformity with the originals of all documents submitted to us as certified, facsimile or photostatic copies and the authenticity of the originals of all documents submitted to us as copies.

Based upon the foregoing, we are of the opinion that the Shares have been duly authorized by the Company and, when issued and sold by the Company and delivered by the Company against receipt of the purchase price therefor, in the manner contemplated by the Registration Statement and the Prospectus, will be validly issued, fully paid and non-assessable.

Morgan, Lewis & Bockius LLP

1400 Page Mill Road
Palo Alto, CA 94304
United States

T +1.650.843.4000
F +1.650.843.4001

The opinion expressed herein is limited to the Delaware General Corporation Law.

We hereby consent to the use of this opinion as Exhibit 5.1 to the Registration Statement and to the reference to us under the caption "Legal Matters" in the prospectus included in the Registration Statement. In giving such consent, we do not hereby admit that we are acting within the category of persons whose consent is required under Section 7 of the Securities Act or the rules or regulations of the SEC thereunder.

Very truly yours,

/s/ Morgan Lewis & Bockius



Sangamo Therapeutics, Inc.
Point Richmond Tech Center
501 Canal Boulevard
Richmond, CA 94804
510-970-6000 • 510-236-8951(Fax)

SANGAMO THERAPEUTICS ANNOUNCES PRICING OF \$72.5 MILLION PUBLIC OFFERING OF COMMON STOCK

Richmond, Calif., June 21, 2017 – Sangamo Therapeutics, Inc. (Nasdaq: SGMO) announced today the pricing of an underwritten public offering of 10,000,000 shares of its common stock at a price to the public of \$7.25 per share. All of the shares are being sold by Sangamo. The gross proceeds to Sangamo from the offering, before deducting the underwriting discounts and commissions and other offering expenses, are expected to be \$72.5 million. In connection with this offering, Sangamo granted to the underwriters a 30-day option to purchase up to an additional 1,500,000 shares of common stock. Sangamo intends to use the proceeds from this offering for working capital and other general corporate purposes, including support for the continuing research and development of its genomic therapy product candidates and research programs, clinical trials, commercialization activities, business development activities and, if opportunities arise, acquisitions of businesses, products, technologies or licenses that are complementary to Sangamo's business. The offering is expected to close on or about June 26, 2017, subject to customary closing conditions.

Cowen and Company, LLC and Wells Fargo Securities, LLC are acting as joint book-running managers for the 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 (the "SEC") and is effective. The offering is being made solely by means of a prospectus supplement and accompanying prospectus. Copies of the final prospectus supplement and accompanying prospectus may be obtained, when available, from the offices of Cowen and Company, LLC, c/o Broadridge Financial Services, 1155 Long Island Avenue, Edgewood, NY, 11717, Attn: Prospectus Department, or by calling (631) 274-2806, or from Wells Fargo Securities, LLC, Attention: Equity Syndicate Department, 375 Park Avenue, New York, New York 10152, or by telephone at (800) 326-5897 or email to cmclientsupport@wellsfargo.com. Electronic copies of the final prospectus supplement and accompanying prospectus will also be available on the website of the SEC at <http://www.sec.gov>.

This press release does not constitute an offer to sell or the solicitation of an offer to buy any of these securities, nor will there be any sale of these securities in any state or other jurisdiction in which such offer, solicitation or sale is not permitted.

About Sangamo Therapeutics

Sangamo Therapeutics, Inc. is focused on translating ground-breaking science into genomic therapies that transform patients' lives using the company's industry leading platform technologies in genome editing, gene therapy, gene regulation and cell therapy.

Forward Looking Statements

This press release may contain forward-looking statements based on Sangamo's current expectations. These forward-looking statements include, without limitation, the anticipated closing of the public offering of shares of common stock and use of proceeds from the offering. Actual results may differ materially from these forward-looking statements due to a number of factors, including uncertainties relating to the completion of the public offering on the terms to which Sangamo has agreed or at all, market conditions and the satisfaction of customary closing conditions related to the public offering. You should not place undue reliance on these forward-looking statements, which apply only as of the date of this press release. Additional risks and uncertainties relating to Sangamo and its business can be found under the heading "Risk Factors" in Sangamo's Registration Statement on Form S-3, as amended, initially filed with the SEC on May 26, 2017. Sangamo assumes no obligation to update the forward-looking information contained in this press release.

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