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

**Form 8-K**

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

**Date of Report (Date of earliest event reported): October 7, 2016**

**AXOGEN, INC.**

(Exact name of registrant as specified in its charter)

<b>Minnesota</b>	<b>001-36046</b>	<b>41-1301878</b>
(State or other jurisdiction of incorporation)	(Commission File Number)	(IRS Employer Identification No.)

<b>13631 Progress Boulevard, Suite 400, Alachua, Florida</b>	<b>32615</b>
(Address of Principal Executive Offices)	(Zip Code)

**(386) 462-6800**

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Registrant's telephone number, including area code

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(Former name or former address if changed since last report.)

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

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

On October 7, 2016, AxoGen, Inc., a Minnesota corporation (the “Company”), entered into a certain underwriting agreement (the “Underwriting Agreement”) with JMP Securities LLC, as representative of the several underwriters (collectively, the “Underwriters”), to issue and sell 2,333,334 shares of the Company’s common stock, par value \$0.01 per share (the “Shares”), in an underwritten registered public offering (the “Offering”) at an offering price of \$7.50 per Share. Pursuant to the Underwriting Agreement, the Company also granted the Underwriters a 30-day option to purchase up to an additional 350,000 Shares, which the Underwriters exercised in full on October 7, 2016. Five of the Company’s directors and officers purchased an aggregate of approximately 32,666 Shares in the Offering and such purchases were made on the same terms and conditions as purchases by the public in the Offering.

The Offering closed on October 13, 2016, and the Company received net proceeds of approximately \$18.62 million from the sale of 2,683,334 Shares, which includes the additional 350,000 Shares, after deducting the underwriting discounts and commissions and estimated offering expenses. The Company intends to use the net proceeds from this Offering for general working capital purposes and expanded development of nerve repair markets and products. However, the Company’s management will retain broad discretion over the allocation of the net proceeds.

The Offering was pursuant to a prospectus supplement dated October 7, 2016, which was filed with the U.S. Securities and Exchange Commission (the “Commission”) in connection with the Company’s shelf registration statement on Form S-3 (File No. 333-207829) that was filed with the Commission on November 5, 2015 and declared effective on December 11, 2015 and the related prospectus dated December 11, 2015.

The Underwriting Agreement contains customary representations and warranties, agreements and obligations, closing conditions and termination provisions. The Company has agreed to indemnify the Underwriters against certain liabilities, including liabilities under the Securities Act, and to contribute to payments the Underwriters may be required to make because of any of those liabilities. In addition, subject to certain exceptions, the Company and its officers, directors and certain beneficial owners of 5% or more of the Company’s securities have agreed not to offer, sell, transfer or otherwise dispose of any Shares during the 90-day period following the Offering.

A copy of the Underwriting Agreement is attached as Exhibit 1.1 hereto and is incorporated herein by reference. The foregoing description of the Underwriting Agreement does not purport to be complete and is qualified in its entirety by reference to such exhibit. The provisions of the Underwriting Agreement, including the representations and warranties contained therein, are not for the benefit of any party other than the parties to such agreement and are not intended as a document for investors and the public to obtain factual information about the current state of affairs of the Company. Rather, investors and the public should look to other disclosures contained in the Company’s filings with the Commission.

A copy of the legal opinion and consent of DLA Piper LLP (US) relating to the Offering is attached as Exhibit 5.1 hereto.

## Item 8.01. Other Events

The full text of the press releases announcing the proposed Offering on October 6, 2016, the pricing of the Offering on October 7, 2016 and the closing of the Offering on October 13, 2016 are attached as Exhibits 99.1, 99.2 and 99.3 hereto and are incorporated herein by reference.

## Item 9.01. Financial Statements and Exhibits

### (d) Exhibits

Exhibit No.	Description
1.1	Underwriting Agreement by and between the Company and JMP Securities LLC, dated October 7, 2016.
5.1	Opinion of DLA Piper LLP (US).
23.1	Consent of DLA Piper LLP (US) (included in Exhibit 5.1)

- 99.1 Press Release of the Company dated October 6, 2016.
- 99.2 Press Release of the Company dated October 7, 2016.
- 99.3 Press Release of the Company dated October 13, 2016.

**SIGNATURE**

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.

AXOGEN, INC.

Date: October 13, 2016

By: /s/ Gregory G. Freitag

Gregory G. Freitag  
General Counsel & Senior VP of Business  
Development

## EXHIBIT INDEX

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2,333,334 Shares

AxoGen, Inc.

Common Stock  
(\$0.01 par value)

## Underwriting Agreement

October 7, 2016

JMP SECURITIES LLC  
600 Montgomery Street  
San Francisco, California 94111As Representative of the several Underwriters listed on Schedule A hereto

Ladies and Gentlemen:

AxoGen, Inc., a Minnesota corporation (the “Company”), proposes to issue and sell to the several underwriters named in Schedule A (the “List of the Underwriters”) attached hereto (collectively, the “Underwriters”) an aggregate of 2,333,334 shares (the “Firm Offered Shares”) of its common stock, par value \$0.01 per share (the “Common Stock”) in accordance with the terms and conditions set forth in this Underwriting Agreement (this “Agreement”). In addition, the Company has granted to the Underwriters an option to purchase up to an additional 350,000 shares (the “Optional Offered Shares”) of Common Stock as provided in Section 2 hereof. The Firm Offered Shares and, if and to the extent such option is exercised, the Optional Offered Shares are collectively called the “Offered Shares.” JMP Securities LLC (“JMP”) has agreed to act as representative of the several Underwriters (in such capacity, the “Representative”) in connection with the offering and sale of the Offered Shares.

The Company has prepared and filed with the Securities and Exchange Commission (the “Commission”) a shelf registration statement on Form S-3 (File No. 333-207829), including a base prospectus dated December 11, 2015 (the “Base Prospectus”), to be used in connection with the public offering and sale of certain securities, including the Offered Shares. Such registration statement, as amended, including the financial statements, exhibits, and schedules thereto, in the form in which it was declared effective by the Commission under the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder (collectively, the “Securities Act”), including all documents incorporated or deemed to be incorporated by reference therein and any information deemed to be a part thereof at the time of effectiveness pursuant to Rule 430A or Rule 430B under the Securities Act, is called the “Registration Statement.” Any registration statement filed by the Company pursuant to Rule 462(b) under the Securities Act in connection with the offer and sale of the Offered Shares is called the “Rule 462(b) Registration Statement,” and from and after the date and time of filing of any such Rule 462(b) Registration Statement, the term “Registration Statement” shall include such Rule 462(b) Registration Statement. As used herein, the term “Preliminary Prospectus” means any preliminary prospectus supplement to the Base Prospectus filed with the Commission pursuant to Rule 424(b) under the Securities Act that describes the Offered Shares and the offering thereof, together with the Base

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Prospectus, and is used prior to the filing of the Prospectus (as defined below). As used herein, the term “Prospectus” means the final prospectus supplement to the Base Prospectus filed with the Commission pursuant to Rule 424(b) under the Securities Act that describes the Offered Shares and the offering thereof, together with the Base Prospectus, in the form first used by the Underwriters to confirm sales of the Offered Shares or in the form first made available to the Underwriters by the Company to meet requests of purchasers pursuant to Rule 173 under the Securities Act. References herein to any Preliminary Prospectus or the Prospectus shall refer to both the prospectus supplement and the Base Prospectus components of such prospectus. Any reference in this Agreement to the Registration Statement, any Preliminary Prospectus or the Prospectus shall be deemed to refer to and include the documents incorporated by reference therein pursuant to Item 12 of Form S-3 under the Securities Act, as of the effective date of the Registration Statement or the date of such Preliminary Prospectus or the Prospectus, as the case may be, and any reference to “amend,” “amendment” or “supplement” with respect to the Registration Statement, any Preliminary Prospectus or the Prospectus shall be deemed to refer to and include any documents filed after such date under the Securities Exchange Act of 1934, as amended, and the rules and regulations of the Commission thereunder (collectively, the “Exchange Act”) that are deemed to be incorporated by reference therein. Capitalized terms used but not defined herein shall have the meanings given to such terms in the Registration Statement and the Prospectus. For purposes of this Agreement, all references to the Registration Statement, any Preliminary Prospectus, the Prospectus or any amendment or supplement to any of the foregoing shall be deemed to include the copy filed with the Commission pursuant to its Electronic Data Gathering, Analysis and Retrieval system (or any successor system) (“EDGAR”).

At or prior to 8:30 a.m., New York City time, on October 7, 2016 (the “Time of Sale”), the Company had prepared the following information (collectively, the “General Disclosure Package”): a Preliminary Prospectus dated October 6, 2016, any “free writing prospectus” (as defined in Rule 405 under the Securities Act) listed on Schedule B-2 attached hereto and the pricing information set forth on Schedule B-1 attached hereto.

## **Section 1. Representations and Warranties of the Company .**

The Company hereby represents and warrants to the Underwriters as follows:

(a) Preliminary Prospectus. No order preventing or suspending the use of any Preliminary Prospectus has been issued by the Commission. Each Preliminary Prospectus, at the time of filing thereof, complied in all material respects with the Securities Act and did not include any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; provided that the Company makes no representation and warranty with respect to any statements or omissions made in reliance upon and in conformity with information relating to any Underwriter furnished to the Company in writing by such Underwriter through the Representative expressly for use in such Preliminary Prospectus, it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in Section 8(c) hereof.

(b) General Disclosure Package. The General Disclosure Package, at the Time of Sale, did not, and at the First Closing Date (as hereinafter defined) and at each applicable Option Closing Date (as hereinafter defined), as the case may be, will not, include any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; provided that the Company makes no representation and warranty with respect to any statements or omissions made in reliance upon and in conformity with information relating to any Underwriter furnished to the Company in writing by such Underwriter through the Representative expressly for use in such General Disclosure Package, it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in Section 8(c) hereof.

(c) Issuer Free Writing Prospectus. As of the determination date referenced in Rule 164(h) under the Securities Act, the Company was not, is not or will not be (as applicable) an “ineligible issuer” in connection with the offering of the Offered Shares pursuant to Rules 164, 405 and 433 under the Securities Act. Other than the Registration Statement, the Preliminary Prospectus and the Prospectus, the Company (including its agents and representatives, other than the Underwriters in their capacity as such) has not made, used, prepared, authorized, approved or referred to and will not prepare, make, use, authorize, approve or refer to any “written communication” (as defined in Rule 405 under the Securities Act) that constitutes an offer to sell or solicitation of an offer to buy the Offered Shares (each such communication by the Company or its agents and representatives (other than a communication referred to in clause (i) below) an “Issuer Free Writing Prospectus”) other than (i) any document not constituting a prospectus pursuant to Section 2(a)(10)(a) of the Securities Act or Rule 134 under the Securities Act or (ii) the documents listed on Schedule B-2 attached hereto and other written communications approved in writing in advance by the Representative. Each such Issuer Free Writing Prospectus complied in all material respects with the Securities Act, has been filed in accordance with the Securities Act (to the extent required thereby) and, when taken together with the General Disclosure Package, such Issuer Free Writing Prospectus, did not, and at the First Closing Date and at each applicable Option Closing Date, as the case may be, will not, include any untrue statement of a material fact or omit to state any material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; provided that the Company makes no representation and warranty with respect to any statements or omissions made in reliance upon and in conformity with information relating to any Underwriter furnished to the Company in writing by such Underwriter through the Representative expressly for use in such Issuer Free Writing Prospectus, it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in Section 8(c) hereof. Each such 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 Offered Shares or until any earlier date that the Company notified or notifies the Representative as described in Section 3(h) hereof, did not, does not and will not include any information that conflicted, conflicts or will conflict with the information contained in the Registration Statement or the Prospectus, including any document incorporated by reference therein and any Preliminary Prospectus deemed to be a part thereof that has not been superseded or modified.

(d) Registration Statement and Prospectus. The Registration Statement has been declared effective by the Commission not earlier than three years prior to the date hereof. At the



time the Registration Statement originally became effective and at the time the Company's Annual Report on Form 10-K for the year ended December 31, 2015, was filed with the Commission, the Company met the then applicable requirements for use of Form S-3 under the Securities Act. The Company is eligible to offer and sell securities under the Registration Statement (including the offer and sale of the Offered Shares) without reliance on General Instruction I.B.6 of Form S-3. The Company has complied, to the Commission's satisfaction, with all requests of the Commission for additional or supplemental information. No other document with respect to the Registration Statement has heretofore been filed with the Commission. No stop order suspending the effectiveness of the Registration Statement has been issued by the Commission and no proceeding for that purpose has been initiated or, to the Company's knowledge, threatened by the Commission. As of each effective date of the Registration Statement and any amendment thereto, the Registration Statement complied in all material respects with the Securities Act, and did not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading; as of the date of the Prospectus and any amendment or supplement thereto and at the First Closing Date and at each applicable Option Closing Date, as the case may be, the Prospectus (including any prospectus wrapper) does not and will not contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading; provided that the Company makes no representation and warranty with respect to any statements or omissions made in reliance upon and in conformity with information relating to any Underwriter furnished to the Company in writing by such Underwriter through the Representative expressly for use in the Registration Statement and the Prospectus and any amendment or supplement thereto, it being understood and agreed that the only such information furnished by any Underwriter consists of the information described as such in Section 8(c) hereof.

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

(f) Capitalization and Other Capital Stock Matters. The authorized shares of capital stock of the Company, including the Offered Shares, conform in all material respects to the description thereof contained in the Registration Statement, the General Disclosure Package and the Prospectus; the Company has an authorized, issued and outstanding capitalization as set forth in the Registration Statement, the General Disclosure Package and the Prospectus (except for subsequent issuances, if any, pursuant to this Agreement, pursuant to reservations, agreements or

employee benefit plans, or upon the exercise of outstanding options or warrants, in each case as described in the Registration Statement, the General Disclosure Package and the Prospectus); the outstanding shares of capital stock of the Company and the outstanding capital stock of AxoGen Corporation, the only subsidiary of the Company (the “Subsidiary”), have been duly and validly authorized and issued and are fully paid and nonassessable, have been issued and sold by the Company or the Subsidiary, as applicable, in compliance with federal and applicable state securities laws; except as disclosed in the Registration Statement, the General Disclosure Package or the Prospectus, there are no outstanding (i) securities or obligations of the Company or the Subsidiary convertible into or exchangeable for any equity interests of the Company or the Subsidiary, (ii) warrants, rights or options to subscribe for or purchase from the Company or the Subsidiary any such equity interests or any such convertible or exchangeable securities or obligations, or (iii) obligations of the Company or the Subsidiary to issue any equity interests, any such convertible or exchangeable securities or obligation, or any such warrants, rights or options; the description of the Company’s incentive, bonus and other share plans or arrangements, and the options or other rights granted thereunder, set forth in the Registration Statement, General Disclosure Package and the Prospectus accurately and fairly presents the information required to be shown with respect to such plans, arrangements, options and rights.

(g) Organization and Good Standing of the Company. The Company has been duly incorporated and is validly existing as a corporation in good standing under and by virtue of the laws of the State of Minnesota, with all requisite corporate power and authority to own, lease and operate its properties, and conduct its business as described in the Registration Statement, the General Disclosure Package and the Prospectus, and is duly qualified as a foreign corporation to transact business or licensed and is in good standing in each jurisdiction in which the nature or conduct of its business requires such qualification or license except to the extent that any failure to be so duly qualified or in good standing could not, individually or in the aggregate, have a material adverse effect on the assets, business, management, operations, earnings, properties or condition (financial or otherwise), present or prospective, of the Company and the Subsidiary taken as a whole (any such effect, where the context so requires, is hereinafter called a “Material Adverse Effect”); except as disclosed in the Registration Statement, the General Disclosure Package and the Prospectus, all of the issued and outstanding shares of capital stock of the Subsidiary is owned by the Company directly, free and clear of any security interest, mortgage, pledge, lien, encumbrance or claim; except as disclosed in the Registration Statement, the General Disclosure Package and the Prospectus, the Subsidiary is not prohibited or restricted, directly or indirectly, from paying dividends to the Company, or from making any other distribution with respect to the Subsidiary’s capital stock or from repaying to the Company any amounts that may from time to time become due under any loans or advances to the Subsidiary from the Company, or from transferring the Subsidiary’s property or assets to the Company; other than as disclosed in the Registration Statement, the General Disclosure Package and the Prospectus and Section 1(h) hereof, the Company does not own, directly or indirectly, any capital stock or other equity securities of any other corporation or any ownership interest in any partnership, joint venture or other association.

(h) Organization and Good Standing of the Subsidiary. The Subsidiary has been duly incorporated and is validly existing as a corporation in good standing under the laws of the State of Delaware, with all requisite power and authority to own, lease and operate its properties and to conduct its business as described in the Registration Statement, the General Disclosure Package

and the Prospectus; the Subsidiary is duly qualified as a foreign corporation to transact business or licensed and is in good standing in each jurisdiction in which the conduct or nature of its business requires such qualification or license except to the extent that any failure to be so duly qualified or in good standing could not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect.

(i) Distribution of Offering Materials. The Company has not distributed and will not distribute, prior to the later of (i) the expiration or termination of the option granted to the several Underwriters pursuant to Section 2(c) hereof and (ii) the completion of the Underwriters' distribution of the Offered Shares, any offering material in connection with the offer and sale of the Offered Shares other than the Registration Statement, the General Disclosure Package, any Issuer Free Writing Prospectus and the Prospectus.

(j) Compliance with Laws. The Company and the Subsidiary are in compliance in all material respects with all applicable laws, rules, regulations, orders, decrees and judgments, including those relating to transactions with affiliates.

(k) Non-Contravention of Existing Instruments. The Company is not in violation of its Articles of Incorporation, as amended or restated (the "Articles of Incorporation"), or its Bylaws (the "Bylaws" and, together with the Articles of Incorporation, the "Organizational Documents"); and the Subsidiary is not in violation of its organizational documents. Neither the Company nor the Subsidiary is in breach of or default in (nor has any event occurred that with notice, lapse of time, or both would constitute a breach of, or default in) the performance or observance of any obligation, agreement, contract, franchise, covenant or condition contained in any license, indenture, mortgage, deed of trust, loan or credit agreement, lease or other agreement or instrument to which the Company or the Subsidiary is a party or by which any of them or their respective properties is bound, except to the extent that any such breach or default could not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect.

(l) No Conflicts. The execution, delivery and performance of this Agreement, the issuance, sale and delivery by the Company of the Offered Shares and the consummation of the transactions contemplated by this Agreement and the General Disclosure Package and the Prospectus (including the issuance and sale of the Offered Shares and the use of the proceeds from the sale of the Offered Shares as described therein under the caption "Use of Proceeds") will not, (A) conflict with, or result in any breach or constitute a default (nor constitute any event which with notice, lapse of time, or both would constitute a breach or default) (i) by the Company of any provision of the Organizational Documents, by the Subsidiary of any provision of its organizational documents, (ii) of any provision of any obligation, agreement, contract, franchise, license, indenture, mortgage, deed of trust, loan or credit agreement, lease or other agreement or instrument to which the Company or the Subsidiary is a party or by which any of them or their respective properties may be bound or affected, or (iii) under any federal, state, local or foreign law, regulation or rule or any decree, judgment or order applicable to the Company or the Subsidiary, except that with respect to the preceding clause (ii), such conflict or breach could not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect; or (B) result in the creation or imposition of any lien, charge, claim or encumbrance upon any property or asset of the Company or the Subsidiary, except where such

creation or imposition could not reasonably be expected to have, individually or in the aggregate, a Material Adverse Effect.

(m) Due Authorization. The Company has the full legal right, corporate power and authority to enter into this Agreement and to consummate the transactions contemplated herein and by the General Disclosure Package and the Prospectus; the Company has the corporate power to issue, sell and deliver the Offered Shares as provided herein; this Agreement (assuming the due authorization, execution and delivery of this Agreement by the Representative) has been duly authorized, executed and delivered by the Company and is a legal, valid and binding agreement of the Company enforceable in accordance with its terms, except to the extent as may be limited by bankruptcy, insolvency, reorganization, moratorium or similar laws affecting creditors' rights generally, and by general principles of equity, and except to the extent that the indemnification and contribution provisions in this Agreement may be limited by federal or state securities laws and public policy considerations in respect thereof.

(n) No Consents Required. No approval, authorization, consent or order of, or registration or filing with any federal, state or local governmental or regulatory commission, board, body, authority or agency is required for the Company's execution, delivery and performance of this Agreement, the consummation of the transactions contemplated herein and by the General Disclosure Package and the Prospectus, including the sale and delivery of the Offered Shares, other than (i) such as have been obtained, or will have been obtained before the First Closing Date or each applicable Option Closing Date, as the case may be, under the Securities Act and the Exchange Act, (ii) any necessary qualification under the securities or blue sky laws of the various jurisdictions in which the Offered Shares are being offered by the Underwriters or (iii) such approvals as may be required under the rules of the NASDAQ Stock Market LLC or the rules of the Financial Industry Regulatory Authority, Inc. ("FINRA").

(o) Licenses and Permits. Each of the Company and the Subsidiary has all necessary licenses, permits, patents, franchises, authorizations, consents and approvals, valid and current certificates (the "Permits"), has made all necessary filings required under any federal, state or local law, regulation or rule, and has obtained all necessary authorizations, consents and approvals from any regulatory body, required in order to conduct their respective businesses now operated by them as described in the Registration Statement, the General Disclosure Package and the Prospectus, including, without limitation, any Investigational New Drug Application (an "IND"), New Drug Application (an "NDA"), Abbreviated New Drug Application (an "ANDA"), Biologics License Application (a "BLA"), Investigational Device Exemption (an "IDE"), 510(k) premarket notification, and Premarket Approval Application (a "PMA") as required by the United States Food and Drug Administration (the "FDA"), or any other certificates, authorizations and permits required by federal, state, local or foreign agencies or bodies engaged in the regulation of pharmaceuticals, biological products and medical devices such as those being developed and sold by the Company and the Subsidiary (collectively, the "Regulatory Permits"), except for any of the foregoing that would not, individually or in the aggregate, have a Material Adverse Effect and, with respect to the Regulatory Permits, except as set forth in the Registration Statement, the General Disclosure Package and the Prospectus; neither the Company nor the Subsidiary is in violation of, in default under, or has received any notice regarding a possible violation, default or revocation of any such Permit or any federal, state, local or foreign law, regulation or rule or any decree, order or judgment applicable to the Company or the Subsidiary

the effect of which could result in a Material Adverse Effect; and no such Permit contains a materially burdensome restriction that is not adequately disclosed in the Registration Statement, the General Disclosure Package and the Prospectus.

(p) No Material Actions or Proceedings. There are no actions, suits, proceedings, inquiries or investigations pending or, to the knowledge of the Company, threatened (i) against or affecting the Company or the Subsidiary, or (ii) which has the subject thereof any of the respective officers and directors of the Company or any officers, directors or managers of the Subsidiary, or to which the properties, assets or rights of any such entity are subject, at law or in equity, before or by any federal, state, local or foreign governmental or regulatory commission, board, body, authority, arbitral panel or agency, or (iii) relating to environmental or discrimination matters, where in any such case (A) there is a reasonable possibility that such action, suit or proceeding might be determined adversely to the Company or the Subsidiary and (B) if so determined adversely, could result in a judgment, decree, award or order having a Material Adverse Effect or could adversely affect the consummation of the transactions contemplated by this Agreement.

(q) Financial Statements. The financial statements, including the notes thereto, 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 the consolidated financial position of the Company and its consolidated subsidiary as of the dates indicated and the consolidated results of operations and changes in financial position and cash flows of the Company and its consolidated subsidiary for the periods specified; such financial statements have been prepared in conformity with generally accepted accounting principles as applied in the United States (“GAAP”) and on a consistent basis during the periods involved, except in the case of unaudited, interim financial statements, subject to normal year-end audit adjustments and the exclusion of certain footnotes, and in accordance with Regulation S-X promulgated by the Commission; the other financial data included or incorporated by reference in the Registration Statement, the General Disclosure Package and the Prospectus fairly present the information shown therein and have been compiled on a basis consistent with the financial statements included or incorporated by reference in the Registration Statement, the General Disclosure Package and the Prospectus; no other financial statements are required to be included or incorporated by reference in the Registration Statement, the General Disclosure Package and the Prospectus; no pro forma financial information is required to be included or incorporated by reference in the Registration Statement, the General Disclosure Package and the Prospectus. The interactive data in eXtensible Business Reporting Language included or incorporated by reference in the Registration Statement, the General Disclosure Package and the Prospectus fairly presents the information called for and has been prepared in accordance with the Commission’s rules and guidelines applicable thereto.

(r) Independent Accountants. (i) Lurie, LLP, who have certified the consolidated financial statements of the Company and its consolidated subsidiary included or incorporated by reference in the Registration Statement, the General Disclosure Package and the Prospectus are, and were during the periods covered by its reports, an independent registered public accounting firm with respect to the Company as required by the Securities Act, the Exchange Act and the Public Company Accounting Oversight Board (United States); and (ii) to the Company’s

knowledge, Lurie, LLP is not in violation of the auditor independence requirements of the Sarbanes-Oxley Act of 2002, as amended, and the rules and regulations promulgated by the Commission thereunder (the “Sarbanes-Oxley Act”).

(s) 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, and except as otherwise disclosed in the Registration Statement, the General Disclosure Package and the Prospectus, (i) there has not been any change in the capital stock or long-term debt of the Company or the Subsidiary, 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 assets, business, properties, management, financial position, stockholders’ equity, results of operations or prospects of the Company and the Subsidiary taken as a whole (any such change is called a “Material Adverse Change”); (ii) neither the Company nor the Subsidiary has entered into any transaction or agreement that is material to the Company and the Subsidiary taken as a whole or incurred any liability or obligation, direct or contingent, that is material to the Company and the Subsidiary taken as a whole; and (iii) neither the Company nor the Subsidiary has sustained any material loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor disturbance or dispute or any action, order or decree of any court or arbitrator or governmental or regulatory authority.

(t) No Applicable Registration or Other Similar Rights. There are no contracts, agreements or understandings between the Company and any person granting such person registration or other similar rights to have any equity or debt securities, including securities that are convertible into or exchangeable for equity securities, registered pursuant to the Registration Statement or otherwise registered by the Company under the Securities Act, except for those rights as set forth in the Registration Statement, the General Disclosure Package and the Prospectus and which have been duly waived; no person has a right of participation or first refusal with respect to the sale of the Offered Shares by the Company.

(u) Authorization of the Offered Shares to be Issued and Sold by the Company. The issuance and sale of the Offered Shares to the Underwriters hereunder have been duly authorized by the Company, and, when issued and duly delivered against payment therefor as contemplated by this Agreement, will be validly issued, fully paid and nonassessable, free and clear of any pledge, lien, encumbrance, security interest or other claim, and the issuance and sale of the Offered Shares by the Company is not subject to preemptive or other similar rights arising by operation of law, under the Organizational Documents of the Company or under any agreement to which the Company or the Subsidiary is a party.

(v) Stock Exchange Listing. The Common Stock is registered pursuant to Section 12(b) of the Exchange Act and are listed on the NASDAQ Capital Market (the “NASDAQ”). The Company has taken no action designed to, or likely to have the effect of, terminating the registration of the Common Stock under the Exchange Act or delisting the Common Stock from the NASDAQ, nor has the Company received any notification that the Commission or the NASDAQ is contemplating terminating such registration or listing. To the

Company's knowledge, it is in compliance with all applicable listing requirements of the NASDAQ.

(w) No Price Stabilization or Manipulation. Neither the Company nor, to the Company's knowledge, any affiliate of the Company, has taken, nor will the Company or the Subsidiary take, directly or indirectly, any action that is designed to or that has constituted or that might reasonably be expected to cause or result in stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Offered Shares or to result in a violation of Regulation M under the Exchange Act.

(x) No Reliance on Representative. The Company has not relied upon the Representative or legal counsel for the Underwriters for any legal, tax or accounting advice in connection with the offering and sale of the Offered Shares.

(y) No Proceedings. Other than as set forth in the Registration Statement, the General Disclosure Package and the Prospectus, there are no legal or governmental proceedings pending to which the Company or the Subsidiary is a party or of which any property of the Company or the Subsidiary is the subject which, if determined adversely to the Company or the Subsidiary, would reasonably be expected to, individually or in the aggregate, have a Material Adverse Effect; and, to the Company's knowledge, no such proceedings are threatened or contemplated by governmental authorities or threatened by others. There are no current or pending legal, governmental or regulatory actions, suits or proceedings that are required to be described in the Registration Statement, the General Disclosure Package and the Prospectus that have not been so described.

(z) Descriptions of Documents. The descriptions in the Registration Statement, the General Disclosure Package and the Prospectus of legal or governmental proceedings, statutes, regulations, contracts, leases and other legal documents are accurate and present fairly the information required to be shown, and there are no legal or governmental proceedings, statutes, regulations, contracts, leases, or other documents of a character required to be described in the Registration Statement, the General Disclosure Package or the Prospectus or to be filed as exhibits to the Registration Statement that are not described or filed as required; all agreements between the Company or the Subsidiary and third parties expressly referenced in the Registration Statement, the General Disclosure Package and the Prospectus are legal, valid and binding obligations of the Company or the Subsidiary, enforceable against the Company or the Subsidiary in accordance with their respective terms, except to the extent as may be limited by bankruptcy, insolvency, reorganization, moratorium or similar laws affecting creditors' rights generally, and by general principles of equity.

(aa) Intellectual Property Rights. The Company and the Subsidiary own or possesses adequate and sufficient licenses or other rights to use all patents, trademarks, service marks, trade names, copyrights, domain names, software and design licenses, approvals, trade secrets, manufacturing processes, other intangible property rights and know-how (collectively, "Intellectual Property Rights") necessary to entitle each of the Company and the Subsidiary to conduct its business as described in the Registration Statement, the General Disclosure Package and the Prospectus and the expected expiration of any of such Intellectual Property Rights would not result in a Material Adverse Effect; neither the Company nor the Subsidiary has received

notice of infringement of or conflict with (and the Company knows of no such infringement of or conflict with) asserted rights of others with respect to any Intellectual Property Rights; neither the Company nor the Subsidiary is 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 set forth in the Registration Statement, the General Disclosure Package and the Prospectus and are not described therein in all material respects; none of the technology employed by the Company or the Subsidiary has been obtained or is being used by the Company or the Subsidiary in violation of any contractual obligation binding on the Company or the Subsidiary or, to the Company's knowledge, any of the officers, managers, directors or employees of the Company or the Subsidiary, or otherwise in violation of the rights of any persons.

(bb) Regulatory Compliance. The Company has operated and currently is in compliance with the FDC Act, all applicable rules and regulations of the FDA and other federal, state, local and foreign governmental bodies exercising comparable authority, except where the failure to so operate or be in compliance would not have a Material Adverse Effect. The clinical studies conducted by or on behalf of the Company that are described in the Registration Statement, the General Disclosure Package and the Prospectus were, and, if still pending, are being, conducted in accordance with the protocols submitted to the FDA and all applicable laws and regulations; preclinical studies conducted by or on behalf of the Company or the Subsidiary that are described in the Registration Statement, the General Disclosure Package and the Prospectus were, and, if still pending, are being, conducted in accordance with experimental protocols, procedures and controls; the descriptions of the tests and preclinical and clinical studies, and results thereof, conducted by or on behalf of the Company contained in the Registration Statement, the General Disclosure Package and the Prospectus are accurate and complete in all material respects; and the Company is not aware of any other trials or studies, the results of which call into question the results described or referred to in the Registration Statement, the General Disclosure Package and the Prospectus; and the Company has not received any notice or correspondence from the FDA or any foreign, state or local governmental body exercising comparable authority requiring the termination, suspension, or clinical hold of any preclinical or clinical studies with respect to product candidates currently under development, or such notice or correspondence from any Institutional Review Board or comparable authority requiring the termination or suspension of a clinical study, conducted by or on behalf of the Company, which termination, suspension, or clinical hold would have a Material Adverse Effect. None of the Company, the Subsidiary, or their respective business operations, is in violation of any Health Care Laws, except as would not reasonably be expected to result in a Material Adverse Effect. For purposes of this Agreement, "Health Care Laws" means (i) the Health Insurance Portability and Accountability Act of 1996 (Pub. L. No. 104-191) and the Health Information Technology for Economic and Clinical Health Act of 2009, and the regulations promulgated thereunder and comparable state privacy and security laws, (ii) the federal Food, Drug, and Cosmetic Act (21 U.S.C. § 301 et seq.) (the "FDC Act") and the regulations promulgated pursuant thereto; (iii) the Clinical Laboratory Improvement Amendments of 1988 (Pub. L. No. 100-578) and the regulations promulgated pursuant thereto; (iv) quality, safety and accreditation standards and requirements of all applicable state laws or regulatory bodies; and (v) any and all other applicable health care laws, regulations, manual provisions, policies and administrative guidance, each of (i) through (v) as may be amended from time to time. The Company has not received written notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from any governmental authority



alleging that any product, operation or activity is in material violation of any applicable Health Care Law or Permit and has no knowledge that any such governmental authority is considering any such claim, litigation, arbitration, action, suit, investigation or proceeding; and the Company has not received notice, either verbally or in writing, that any governmental authority has taken, is taking or intends to take action to limit, suspend, modify or revoke any material Permits and has no knowledge that any such governmental authority is considering such action. Without limiting the foregoing, the Company and the Subsidiary are in material compliance with the provisions of the FDC Act relating to medical devices. Each device that the Company manufactures, causes to be manufactured and distributes or causes to be distributed for sale (the “Company Devices”) is the subject of a 510(k) premarket notification which resulted in a finding of substantial equivalence by FDA or such device qualifies for exemption from 510(k) premarket notification requirements or is subject to a PMA by the FDA. None of the Company Devices found substantially equivalent by the FDA have been modified in such a manner as to require the submission of a new 510(k) premarket notification. The Company believes that none of the Company Devices have been labeled or promoted in such a manner as to require the submission of a new 510(k) notification or a new PMA. All the Company Devices being commercialized are listed with the FDA and have been manufactured in a facility registered by the Company with FDA. The Company has obtained the necessary regulatory approvals for its manufacturing facility, and the facility currently has no outstanding adverse inspections or audits. All Company Devices manufactured by the Company or which the Company causes to be manufactured by third parties are manufactured in accordance with applicable Quality Systems Regulations, 21 C.F.R. Part 820. The Company believes it has submitted all reports necessary to be submitted in accordance with the Medical Device Reporting regulations, 21 C.F.R. Part 803. The Company has labeled and promoted the Company Devices in accordance with the provisions of the FDC Act and FDA’s implementing regulations. The Company Devices are not misbranded, adulterated, or otherwise in material violation of the FDC Act or FDA’s regulations, or rule governing the current business of the Company or the Subsidiary.

(cc) Title to Properties. Neither the Company nor the Subsidiary owns any real property, and the Company and the Subsidiary have good and marketable title to all properties and assets reflected as owned in the financial statements referred to in Section 1(q) above (or elsewhere in the Registration Statement, the General Disclosure Package and the Prospectus), in each case free and clear of any material security interests, mortgages, pledges, liens, encumbrances, equities, claims, and other defects or restrictions of any kind, except as described in the Registration Statement, the General Disclosure Package and the Prospectus. The real property, equipment and personal property held under lease by the Company or the Subsidiary are held under valid and enforceable leases, with such exceptions as are not material and do not materially interfere with the use made or proposed to be made of such real property, improvements, equipment, or personal property by the Company or the Subsidiary.

(dd) Disclosure Controls. The Company and the Subsidiary maintain an effective system of “disclosure controls and procedures” (as defined in Rule 13a-15(e) of the Exchange Act) 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, including the Company’s Chief Executive

Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

(ee) Audit Committee. The Company's Board of Directors has validly appointed an audit committee whose composition satisfies the requirements of Rule 5605(c) of the Rules of NASDAQ and Section 10A-3 of the Exchange Act and the Board of Directors and/or the audit committee has adopted a charter that satisfies the requirements of Rule 5605(c) of the Rules of NASDAQ and Section 10A-3 of the Exchange Act. The audit committee has reviewed the adequacy of its charter within the past twelve months.

(ff) Accounting Controls. The Company and the Subsidiary maintain a system 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 GAAP and includes those policies and procedures that (i) pertain to the maintenance of records that in reasonable detail accurately and fairly reflect the transactions and dispositions of the assets of the Company and the Subsidiary; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP, and that receipts and expenditures of the Company are being made only in accordance with authorizations of management and directors of the Company and the Subsidiary; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the assets of the Company and the Subsidiary that could have a material effect on the financial statements. 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, and the Company's auditors and the Audit Committee of the Board of Directors of the Company are not aware of: (i) any significant deficiencies and material weaknesses in the design or operation of internal controls over financial reporting which are reasonably likely to adversely affect the Company's ability to record, process, summarize and report financial information; or (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. Since the date of the latest audited financial statements of the Company included in the Registration Statement, the General Disclosure Package and the Prospectus, there has been no change in the Company's internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting (other than as set forth in the Registration Statement, General Disclosure Package and the Prospectus).

(gg) Off Balance Sheet Transactions. Except as described in the General Disclosure Package and the Prospectus, there are no material off-balance sheet transactions, arrangements, obligations (including contingent obligations), or any other relationships with unconsolidated entities or other persons, that may have a material current or future effect on the Company's financial condition, changes in financial condition, results of operations, liquidity, capital expenditures, capital resources, or significant components of revenues or expenses.

(hh) Tax Law Compliance. Each of the Company and the Subsidiary (i) has filed on a timely basis all material federal, state, local and foreign income and franchise tax returns required to be filed through the date hereof or have properly requested extensions thereof, and (ii) has paid all material federal, state, local and foreign taxes due and payable; no material tax deficiency has been asserted against the Company or the Subsidiary, nor does the Company or the Subsidiary know of any material tax deficiency that is likely to be asserted against any such entity; all tax liabilities are adequately provided for on the respective books of such entities.

(ii) No Transfer Taxes or Other Fees. There are no transfer taxes or other similar fees or charges under federal law or the applicable laws of any state, or any political subdivision thereof, required to be paid in connection with the execution and delivery of this Agreement or the issuance and sale by the Company of the Offered Shares.

(jj) Insurance. Each of the Company and the Subsidiary maintains insurance, issued by insurers of recognized financial responsibility, of the types and with policies in such amounts and with such deductibles and covering such risks as are generally deemed adequate for their respective businesses and consistent with insurance coverage maintained by similar companies in similar businesses, including, but not limited to, insurance covering real and personal property against theft, damage, destruction, environmental liabilities, acts of vandalism, terrorism, earthquakes, floods and all other risks customarily insured against, all of which insurance is in full force and effect; the Company has no reason to believe that it or the Subsidiary will not be able (i) to renew its existing insurance coverage as and when such policies expire or (ii) to obtain comparable coverage from similar institutions as may be necessary or appropriate to conduct its business as now conducted and at a cost that would not result in a Material Adverse Effect.

(kk) Compliance with Environmental Laws. Each of the Company and the Subsidiary (i) is in compliance with any and all applicable federal, state, local and foreign laws, rules, regulations, decisions and orders relating to the protection of human health and safety, the environment or hazardous or toxic substances or wastes, pollutants or contaminants (collectively, "Environmental Laws"); (ii) has received and is in material compliance with all Permits required of it under applicable Environmental Laws to conduct its business; (iii) has not received notice of any actual or potential liability for the investigation or remediation of any disposal or release of hazardous or toxic substances or wastes, pollutants or contaminants, except in any such case for any such failure to comply, failure to receive required Permits or liability as would not, individually or in the aggregate, result in a Material Adverse Effect; and (iv) to the knowledge of the Company, there are no events or circumstances existing as of the date hereof that would reasonably be expected to form the basis of an order for clean-up or remediation, or an action, suit or proceeding by any private party or governmental entity, against or affecting the Company or the Subsidiary relating to hazardous or toxic substances or wastes, pollutants or contaminants or any Environmental Laws.

(ll) Labor and Employment Matters. Neither the Company nor the Subsidiary is in violation of or has received notice of any violation with respect to any federal or state law relating to discrimination in the hiring, termination, promotion, terms or conditions of employment or pay of employees, nor any applicable federal or state wages and hours law, the violation of which could have a Material Adverse Effect.

(mm) ERISA Compliance. The Company, the Subsidiary and their “ERISA Affiliates” (as defined below) and any “employee benefit plan” (as defined under the Employee Retirement Income Security Act of 1974, as amended, and the regulations and published interpretations thereunder (collectively, “ERISA”)) established or maintained by the Company, the Subsidiary or their ERISA Affiliates or to which the Company, the Subsidiary or their ERISA Affiliates contribute or are required to contribute are in compliance in all material respects with ERISA and the Internal Revenue Code of 1986, as amended, and the rules and regulations promulgated thereunder and the corresponding provisions of applicable state income tax codes (the “Code”); “ERISA Affiliate” means any trade or business, whether or not incorporated, which with the Company or a Subsidiary is treated as a single employer under Section 414(b), (c), (m) or (o) of the Code; no such employee benefit plan is subject to Section 412 of the Code, Section 302 of ERISA or Title IV of ERISA; there has been no non-exempt “prohibited transaction” (as defined in Section 4975 of the Code or Section 406 or 407 of ERISA) for which the Company, the Subsidiary or their ERISA Affiliates have any liability; each such employee benefit plan that is intended to be qualified under Section 401(a) of the Code is so qualified and, to the knowledge of the Company, nothing has occurred, whether by action or failure to act, which would cause the loss of such qualification.

(nn) No Unlawful Contributions or Other Payments. Neither the Company nor the Subsidiary nor, to the knowledge of the Company, any officer, director, manager or trustee purporting to act on behalf of the Company or the Subsidiary has at any time (i) made any contributions to any candidate for political office, or failed to disclose fully any such contributions, in violation of law, (ii) made any payment to any state, federal or foreign governmental officer or official, or other person charged with similar public or quasi-public duties, other than payments required or allowed by applicable law, (iii) made any payment outside the ordinary course of business to any investment officer or loan broker or person charged with similar duties of any entity to which the Company or the Subsidiary sells or from which the Company or the Subsidiary buys loans or servicing arrangements for the purpose of influencing such agent, officer, broker or person to buy loans or servicing arrangements from or sell loans to the Company or the Subsidiary in violation of law, or (iv) engaged in any transactions, maintained any bank account or used any corporate funds except for transactions, bank accounts and funds that have been and are reflected in the normally maintained books and records of the Company and the Subsidiary.

(oo) No Indebtedness to Officers. There are no outstanding loans or advances or guarantees of indebtedness by the Company or the Subsidiary to or for the benefit of any of the officers, directors, managers or trustees of the Company or the Subsidiary or any of the members of the immediate families of any of them.

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

(qq) Compliance with FCPA. Neither the Company nor the Subsidiary nor, to the knowledge of the Company, any director, officer, agent, employee or affiliate of the Company or

the Subsidiary is aware of or has taken any action, directly or indirectly, that would result in a violation by such persons of the Foreign Corrupt Practices Act of 1977, as amended, and the rules and regulations thereunder (“FCPA”), including, without limitation, making use of the mails or any means or instrumentality of interstate commerce corruptly in furtherance of an offer, payment, promise to pay or authorization of the payment of any money, or other property, gift, promise to give, or authorization of the giving of anything of value to any “foreign official” (as such term is defined in the FCPA) or any foreign political party or official thereof or any candidate for foreign political office, in contravention of the FCPA and the Company, the Subsidiary and, to the knowledge of the Company, its affiliates have conducted their businesses in compliance with the FCPA and have instituted and maintain policies and procedures designed to ensure, and which are reasonably expected to continue to ensure, continued compliance therewith.

(rr) Compliance with Money Laundering Laws. The operations of the Company and the Subsidiary are and have been conducted at all times in compliance with applicable financial recordkeeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the money laundering statutes of all applicable jurisdictions, the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any applicable governmental agency (collectively, the “Money Laundering Laws”); and no action, suit or proceeding by or before any court or governmental agency, authority or body or any arbitrator involving the Company or the Subsidiary with respect to the Money Laundering Laws is pending or, to the knowledge of the Company, threatened.

(ss) Compliance with OFAC. Neither the Company nor the Subsidiary nor, to the knowledge of the Company, any director, officer, agent, employee, affiliate or other person acting on behalf of the Company or the Subsidiary is currently the subject or target of any U.S. sanctions administered by the Office of Foreign Assets Control of the U.S. Treasury Department (“OFAC”), the United Nations Security Council (“UNSC”), the European Union, Her Majesty’s Treasury (“HMT”), or other relevant sanctions authority (collectively, “Sanctions”); nor is the Company located, organized or resident in a country or territory that is the subject of Sanctions; and the Company will not directly or indirectly use the proceeds of the offering, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other person or entity, for the purpose of financing any activities of or the business of any person, or in any country or territory, that, at the time of such funding, is the subject of Sanctions or in any other manner that will result in violation by any person (including any person participating in the transaction, whether as underwriter, advisor, investor or otherwise) of Sanctions.

(tt) No Unlawful Payment or Receipt of Funds. Neither the Company nor the Subsidiary nor, to the knowledge of the Company, any employee or agent of the Company or the Subsidiary, has made any payment of funds of the Company or of the Subsidiary or received or retained any funds in violation of any law, rule or regulation or of a character required to be disclosed in the Registration Statement, the General Disclosure Package and the Prospectus.

(uu) Restrictions Upon Business. Except as set forth in the Registration Statement, the General Disclosure Package and the Prospectus, neither the Company nor the Subsidiary has granted rights to develop, manufacture, produce, assemble, distribute, license, market or sell its

products or any product candidates to any other person, and neither the Company nor the Subsidiary is bound by any agreement that affects the Company's or the Subsidiary's exclusive right to develop, manufacture, produce, assemble, distribute, license, market or sell its products or any product candidates.

(vv) Lending Relationship. Except as disclosed in the Registration Statement, the General Disclosure Package and the Prospectus, the Company (i) does not have any material lending or other relationship with any bank or lending affiliate of any Underwriter and (ii) does not intend to use any of the proceeds from the offering to repay any outstanding debt owed to any affiliate of any Underwriter.

(ww) No Broker's Fees. Except as disclosed in the Registration Statement, the General Disclosure Package and the Prospectus, the Company has not incurred any liability for any broker's or finder's fees or similar payments in connection with the transactions herein contemplated.

(xx) Related Party Transactions. No business relationship, direct or indirect, exists between or among the Company or the Subsidiary on the one hand, and the directors, officers, managers or shareholders of the Company or the Subsidiary on the other hand, that is required by the Securities Act to be described in the Registration Statement, the General Disclosure Package and the Prospectus that is not so described.

(yy) Independent Directors. The Board of Directors of the Company has determined that each of the directors of the Company described as an "Independent Director" in the Registration Statement, the General Disclosure Package and the Prospectus is "independent" in accordance with NASDAQ Listing Rule 5605(a)(2).

(zz) Company Not an "Investment Company". Neither the Company nor the Subsidiary is, nor will the receipt of payment for the Offered Shares and application of the net proceeds from the Offered Shares as described in the Registration Statement, the General Disclosure Package and the Prospectus result in the Company or the Subsidiary becoming, required to register as an "investment company," as such term is defined in the Investment Company Act of 1940, as amended (the "Investment Company Act").

(aaa) Statistical and Market Data. The statistical and market-related data included or incorporated by reference in the Registration Statement, the General Disclosure Package and the Prospectus are based on or derived from sources the Company believes to be reliable and accurate and, to the extent required, the Company has obtained written consent to the use of such data from such sources.

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

(ccc) No Prohibition on Subsidiary from Paying Dividends or Making Other Distributions. The Subsidiary is currently not prohibited, directly or indirectly, from paying any

dividends to the Company, from making any other distribution on the Subsidiary's capital stock or other equity interests, from repaying to the Company any loans or advances to the Subsidiary from the Company or, except as described in the Registration Statement, the General Disclosure Package and the Prospectus, from transferring any of the Subsidiary's property or assets to the Company.

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

(eee) Officer's Certificate. Any certificate signed by any officer of the Company or the Subsidiary delivered to the Representative or to legal counsel for the Underwriters pursuant to Section 4 of this Agreement shall be deemed a representation and warranty by the Company to each Underwriter as to the matters covered thereby.

(fff) FINRA. All of the information provided to the Underwriters or to counsel for the Underwriters by the Company, its officers and directors and, to the Company's knowledge, the holders of any securities (debt or equity) or options to acquire any securities of the Company in connection with letters, filings or other supplemental information provided to FINRA pursuant to FINRA Rule 5110 or 5121, is true, complete and correct. Neither the Company nor, to the Company's knowledge, any of its affiliates (within the meaning of the 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(ff) of the By-laws of FINRA) of, any member of FINRA. To the Company's knowledge, there are no affiliations with FINRA among the Company's officers or directors.

(ggg) Anti-Takeover Provisions. The Company and its board of directors have taken all necessary action, if any, in order to render inapplicable any control share acquisition, business combination, poison pill (including any distribution under a rights agreement) or other similar anti-takeover provision under the Company's charter documents or the laws of its state of incorporation that is or could reasonably be expected to become applicable to the Underwriters as a result of the Underwriters and the Company fulfilling their respective obligations or exercising their respective rights under this Agreement, including, without limitation, the Company's issuance of the Offered Shares and the Underwriters' ownership of the Offered Shares.

## **Section 2. Purchase, Sale and Delivery of the Offered Shares .**

(a) The Offered Shares. On the basis of the representations, warranties, and agreements herein contained, and upon the terms but subject to the conditions herein set forth, the Company agrees to issue and sell to the several Underwriters an aggregate of 2,333,334 Firm Offered Shares, and the Underwriters agree, severally and not jointly, to purchase from the Company the respective number of Firm Offered Shares set forth opposite their names on Schedule A attached hereto. The purchase price per Firm Offered Share to be paid by the several Underwriters to the Company shall be \$7.05 (the "Purchase Price").

(b) The First Closing Date. Delivery of certificates for the Firm Offered Shares to be purchased by the Underwriters and payment therefor shall be made at the offices of Orrick, Herrington & Sutcliffe LLP, located at 405 Howard Street, San Francisco, California 94105 (or such other place as may be agreed to by the Company and the Representative) at 10:00 a.m. New York City time, on October 13, 2016, or such other time and date (not to exceed seven days from October 13, 2016) as the Representative shall designate by notice to the Company (the time and date of such closing are called the “First Closing Date”). The Company hereby acknowledges that circumstances under which the Representative may provide notice to postpone the First Closing Date as originally scheduled include, but are in no way limited to, any determination by the Company or the Representative to recirculate to the public copies of an amended or supplemented Prospectus or a delay as contemplated by the provisions of Section 10 hereof.

(c) The Optional Offered Shares; Option Closing Date. In addition, on the basis of the representations, warranties, and agreements herein contained, and upon the terms but subject to the conditions herein set forth, the Company hereby grants an option to the several Underwriters to purchase, severally and not jointly, up to an aggregate of 350,000 Optional Offered Shares from the Company at the purchase price per share to be paid by the Underwriters for the Firm Offered Shares. The option granted hereunder may be exercised at any time and from time to time in whole or in part upon notice by the Representative to the Company, which notice may be given at any time within thirty (30) days from the date of this Agreement. Such notice shall set forth (i) the aggregate number of Optional Offered Shares as to which the Underwriters are exercising the option, and (ii) the time, date, and place at which certificates for such Optional Offered Shares will be delivered (which time and date may be simultaneous with, but not earlier than, the First Closing Date, and in such case the term “First Closing Date” shall refer to the time and date of delivery of certificates for the Firm Offered Shares and such Optional Offered Shares). Such time and date of delivery of such Optional Offered Shares, if subsequent to the First Closing Date, is called an “Option Closing Date,” and shall be determined by the Representative and shall not be earlier than three (3) nor later than five (5) full business days after delivery of such notice of exercise. If any Optional Offered Shares are to be purchased, (a) each Underwriter agrees, severally and not jointly, to purchase the number of Optional Offered Shares (subject to such adjustments to eliminate fractional shares as the Representative may determine) that bears the same proportion to the total number of Optional Offered Shares to be purchased as the number of Firm Offered Shares set forth on Schedule A attached hereto opposite the name of such Underwriter bears to the total number of Firm Offered Shares and (b) the Company agrees to sell the number of Optional Offered Shares set forth in the first paragraph of this Agreement (subject to such adjustments to eliminate fractional shares as the Representative may determine). The Representative may cancel the option at any time prior to its expiration by giving written notice of such cancellation to the Company.

(d) Public Offering of the Offered Shares. The Representative hereby advises the Company that the Underwriters intend to offer for sale to the public, as described in the Prospectus, their respective portions of the Offered Shares as soon after this Agreement has been executed as the Representative, in its sole judgment, has determined is advisable and practicable.

(e) Payment for the Offered Shares. Payment for the Offered Shares shall be made at the First Closing Date (and, if applicable, at each Option Closing Date) by wire transfer of immediately available funds to the order of the Company. It is understood that the



Representative has been authorized, for its own account and the accounts of the several Underwriters, to accept delivery of and receipt for, and make payment of the purchase price for, the Firm Offered Shares and any Optional Offered Shares that the Underwriters have agreed to purchase. JMP, individually and not as the Representative of the Underwriters, may (but shall not be obligated to) make payment for any Offered Shares to be purchased by any Underwriter whose funds shall not have been received by the Representative by the First Closing Date or the applicable Option Closing Date, as the case may be, for the account of such Underwriter, but any such payment shall not relieve such Underwriter from any of its obligations under this Agreement.

(f) Delivery of the Offered Shares. On the First Closing Date the Company shall deliver the Firm Offered Shares, which shall be registered in the name or names and shall be in such denominations as the Representative may request at least one (1) business day before the First Closing Date, to the Underwriters, which delivery shall be made through the facilities of the Depository Trust Company's DWAC system. On each Option Closing Date, if applicable, the Company shall deliver the Optional Offered Shares being issued, if any, which shall be registered in the name or names and shall be in such denominations as the Representative may request at least one (1) business day before such Option Closing Date, to the Underwriters, which delivery shall be made through the facilities of the Depository Trust Company's DWAC system.

### **Section 3. Covenants of the Company .**

The Company hereby covenants and agrees with each Underwriter as follows:

(a) Blue Sky Compliance. The Company shall cooperate with the Representative and legal counsel for the Underwriters and furnish such information as may be required to qualify or register the Offered Shares for sale under (or obtain exemptions from the application of) the state securities or blue sky laws or Canadian provincial securities laws or other foreign laws of those jurisdictions designated by the Representative, shall comply with such laws and shall continue such qualifications, registrations and exemptions in effect so long as required for the distribution of the Offered Shares, provided that the Company shall not be required to qualify as a foreign corporation or to take any action that would subject it to general service of process in any such jurisdiction where it is not presently qualified or where it would be subject to taxation as a foreign corporation; and that the Company shall use its reasonable best efforts to prevent the suspension of the qualification or registration of (or any such exemption relating to) the Offered Shares for offering, sale or trading in any jurisdiction and will advise the Representative promptly of such suspension or any initiation or threat of any proceeding for any such purpose; and that, in the event of the issuance of any order suspending such qualification, registration or exemption, the Company shall use its reasonable best efforts to obtain the withdrawal thereof at the earliest possible moment.

(b) Post-Effective Amendments. If, at the time this Agreement is executed and delivered, it is necessary for a post-effective amendment to the Registration Statement to be declared effective before the offering of the Offered Shares may commence, the Company will use its reasonable best efforts to cause such post-effective amendment to become effective as soon as possible.

(c) Required Filings. The Company will affect all filings required under Rule 424(b) with the Commission in the manner and within the time periods specified by Rule 424(b) (without reliance on Rule 424(b)(8)), and will use its reasonable efforts to confirm that the form of prospectus transmitted for filing by the Company under Rule 424(b) was received in a timely manner by the Commission and, in the event that it was not, it will promptly file such prospectus.

(d) Delivery of Copies. At the Representative's request, the Company has furnished or will deliver, without charge, (i) to the Representative, two signed copies of the Registration Statement as originally filed and each amendment thereto, in each case including all exhibits and consents filed therewith and documents incorporated by reference therein; and (ii) to each Underwriter (A) a conformed copy of the Registration Statement as originally filed and each amendment thereto (without exhibits), (B) as many copies of each Preliminary Prospectus and each Issuer Free Writing Prospectus as the Representative may reasonably request, and the Company hereby consents to the use of such copies for purposes permitted by the Securities Act, and (C) during the Prospectus Delivery Period (as defined below), as many copies of the Prospectus (including all amendments and supplements thereto and documents incorporated by reference therein) as the Representative may reasonably request. As used herein, the term "Prospectus Delivery Period" means such period of time after the first date of the public offering of the Offered Shares as in the opinion of counsel for the Underwriters a prospectus relating to the Offered Shares is required by law to be delivered (or required to be delivered but for Rule 172 under the Securities Act) in connection with sales of the Offered Shares by any Underwriter or dealer. The copies of the Registration Statement and the Prospectus and any amendments or supplements thereto furnished to the Underwriters will be identical to the electronically transmitted copies thereof filed with the Commission pursuant to EDGAR, except to the extent permitted by Regulation S-T.

(e) Notice to the Representative. After the date of this Agreement, the Company shall promptly advise the Representative in writing of (i) the receipt of any comments of, or requests for additional or supplemental information from, the Commission, (ii) the time and date of any filing of any post-effective amendment to the Registration Statement or any amendment or supplement to any Preliminary Prospectus, any Issuer Free Writing Prospectus or the Prospectus, (iii) the time and date that any post-effective amendment to the Registration Statement becomes effective, and (iv) the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto or of any order preventing or suspending the use of any Preliminary Prospectus, any Issuer Free Writing Prospectus or the Prospectus, or of any proceedings to remove, suspend, or terminate from listing or quotation the Common Stock from the NASDAQ, or the threatening or initiation of any proceedings for any of such purposes. If the Commission shall enter any such stop order at any time, the Company will use its reasonable best efforts to obtain the lifting of such order at the earliest possible moment.

(f) Ongoing Compliance. The Company will comply with the Securities Act so as to permit the completion of the distribution of the Offered Shares as contemplated in this Agreement and in the Registration Statement, the General Disclosure Package and the Prospectus. If during the Prospectus Delivery Period (i) any event shall occur or condition shall exist as a result of which the Registration Statement would include any untrue statement of a

material fact or omit to state any material fact required to be stated therein or necessary in order to make the statements therein not misleading, (ii) any event shall occur or condition shall exist as a result of which the General Disclosure Package or the Prospectus as then amended or supplemented would include any untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary in order to make the statements therein, in the light of the circumstances existing when the General Disclosure Package or the Prospectus, as the case may be, is delivered to a purchaser, not misleading or (iii) it is necessary to amend the Registration Statement or amend or supplement the General Disclosure Package or the Prospectus, as the case may be, to comply with law, the Company will immediately notify the Underwriters thereof and forthwith prepare and file with the Commission and furnish to the Underwriters and to such dealers as the Representative may designate, such amendments or supplements as may be necessary to correct such statement or omission or so that the Registration Statement, the General Disclosure Package or the Prospectus will comply with law.

(g) Amendments or Supplements. Before filing any amendment or supplement to the Registration Statement, any Preliminary Prospectus or the Prospectus, the Company will furnish to the Representative and counsel for the Underwriters a copy of the proposed amendment or supplement for review and will not file any such proposed amendment or supplement to which the Representative reasonably objects.

(h) Issuer Free Writing Prospectuses. The Company agrees that, unless it obtains the prior written consent of the Representative, it will not make any offer relating to the Offered Shares that would constitute an Issuer Free Writing Prospectus or that would otherwise constitute a “free writing prospectus,” or a portion thereof, required to be filed by the Company with the Commission or retained by the Company under Rule 433; provided that the Representative will be deemed to have consented to the Issuer Free Writing Prospectuses listed on Schedule B-2 attached hereto and any “road show that is a written communication” within the meaning of Rule 433(d)(8)(i) that has been reviewed by the Representative. The Company represents that it has treated or agrees that it will treat each such free writing prospectus consented to, or deemed consented to, by the Representative as an “issuer free writing prospectus,” as defined in Rule 433, and that it has complied and will comply with the applicable requirements of Rule 433 with respect thereto, including timely filing with the Commission where required, legending and record keeping. 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 would conflict with the information contained in the Registration Statement, any Preliminary Prospectus or the Prospectus or included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances existing at that subsequent time, not misleading, the Company will promptly notify the Representative and will promptly amend or supplement, at its own expense, such Issuer Free Writing Prospectus to eliminate or correct such conflict, untrue statement or omission.

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

(j) Earnings Statement. The Company will make generally available to its security holders and deliver to the Representative as soon as practicable an earnings statement complying with the provisions of Section 11(a) of the Securities Act and Rule 158 of the Commission promulgated thereunder covering a period of at least 12 months beginning with the first fiscal quarter of the Company commencing after the date of this Agreement.

(k) Exchange Listing. The Company will use its reasonable best efforts to maintain the listing of the Common Stock and to effect and maintain the listing of the Offered Shares on the NASDAQ.

(l) Transfer Agent. The Company shall engage and maintain, at its expense, a registrar and transfer agent for the Offered Shares.

(m) Agreement Not to Offer or Sell Additional Securities. For a period of 90 days after the date of the Prospectus (the "Lock-up Period"), the Company will not (i) offer, pledge, announce the intention to sell, 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 or any securities convertible into or exercisable or exchangeable for Common Stock 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 Common Stock, whether any such transaction described in clause (i) or (ii) above is to be settled by delivery of Common Stock or such other securities, in cash or otherwise, without the prior written consent of the Representative. The foregoing restriction shall not apply to (a) the Offered Shares to be sold hereunder; (b) shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock or other securities required to be issued pursuant to contractual obligations of the Company in effect as of the date of this Agreement; or (c) shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock issued pursuant to employee benefit or purchase plans in effect as of the date of this Agreement.

(n) No Stabilization. The Company will not, and will use its reasonable best efforts to cause its officers, directors, partners and affiliates, as applicable, not to, during the Prospectus Delivery Period, (i) take, directly or indirectly prior to termination of the underwriting syndicate contemplated by this Agreement, any action designed to stabilize or manipulate the price of any security of the Company, or which may cause or result in, or which might in the future reasonably be expected to cause or result in, the stabilization or manipulation of the price of any security of the Company, to facilitate the sale or resale of any of the Offered Shares, (ii) sell, bid for, purchase or pay anyone any compensation for soliciting purchases of the Offered Shares or (iii) pay or agree to pay to any person any compensation for soliciting any order to purchase any other securities of the Company.

(o) Periodic Reporting Obligations. During the Prospectus Delivery Period, the Company shall file, on a timely basis, with the Commission and the NASDAQ all reports and documents in the manner required by the Exchange Act and the Sarbanes-Oxley Act. The Company will give the Representative notice of its intention to make any such filing from the Time of Sale to the later of the First Closing Date and the expiration or termination of the option granted to the several Underwriters pursuant to Section 2(c) hereof.

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

(q) Taxes. The Company and the Subsidiary will during the Prospectus Delivery Period pay all federal, state, local and foreign taxes and will file all tax returns required to be paid or filed for the current and subsequent taxable years during the Prospectus Delivery Period.

#### **Section 4. Conditions of the Obligations of the Underwriters .**

The obligations of the several Underwriters to purchase and pay for the Offered Shares as provided herein on the First Closing Date and, with respect to the Optional Offered Shares, each Option Closing Date, shall be subject to the accuracy of the representations and warranties on the part of the Company set forth in Section 1 hereof as of the date hereof and as of the First Closing Date as though then made and, with respect to the Optional Offered Shares, as of each Option Closing Date as though then made, to the timely performance by the Company of its covenants and other obligations hereunder, and to each of the following additional conditions:

(a) Accountants' Original Comfort Letter. On the date hereof, the Representative shall have received from Lurie, LLP (the "Auditors"), independent registered public accounting firm for the Company, a letter dated the date hereof addressed to the Underwriters, in form and substance satisfactory to the Representative (the "Original Comfort Letter"), containing statements and information of the type customarily 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 and the General Disclosure Package.

(b) Accountants' Bring-down Comfort Letter. On each of the First Closing Date and each Option Closing Date, the Representative shall have received from the Auditors a letter dated such date addressed to the Underwriters, in form and substance satisfactory to the Representatives (the "Bring-down Comfort Letter"), which letter shall: (i) reaffirm the statements made in the letter furnished by them pursuant to Section 6(a), except that the specified date referred to therein for the carrying out of procedures shall be no more than three (3) business days prior to the First Closing Date or the applicable Option Closing Date, as the case may be; and (ii) cover certain financial information contained in the Prospectus.

(c) Compliance with Registration Requirements; No Stop Order; No Objection from FINRA. For the period from and after effectiveness of this Agreement and through and including the First Closing Date and, with respect to any Optional Offered Shares purchased after the First Closing Date, each Option Closing Date:

(i) the Company shall have filed the Prospectus with the Commission (including the information previously omitted from the Registration Statement pursuant to Rule 430B under the Securities Act) in the manner and within the time period required by Rule 424(b) under the Securities Act; or the Company shall have filed a post-effective amendment to the Registration Statement containing the information previously omitted

from the Registration Statement pursuant to Rule 430B, and such post-effective amendment shall have become effective;

(ii) no stop order suspending the effectiveness of the Registration Statement, any Rule 462(b) Registration Statement, or any post-effective amendment to the Registration Statement, shall be in effect and no proceedings for such purpose shall have been instituted or are pending, contemplated, or threatened by the Commission;

(iii) FINRA shall have raised no objection to the fairness and reasonableness of the underwriting terms and arrangements.

(d) No Material Adverse Change. For the period from and after the date of this Agreement and through and including the First Closing Date and, with respect to any Optional Offered Shares purchased after the First Closing Date, each Option Closing Date, in the judgment of the Representative there shall not have occurred any Material Adverse Change, or any development that could reasonably be expected to result in a Material Adverse Change, from that set forth in the Registration Statement, the General Disclosure Package or the Prospectus, which, in the sole judgment of the Representative, is material and adverse and that makes it, in the sole judgment of the Representative, impracticable or inadvisable to proceed with the public offering of the Offered Shares as contemplated by the Registration Statement, the General Disclosure Package and the Prospectus.

(e) Opinion of Counsel to the Company. On each of the First Closing Date and each Option Closing Date, the Representative shall have received the opinion of (i) DLA Piper LLP (US), counsel for the Company, addressed to the Underwriters and dated as of such date, in a form reasonably satisfactory to the Representative, and (ii) Saliwanchik, Lloyd & Eisenschenk, P.A., intellectual property counsel for the Company, addressed to the Underwriters and dated as of such date, in a form reasonably satisfactory to the Representative.

(f) Opinion of Counsel for the Underwriters. On each of the First Closing Date and each Option Closing Date, the Representative shall have received the opinion of Orrick, Herrington & Sutcliffe LLP, counsel for the Underwriters, addressed to the Underwriters and dated as of such date, in form and substance reasonably satisfactory to the Representative. The Company shall have furnished to such counsel such documents as such may have requested for the purpose of enabling them to pass upon such matters.

(g) Officers' Certificate. On each of the First Closing Date and each Option Closing Date, the Representative shall have received a written certificate executed by the Chief Executive Officer and the Chief Financial Officer of the Company, dated as of such date, to the effect set forth in subsection (c)(ii) and subsection (d) of this Section 4, and further to the effect that:

(i) for the period from and including the date of this Agreement through and including such date, there has not been (a) any Material Adverse Change, (b) any transaction that is material to the Company and the Subsidiary, considered as one entity, except transactions entered into in the ordinary course of business, (c) any obligation, direct or contingent, that is material to the Company and the Subsidiary, considered as one entity, incurred by the Company or the Subsidiary, except obligations incurred in the

ordinary course of business, (d) any change in the capital stock or outstanding indebtedness that is material to the Company and the Subsidiary, considered as one entity, (e) any dividend or distribution of any kind declared, paid, or made on the capital stock of the Company or the Subsidiary, or (f) any loss or damage (whether or not insured) to the property of the Company or the Subsidiary which has been sustained or will have been sustained which has a Material Adverse Effect on the condition (financial or otherwise), earnings, operations, business, or business prospects of the Company and the Subsidiary, considered as one entity;

(ii) when the Registration Statement became effective, at the Time of Sale and as of the delivery of such certificate, as applicable, (a) the Registration Statement, the General Disclosure Package and the Prospectus, and any amendments or supplements thereto and the incorporated documents, when such incorporated documents became effective or were filed with the Commission, contained all material information required to be included therein by the Securities Act or the Exchange Act, as the case may be, and in all material respects conformed to the requirements of the Securities Act or the Exchange Act, as the case may be; (b) the Registration Statement and any amendments or supplements thereto, did not and do not include any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading; (c) the General Disclosure Package and the Prospectus and any amendments or supplements thereto, did not and do not include any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in light of the circumstances under which they were made, not misleading; and (d) there has occurred no event required to be set forth in the Registration Statement, the General Disclosure Package, or an amended or supplemented Prospectus which has not been so set forth;

(iii) the representations, warranties, and covenants of the Company in this Agreement are true and correct with the same force and effect as though expressly made on and as of such date; and

(iv) the Company has complied with all the agreements hereunder and satisfied all the conditions on its part to be performed or satisfied hereunder at or prior to such date.

(h) CFO's Certificate. The Representative shall receive, on each of the First Closing Date and each Option Closing Date, a certificate, dated as of such date and signed by the Chief Financial or Chief Accounting officer of the Company, in his or her capacity as such, with respect to certain financial and accounting information in the Registration Statement, the General Disclosure Package and the Prospectus, in form and substance satisfactory to the Representative and counsel for the Underwriters.

(i) Secretary's Certificate. The Representative shall receive, on each of the First Closing Date and each Option Closing Date, a certificate of the Secretary of the Company, dated as of such date, certifying as to (i) the Articles of Incorporation and any amendments thereto, (ii) the Bylaws and any amendments thereto and (iii) resolutions of the Board of Directors of the

Company authorizing the execution and delivery of this Agreement and the other offering documents.

(j) Lock-Up Agreements. On or prior to the date hereof, the Company shall have furnished to the Representative an agreement in the form of Exhibit A attached hereto signed by the persons listed on Schedule C hereto. Such agreement shall be in full force and effect on each of the First Closing Date and each Option Closing Date.

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

(l) FINRA. FINRA shall have confirmed that it has no objection with respect to the fairness and reasonableness of the underwriting terms and arrangements.

(m) Additional Documents. On or before each of the First Closing Date and each Option Closing Date, the Representative and counsel for the Underwriters shall have received from the Company, as applicable, such other information, documents, certificates and opinions as they may require for the purposes of enabling them to pass upon the issuance and sale of the Offered Shares as contemplated herein, or in order to evidence the accuracy of any of the representations and warranties, or the satisfaction of any of the conditions or agreements, herein contained.

If any condition specified in this Section 4 is not satisfied when and as required to be satisfied, this Agreement may be terminated by the Representative by notice to the Company at any time on or prior to the First Closing Date and, with respect to the Optional Offered Shares, at any time prior to the applicable Option Closing Date, which termination shall be without liability on the part of any party to any other party except as provided in Section 5 and except that Section 8, Section 9, Section 12 and Section 16 hereof shall at all times be effective and shall survive such termination.

#### **Section 5. Payment of Expenses.**

(a) Reimbursement. The Company, whether or not the transactions contemplated hereunder are consummated or this Agreement is prevented from becoming effective under the provisions of Section 11 hereof or is otherwise terminated, agrees to pay all costs, fees, and expenses incurred in connection with the performance of its obligations hereunder and in connection with the transactions contemplated hereby, including without limitation (i) all expenses incident to the issuance and delivery of the Offered Shares (including all printing and engraving costs), (ii) all fees and expenses of the registrar and transfer agent of the Common Stock, (iii) all necessary issue, transfer, and other stamp taxes in connection with the issuance and sale of the Offered Shares to the Underwriters, (iv) all reasonable fees and expenses of the Company's counsel, independent public or certified public accountants, and other advisors, (v) all costs and expenses incurred in connection with the preparation, printing, filing, shipping, and distribution of the Registration Statement (including financial statements, exhibits, schedules, consents, and certificates of experts), each Preliminary Prospectus, each Issuer Free Writing Prospectus and the Prospectus and all amendments and supplements thereto and any



costs associated with electronic delivery of any of the foregoing by the Underwriters to investors, and this Agreement, (vi) all filing fees, reasonable attorneys' fees, and expenses incurred by the Company or the Underwriters in connection with qualifying or registering (or obtaining exemptions from the qualification or registration of) all or any part of the Offered Shares for offer and sale under the state securities or blue sky laws or the provincial securities laws of Canada, and, if requested by the Representative, preparing and printing a "Blue Sky Survey," an "International Blue Sky Survey," or other memorandum, and any supplements thereto, advising the Underwriters of such qualifications, registrations and exemptions, (vii) the filing fees incident to, and the reasonable fees and expenses of counsel for the Underwriters in connection with, FINRA's review and approval of the Underwriters' participation in the offering and distribution of the Offered Shares, (viii) the fees and expenses associated with listing the Offered Shares on the NASDAQ, (ix) 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 Offered Shares, 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, and all costs and expenses incident to the travel and accommodation of the representatives and officers of the Company and any such consultants, (x) all other fees, costs, and expenses referred to in Item 14 of Part II of the Registration Statement, and (xi) all costs and expenses of the Underwriters (including the fees and disbursements of its counsel, and inclusive of the legal fees and disbursements related to clauses (vi) and (vii) above) incident to the performance of its obligations hereunder not otherwise specifically provided for herein, provided, however, such costs and expenses provided for in this clause (xi) shall not exceed \$150,000 in the aggregate.

(b) Termination of Agreement. If this Agreement is terminated by the Underwriters pursuant to Section 4, Section 10 or Section 11 hereof, or if the sale to the Underwriters of the Offered Shares on the First Closing Date is not consummated because of any refusal, inability or failure on the part of the Company to perform any agreement herein or to comply with any provision hereof, the Company agrees to reimburse the Underwriters other than any defaulting Underwriter pursuant to Section 10 hereof upon demand for all reasonable and documented out-of-pocket expenses that shall have been incurred by any Underwriters in connection with the proposed purchase and the offering and sale of the Offered Shares, including, without limitation, fees and disbursements of counsel, printing expenses, travel and accommodation expenses, postage, facsimile, and telephone charges.

**Section 6. [Reserved.]**

**Section 7. Effectiveness of this Agreement .**

This Agreement shall become effective upon execution and delivery hereof by the parties hereto.

**Section 8. Indemnification.**

(a) Indemnification of the Underwriters. The Company agrees to indemnify and hold harmless each Underwriter, its affiliates (as such term is defined in Rule 501(b) under the

Securities Act), directors, officers, employees and agents, and each person, if any, who controls any Underwriter within the meaning of the Securities Act or the Exchange Act against any Loss (as hereinafter defined) to which such Underwriter or such affiliate, director, officer, employee, agent or controlling person may become subject, under the Securities Act, the Exchange Act or other federal or state statutory law or regulation, or at common law or otherwise (including in settlement of any litigation, if such settlement is effected with the written consent of the Company), insofar as such Loss (or actions in respect thereof as contemplated below) arises out of or is based (A) upon any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, or any amendment thereto, or the omission or alleged omission therefrom of a material fact required to be stated therein or necessary to make the statements therein not misleading, (B) upon any untrue statement or alleged untrue statement of a material fact contained in any Preliminary Prospectus, the General Disclosure Package, any Issuer Free Writing Prospectus or the Prospectus (or any amendment or supplement thereto), or the omission or alleged omission therefrom of 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, (C) in whole or in part upon any inaccuracy in the representations and warranties of the Company contained herein, (D) in whole or in part upon any failure of the Company to perform its obligations hereunder or under law applicable to the offering and sale of the Offered Shares, or (E) any untrue statement or alleged untrue statement of any material fact contained in any audio or visual materials provided by the Company or based upon written information furnished by or on behalf of the Company including, without limitation, any “road show” as defined in Rule 433(h) under the Securities Act (a “road show”), slides, videos, films or tape recordings, used in connection with the marketing of the Offered Shares, and including, without limitation, statements communicated to securities analysts employed by the Underwriter; and to reimburse each Underwriter and each such affiliate, director, officer, employee, agent or controlling person for any and all expenses (including the reasonable fees and disbursements of counsel chosen by the Representative) as such expenses are incurred by such Underwriter or such affiliate, director, officer, employee, agent or controlling person in connection with investigating, defending, settling, compromising, or paying any such Loss; provided, however, that the foregoing indemnity agreement shall not apply to any Loss to the extent, but only to the extent, such Loss arises out of or is based upon any untrue statement or alleged untrue statement or omission or alleged omission made in reliance upon and in conformity with written information relating to any Underwriter furnished to the Company by the Representative expressly for use in the Registration Statement, any Preliminary Prospectus, the General Disclosure Package, any Issuer Free Writing Prospectus or the Prospectus (or any amendment or supplement thereto), it being understood and agreed that the only such information consists of the information described in Section 8(c) below. “Loss” shall be defined as any loss, claim, damage, liability, expense, or action, as incurred, suffered by the specified person (collectively, the “Losses”). The indemnity agreement set forth in this Section 8(a) shall be in addition to any liabilities that the Company may otherwise have.

(b) Indemnification of the Company, Its Directors and Officers. Each Underwriter agrees, severally and not jointly, to indemnify and hold harmless the Company, each of its directors, each of its officers who signed the Registration Statement and each person, if any, who controls the Company within the meaning of the Securities Act or the Exchange Act, against any Loss to which the Company or any such director, officer or controlling person may become subject, under the Securities Act, the Exchange Act, or other federal or state statutory law or

regulation, or at common law or otherwise (including in settlement of any litigation, if such settlement is effected with the written consent of such Underwriter), insofar as such Loss (or actions in respect thereof as contemplated below) arises out of or is based upon (A) any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement (or any amendment or supplement thereto), or arises out of or is based upon the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading or (B) any untrue statement or alleged untrue statement of a material fact contained in any Preliminary Prospectus, the General Disclosure Package, any Issuer Free Writing Prospectus or the Prospectus (or any amendment or supplement thereto), or arises out of or is based upon the omission or alleged omission to state therein 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, in each case to the extent, but only to the extent, that such untrue statement or alleged untrue statement or omission or alleged omission was made in the Registration Statement, any Preliminary Prospectus, the General Disclosure Package, any Issuer Free Writing Prospectus or the Prospectus (or any amendment or supplement thereto), in reliance upon and in conformity with written information relating to such Underwriter furnished to the Company by the Representative expressly for use therein, it being understood and agreed that the only such information consists of the information described in Section 8(c) below; and to reimburse the Company or any such director, officer or controlling person for any legal and other expense reasonably incurred by the Company or any such director, officer or controlling person in connection with investigating, defending, settling, compromising, or paying any such Loss. The indemnity agreement set forth in this Section 8(b) shall be in addition to any liabilities that each Underwriter may otherwise have.

(c) Information Provided by the Underwriters. The Company and each person, if any, who controls the Company within the meaning of the Securities Act or the Exchange Act, hereby acknowledges that the only information that the Underwriters have furnished to the Company through the Representative expressly for use in the Registration Statement, any Preliminary Prospectus, the General Disclosure Package, any Issuer Free Writing Prospectus or the Prospectus (or any amendment or supplement thereto) are the statements set forth in the (A) list of Underwriters and their respective participation in the sale of the Offered Shares and (B) the following paragraphs under the caption “Underwriting” in the Prospectus: (i) the first paragraph under the heading “Commission and Expenses,” (ii) the paragraph under the heading “Electronic Distribution” and (iii) the first, second and fourth paragraphs under the heading “Price Stabilization, Short Positions and Penalty Bids,” and the Underwriters confirm that such statements are correct.

(d) Notifications and Other Indemnification Procedures. Promptly after receipt by an indemnified party under this Section 8 of notice of the commencement of any action, such indemnified party will, if a claim in respect thereof is to be made against an indemnifying party under this Section 8, notify the indemnifying party in writing of the commencement thereof, but the omission so to notify the indemnifying party shall not relieve it from any liability hereunder to the extent it is not materially prejudiced as a proximate result of such failure and in any event shall not relieve it from any liability which it may have otherwise than on account of this indemnity agreement. In case any such action is brought against any indemnified party and such indemnified party seeks or intends to seek indemnity from an indemnifying party, the indemnifying party will be entitled to participate in, and, to the extent that it shall elect, jointly

with all other indemnifying parties similarly notified, by written notice delivered to the indemnified party promptly after receiving the aforesaid notice from such indemnified party, to assume the defense thereof with counsel reasonably satisfactory to such indemnified party; provided, however, if the defendants in any such action include both the indemnified party and the indemnifying party and the indemnified party shall have reasonably concluded that a conflict may arise between the positions of the indemnifying party and the indemnified party in conducting the defense of any such action or that there may be legal defenses available to it and/or other indemnified parties which are different from or additional to those available to the indemnifying party, the indemnified party or parties shall have the right to select separate counsel to assume such legal defenses and to otherwise participate in the defense of such action on behalf of such indemnified party or parties. Upon receipt of notice from the indemnifying party to such indemnified party of such indemnifying party's election so to assume the defense of such action and approval by the indemnified party of counsel, the indemnifying party will not be liable to such indemnified party under this Section 8 for any legal or other expenses subsequently incurred by such indemnified party in connection with the defense thereof unless (i) the indemnified party shall have employed separate counsel in accordance with the proviso to the next preceding sentence (it being understood, however, that the indemnifying party shall not be liable for the expenses of more than one separate counsel (together with local counsel), approved by the indemnifying party (JMP in the case of Section 8(b) and Section 9), representing the indemnified parties who are parties to such action), (ii) the indemnifying party shall not have employed counsel reasonably satisfactory to the indemnified party to represent the indemnified party within a reasonable time after notice of commencement of the action, in each of which cases the reasonable fees and expenses of counsel shall be at the expense of the indemnifying party, or (iii) the indemnifying party has authorized in writing the employment of counsel for the indemnified party at the expense of the indemnifying party, in each of which cases the reasonable fees and expenses of counsel shall be at the expense of the indemnifying party.

(e) Settlements. The indemnifying party under this Section 8 shall not be liable for any settlement of any proceeding effected without its written consent, which consent shall not be unreasonably withheld, but if settled with such consent or if there be a final judgment for the plaintiff, the indemnifying party agrees to indemnify the indemnified party against any Loss by reason of such settlement or judgment. Notwithstanding the foregoing sentence, if at any time an indemnified party shall have requested an indemnifying party to reimburse the indemnified party for fees and expenses of counsel as contemplated by Section 8(d) hereof, the indemnifying party agrees that it shall be liable for any settlement of any proceeding effected without its written consent if (i) such settlement is entered into more than thirty (30) days after receipt by such indemnifying party of the aforesaid request, and (ii) such indemnifying party shall not have reimbursed the indemnified party in accordance with such request prior to the date of such settlement. No indemnifying party shall, without the prior written consent of the indemnified party, effect any settlement, compromise, or consent to the entry of judgment in any pending or threatened action, suit, or proceeding in respect of which any indemnified party is or could have been a party and indemnity was or could have been sought hereunder by such indemnified party, unless such settlement, compromise, or consent (i) includes an unconditional release of such indemnified party from all liability on claims that are the subject matter of such action, suit, or proceeding, and (ii) does not include a statement as to or an admission of fault, culpability, or a failure to act by or on behalf of such indemnified party.

## **Section 9. Contribution.**

If the indemnification provided for in Section 8 hereof is for any reason held to be unavailable to or otherwise insufficient to hold harmless an indemnified party in respect of any Loss referred to therein, then each indemnifying party shall contribute to the aggregate amount paid or payable by such indemnified party, as incurred, as a result of any Loss referred to therein (i) in such proportion as is appropriate to reflect the relative benefits received by the Company, on the one hand, and the Underwriters, on the other hand, from the offering of the Offered Shares pursuant to this Agreement or (ii) if the allocation provided by clause (i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company, on the one hand, and the Underwriters, on the other hand, in connection with the statements, omissions, or inaccuracies in the representations and warranties herein which resulted in such Loss, 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 hand, in connection with the offering of the Offered Shares pursuant to this Agreement shall be deemed to be in the same respective proportions as the total net proceeds from the offering of the Offered Shares pursuant to this Agreement (before deducting expenses) received by the Company and the total underwriting discount received by the Underwriters, in each case as set forth on the front cover page of the Prospectus, bear to the aggregate public offering price of the Offered Shares as set forth on such cover. The relative fault of the Company, on the one hand, and the Underwriters, on the other hand, shall be determined by reference to, among other things, whether any such untrue or alleged untrue statement of a material fact or omission or alleged omission to state a material fact or any such inaccurate or alleged inaccurate representation or warranty relates to information supplied by the Company, on the one hand, or the Underwriters, on the other hand, and the parties' relative intent, knowledge, access to information, and opportunity to correct or prevent such statement or omission.

The amount paid or payable by an indemnified party as a result of the Losses referred to above shall be deemed to include, subject to the limitations set forth in Section 8(d) hereof, any legal or other fees or expenses reasonably incurred by such party in connection with investigating or defending any action or claim. The provisions set forth in Section 8(d) hereof with respect to notice of commencement of any action shall apply if a claim for contribution is to be made under this Section 9; provided, however, that no additional notice shall be required with respect to any action for which notice has been given under Section 8(d) for purposes of indemnification.

The Company and the Underwriters agree that it would not be just and equitable if contribution pursuant to this Section 9 were determined by pro rata allocation (even if the Underwriters were treated as one entity for such purpose) or by any other method of allocation which does not take account of the equitable considerations referred to in this Section 9.

The Underwriters' obligations to contribute pursuant to this Section 9 are several, and not joint, in proportion to their respective underwriting commitments as set forth opposite their names in Schedule A attached hereto. Notwithstanding the provisions of this Section 9, no Underwriter shall be required to contribute any amount in excess of the underwriting discounts and commissions received by such Underwriter in connection with the Offered Shares

underwritten by it and distributed to the public. 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. For purposes of this Section 9, each affiliate, director, officer, employee and agent of an Underwriter and each person, if any, who controls an Underwriter within the meaning of the Securities Act or the Exchange Act shall have the same rights to contribution as such Underwriter, and each director of the Company, each officer of the Company who signed the Registration Statement, and each person, if any, who controls the Company within the meaning of the Securities Act and the Exchange Act shall have the same rights to contribution as the Company.

Any Loss for which an indemnified party is entitled to indemnification or contribution under this Section 9 shall be paid by the indemnifying party to the indemnified party as such Loss is incurred, but in all cases, no later than forty-five (45) days of invoice to the indemnifying party.

**Section 10. Default of One or More of the Several Underwriters .**

If, on the First Closing Date or any Option Closing Date any one or more of the several Underwriters shall fail or refuse to purchase Offered Shares that it or they have agreed to purchase hereunder on such date, and the aggregate number of Offered Shares which such defaulting Underwriter or Underwriters agreed but failed or refused to purchase does not exceed 10% of the aggregate number of the Offered Shares to be purchased on such date, the Representative may make arrangements satisfactory to the Company for the purchase of such Offered Shares by other persons, including any of the Underwriters, but if no such arrangements are made by such date, the other Underwriters shall be obligated, severally, in the proportions that the number of Firm Offered Shares set forth opposite their respective names on Schedule A attached hereto bears to the aggregate number of Firm Offered Shares set forth opposite the names of all such non-defaulting Underwriters, or in such other proportions as may be specified by the Representative with the consent of the non-defaulting Underwriters, to purchase the Offered Shares which such defaulting Underwriter or Underwriters agreed but failed or refused to purchase on such date. If, on the First Closing Date or any Option Closing Date any one or more of the Underwriters shall fail or refuse to purchase Offered Shares and the aggregate number of Offered Shares with respect to which such default occurs exceeds 10% of the aggregate number of Offered Shares to be purchased on such date, and arrangements satisfactory to the Representative and the Company for the purchase of such Offered Shares are not made within forty-eight (48) hours after such default, this Agreement shall terminate without liability of any party to any other party, except that (i) the provisions of Section 5, Section 6, Section 8 and Section 9 hereof shall at all times be effective and shall survive such termination, and (ii) any action taken under this Section 10 shall not relieve any defaulting Underwriter from liability in respect of any default of such Underwriter under this Agreement. In any such case, either the Representative or the Company shall have the right to postpone the First Closing Date or the applicable Option Closing Date, as the case may be, but in no event for longer than seven days in order that the required changes, if any, to the Registration Statement, the General Disclosure Package, the Prospectus or any other documents or arrangements may be effected.

As used in this Agreement, the term "Underwriter" shall be deemed to include any person substituted for a defaulting Underwriter under this Section 10.

**Section 11. Termination of this Agreement .**

Prior to the First Closing Date, this Agreement may be terminated by the Representative by notice given to the Company if at any time (i) the Company is unable or unwilling to perform its obligations under this Agreement; (ii) any of the conditions specified in Section 4 hereof shall not have been fulfilled when and as required by this Agreement to be fulfilled; (iii) trading or quotation in any of the Company's securities shall have been suspended or limited by the Commission or by the NASDAQ, or trading in securities generally on either the Nasdaq Stock Market or the New York Stock Exchange shall have been suspended or limited, or minimum or maximum prices shall have been generally established by any of such stock exchanges or by the Commission or FINRA; (iv) a general banking moratorium shall have been declared by any federal, New York, Delaware, Minnesota or California authorities; or (v) there shall have occurred any outbreak or escalation of national or international hostilities or any crisis or calamity (including without limitation any terrorist or similar attack), or any change in the United States or international financial markets, or any substantial change or development involving a prospective substantial change in the United States' or international political, financial, or economic conditions, as in the judgment of the Representative is material and adverse and makes it impracticable to market the Offered Shares in the manner and on the terms described in the General Disclosure Package or the Prospectus or to enforce contracts for the sale of securities. Any termination pursuant to this Section 11 shall be without liability on the part of (a) the Company to any Underwriter, except that the Company shall be obligated to reimburse the expenses of the Representative and the Underwriters pursuant to Section 5 hereof, (b) any Underwriter to the Company, or (c) of any party hereto to any other party except that the provisions of Section 8 and Section 9 shall at all times be effective and shall survive such termination.

**Section 12. Representations and Indemnities to Survive Delivery .**

The respective indemnities, agreements, representations, warranties and other statements of the Company, of its officers, and of the several Underwriters set forth in or made pursuant to this Agreement will remain in full force and effect, regardless of any investigation made by or on behalf of any Underwriter or the Company or any of its or their partners, officers, or directors or any controlling person, as the case may be, and will survive delivery of and payment for the Offered Shares sold hereunder and any termination of this Agreement.

**Section 13. Notices.**

All communications hereunder shall be in writing and shall be deemed to have been duly given if mailed or transmitted by any standard form of telecommunication and confirmed to the parties hereto as follows:

If to the Representative:

JMP Securities LLC  
600 Montgomery Street, Suite 1100  
San Francisco, California 94111  
Facsimile: (415) 263-1336  
Attention: Mr. Stephen Ortiz

with a copy to:

Orrick, Herrington & Sutcliffe LLP  
405 Howard Street  
San Francisco, California 94105  
Facsimile: (415) 773-5759  
Attention: Mr. Andrew D. Thorpe, Esq.

If to the Company:

AxoGen, Inc.  
13631 Progress Boulevard, Suite 400  
Alachua, Florida 32615  
Facsimile No.: (386) 462-6803  
Attention: Mr. Peter J. Mariani

with a copy to:

DLA Piper LLP (US)  
1650 Market Street, Suite 4900  
Philadelphia, Pennsylvania 19103  
Facsimile: (215) 606-2069  
Attention: Mr. Fahd Riaz, Esq.

Any party hereto may change the address for receipt of communications by giving written notice to the others.

**Section 14. Successors.**

This Agreement will inure to the benefit of and be binding upon the parties hereto, including any substitute Underwriters pursuant to Section 10 hereof, and to the benefit of the affiliates, directors, officers, employees, agents and controlling persons referred to in Section 8 and Section 9 hereof, and in each case their respective successors, and no other person will have any right or obligation hereunder. The term “successors” shall not include any purchaser of the Offered Shares as such from any of the Underwriters merely by reason of such purchase.

**Section 15. Partial Unenforceability.**

The invalidity or unenforceability of any section, paragraph, or provision of this Agreement shall not affect the validity or enforceability of any other section, paragraph or



provision hereof. If any section, paragraph, 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.

**Section 16. Governing Law Provisions.**

(a) Choice of Law. THIS AGREEMENT SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE INTERNAL LAWS OF THE STATE OF NEW YORK APPLICABLE TO AGREEMENTS MADE AND TO BE PERFORMED IN SUCH STATE.

(b) Consent to Jurisdiction. Any legal suit, action, or proceeding arising out of or based upon this Agreement or the transactions contemplated hereby (“Related Proceedings”) may be instituted in the federal courts of the United States of America located in the City and County of New York or the courts of the State of New York in each case located in the City and County of New York (collectively, the “Specified Courts”), and each party irrevocably submits to the exclusive jurisdiction (except for proceedings instituted in regard to the enforcement of a judgment of any such court (a “Related Judgment”), as to which such jurisdiction is non-exclusive) of such courts in any such suit, action, or proceeding. Service of any process, summons, notice, or document by mail to such party’s address set forth above shall be effective service of process for any suit, action, or other proceeding brought in any such court. The parties irrevocably and unconditionally waive any objection to the laying of venue of any suit, action, or other proceeding in the Specified Courts and irrevocably and unconditionally waive and agree not to plead or claim in any such court that any such suit, action, or other proceeding brought in any such court has been brought in an inconvenient forum.

(c) Waiver of Immunity. With respect to any Related Proceeding, each party irrevocably waives, to the fullest extent permitted by applicable law, all immunity (whether on the basis of sovereignty or otherwise) from jurisdiction, service of process, attachment (both before and after judgment), and execution to which it might otherwise be entitled in the Specified Courts. With respect to any Related Judgment, each party waives any such immunity in the Specified Courts or any other court of competent jurisdiction, and will not raise or claim or cause to be pleaded any such immunity at or in respect of any such Related Proceeding or Related Judgment, including, without limitation, any immunity pursuant to the United States Foreign Sovereign Immunities Act of 1976, as amended.

**Section 17. No Advisory or Fiduciary Relationship.**

The Company acknowledges and agrees that (a) the purchase and sale of the Offered Shares pursuant to this Agreement, including the determination of the public offering price of the Offered Shares and any related discounts and commissions, is an arm’s-length commercial transaction between the Company, on the one hand, and the several Underwriters, on the other hand, (b) in connection with the offering contemplated hereby and the process leading to such transaction, each Underwriter is and has been acting solely as a principal and is not the agent or fiduciary of the Company or any of their respective stockholders, members, creditors, employees or any other party, (c) no Underwriter has assumed or will assume an advisory or fiduciary responsibility in favor of the Company with respect to the offering contemplated hereby or the

process leading thereto (irrespective of whether such Underwriter has advised or is currently advising the Company on other matters) and no Underwriter has any obligation to the Company with respect to the offering contemplated hereby except the obligations expressly set forth in this Agreement, (d) the Underwriters and their respective affiliates may be engaged in a broad range of transactions that involve interests that differ from those of the Company, and (e) the Underwriters have not provided any legal, accounting, regulatory or tax advice with respect to the offering contemplated hereby and the Company has consulted its own legal, accounting, regulatory and tax advisors to the extent it deemed appropriate.

**Section 18. General Provisions.**

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. This Agreement may be executed in two or more counterparts, each one of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument. This Agreement may not be amended or modified unless in writing by all of the parties hereto, and no condition herein (express or implied) may be waived unless waived in writing by each party whom the condition is meant to benefit. The section headings herein are for the convenience of the parties only and shall not affect the construction or interpretation of this Agreement.

Each of the parties hereto acknowledges that it is a sophisticated business person who was adequately represented by counsel during negotiations regarding the provisions hereof, including, without limitation, the indemnification provisions of Section 8 and the contribution provisions of Section 9 hereof, and is fully informed regarding said provisions. Each of the parties hereto further acknowledges that the provisions of Section 8 and Section 9 hereof fairly allocate the risks in light of the ability of the parties to investigate the Company, its affairs, and its business in order to assure that adequate disclosure has been made in the Registration Statement, the General Disclosure Package, any Issuer Free Writing Prospectus and the Prospectus (and any amendments and supplements thereto), as required by the Securities Act and the Exchange Act.

*[Signature Page Follows]*

If the foregoing is in accordance with your understanding of our agreement, kindly sign and return to the Company the enclosed copies hereof, whereupon this instrument, along with all counterparts hereof, shall become a binding agreement in accordance with its terms.

Very truly yours,

**AXOGEN, INC.**

By: /s/ Peter J. Mariani

Name: Peter J. Mariani

Title: Chief Financial Officer

[Signature Page – Underwriting Agreement]

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The foregoing Underwriting Agreement is hereby confirmed and accepted by the Representative in San Francisco, California as of the date first above written.

**JMP SECURITIES LLC**

By: /s/ Brian C. Bock  
Name: Brian C. Bock  
Title: Managing Director

For itself and as Representative of the several Underwriters named in Schedule A attached hereto.

[Signature Page – Underwriting Agreement]

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**SCHEDULE A**

**LIST OF THE UNDERWRITERS**

<b>Underwriters</b>	<b>Number of Firm Offered Shares to be Purchased</b>
JMP Securities LLC	1,983,334
Dougherty & Company LLC	350,000
Total	2,333,334

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**SCHEDULE B-1**

**FINAL PRICING INFORMATION**

Number of Firm Offered Shares:		2,333,334
Number of Optional Offered Shares:		350,000
Public offering price:	\$	7.50 per share
Underwriting discounts and commissions:	\$	0.45 per share

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**SCHEDULE B-2**

**Issuer Free Writing Prospectuses**

None.

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**SCHEDULE C**

**List of Persons and Entities Subject to Lock-up**

Erick DeVinney

Michael Donovan

John Engels

Gregory G. Freitag

Mark Friedman

Mark Gold, M.D.

Jamie M. Grooms

David Hansen

Kevin Leach

Peter Mariani

Shawn McCarrey

Guido J. Neels

Robert J. Rudelius

Amy Wendell

Karen Zaderej

Essex Woodlands Fund IX, L.P.

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**EXHIBIT A**

**FORM OF LOCK-UP AGREEMENT**

, 2016

JMP Securities LLC  
600 Montgomery Street, Suite 1100  
San Francisco, California 94111

Re: AxoGen, Inc. (the "Company")

Ladies and Gentlemen:

The undersigned is an owner of record or beneficially of certain shares of common stock, par value \$0.01 per share, of the Company ("Common Shares"), or securities convertible into, exchangeable or exercisable for Common Shares (such securities, together with the Common Shares, the "Securities"). The Company proposes to carry out a public offering of Common Shares (the "Offering") for which you will act as the representative to the underwriters. The undersigned acknowledges that you and the other underwriters are relying on the representations and agreements of the undersigned contained in this letter in carrying out the Offering and in entering into underwriting arrangements with the Company with respect to the Offering.

In consideration of the foregoing, the undersigned hereby agrees that the undersigned will not, without the prior written consent of JMP Securities LLC, directly or indirectly, sell, offer, contract to sell, sell any option or contract to purchase (including without limitation any short sale), purchase any option or contract to sell, pledge, transfer, grant any option, right or warrant for the sale of, establish or increase an open "put equivalent position" within the meaning of Rule 16a-1(h) under the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder (collectively, the "Exchange Act"), liquidate or decrease a "call equivalent position" within the meaning of Rule 16a-1(b) under the Exchange Act or otherwise dispose of any Securities (collectively, a "Disposition") currently or hereafter owned either of record or beneficially (as defined in Rule 13d-3 under the Exchange Act) by the undersigned, or publicly announce the undersigned's intention to do any of the foregoing, for a period commencing on the date hereof and continuing through the close of trading on the date ninety (90) days after the date of the Prospectus (as defined in the Underwriting Agreement relating to the Offering to which the Company is a party) (the "Lock-up Period"). The undersigned also agrees and consents to the entry of stop transfer instructions with the Company's transfer agent and registrar against the transfer of Securities held by the undersigned except in compliance with the foregoing restrictions.

Notwithstanding the foregoing, the undersigned may transfer his or her Securities (i) as a bona fide gift or gifts, provided that the donee or donees thereof agree in writing to be bound by the restrictions set forth herein, (ii) to any beneficiary of the undersigned pursuant to a will or other testamentary document or applicable laws of descent, provided that the beneficiary thereof agrees in writing to be bound by the restrictions set forth herein, (iii) for grants of stock options pursuant to the terms of a plan in effect as of the date hereof, issuances of Common Shares pursuant to the exercise of such options or the exercise of any other stock options outstanding as

of the date hereof and for delivery to the Company as payment of the exercise price or any required withholding in connection with any such exercise, provided that any Securities received upon such grant or exercise will also be subject to the terms of this agreement, (iv) to any trust for the direct or indirect benefit of the undersigned or the immediate family of the undersigned, provided that the trustee of the trust agrees in writing to be bound by the restrictions set forth herein, and provided further that any such transfer shall not involve a disposition for value, (v) to any corporation, partnership, limited liability company or other entity that is an affiliate of the undersigned or to such affiliate's shareholders, members or partners, provided that (a) any Securities received upon such transfer will also be subject to the terms of this agreement, and (b) no filing under Section 16 of the Exchange Act shall be required or shall be voluntarily made during the Lock-up Period in connection with such transfer, (vi) acquired in open market transactions by the undersigned after the completion of the Offering or (vii) with the prior written consent of JMP Securities LLC. For purposes of this paragraph, "immediate family" shall mean any relationship by blood, marriage or adoption, not more remote than first cousin.

With respect to the Offering only, the undersigned waives any registration rights relating to registration under the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder, of any Common Shares owned either of record or beneficially by the undersigned, including any rights to receive notice of the Offering.

Anything to the contrary notwithstanding, this Lock-Up Agreement shall lapse and become null and void and the undersigned shall be released from all obligations under this Lock-Up Agreement upon the earliest to occur, if any, of: (i) December 31, 2016, if the Underwriting Agreement relating to the Offering has not been executed on or before such date, (ii) if, prior to the Underwriting Agreement becoming effective, the Company notifies JMP Securities LLC in writing that it does not intend to proceed with the Offering, and (iii) the termination of the Underwriting Agreement (other than the provisions thereof that survive termination) prior to payment for and delivery of the Common Shares to be sold thereunder.

The undersigned hereby represents and warrants that the undersigned has full power and authority to enter into this Lock-Up Agreement. This Lock-Up Agreement is irrevocable and will be binding on the undersigned and the respective successors, heirs, personal representatives, and assigns of the undersigned.

This Lock-Up Agreement shall be governed by and construed in accordance with the laws of the State of New York.

[Remainder of Page Intentionally Left Blank]

Very truly yours,

\_\_\_\_\_  
Printed Name of Security Holder

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

If not signing in an individual capacity:

\_\_\_\_\_  
Printed Name of Person Signing

\_\_\_\_\_  
Printed Title of Person Signing

DLA Piper LLP (US)  
51 John F. Kennedy Parkway, Suite 120  
Short Hills, New Jersey 07078  
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Andrew P. Gilbert  
Michael E. Helmer

October 13, 2016

AxoGen, Inc.  
13631 Progress Boulevard, Suite 400  
Alachua, Florida 32615

RE: AxoGen, Inc., Registration Statement on Form S-3 (333-207829)

Ladies and Gentlemen:

We have acted as counsel to AxoGen, Inc., a Minnesota corporation (the “Company”), in connection with the offering by the Company of 2,683,334 shares (the “Shares”) of common stock, par value \$0.01 per share (the “Common Stock”), pursuant to the referenced Registration Statement (the “Registration Statement”) and the Prospectus Supplement dated October 7, 2016 (the “Prospectus Supplement”), each filed under the Securities Act of 1933, as amended (the “Act”), with the Securities and Exchange Commission (the “SEC”).

In connection with this opinion letter, we have examined the Registration Statement, the Prospectus Supplement and originals, or copies certified or otherwise identified to our satisfaction, of the Articles of Incorporation, as amended and restated, of the Company, as filed with the Secretary of State of the State of Minnesota, or the Bylaws, as amended and restated, of the Company, and the minutes of meetings of the shareholders and the Board of Directors of the Company, as provided to us by the Company, and such other documents, records and other instruments 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 are validly issued, fully paid and non-assessable.

The opinion expressed herein is limited to the Minnesota Business Corporation Act.

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AxoGen, Inc.  
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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 base prospectus included in the Registration Statement and the Prospectus Supplement. 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 Act or the rules or regulations of the SEC thereunder.

Very truly yours,

**/s/ DLA Piper LLP (US)**

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## **AxoGen Announces Proposed Public Offering of Common Stock**

**ALACHUA, FL., October 06, 2016** - - AxoGen, Inc. (NASDAQ: AXGN), a global leader in innovative surgical solutions for peripheral nerve injuries, today announced that it intends to offer and sell, subject to market and other conditions, shares of its common stock in an underwritten public offering.

AxoGen intends to use the net proceeds of the offering for general working capital purposes and for expanded development of new nerve repair markets and products.

JMP Securities LLC is acting as sole book-running manager for the offering. Dougherty & Company LLC is acting as a co-manager for the offering.

The offering is being made pursuant to an effective shelf registration statement on Form S-3 that was initially filed with the U.S. Securities and Exchange Commission (the "SEC") on November 5, 2015. The offering is being made only by means of a written prospectus and prospectus supplement that form a part of the registration statement. A preliminary prospectus supplement and accompanying prospectus relating to the offering will be filed with the SEC and will be available on the SEC's website located at <http://www.sec.gov>. Copies of the preliminary prospectus supplement and the accompanying prospectus may also be obtained from the offices of JMP Securities LLC, 600 Montgomery Street, Suite 1100, San Francisco, California 94111, by calling (415) 835-8985, or by email at [syndicate@jmpsecurities.com](mailto:syndicate@jmpsecurities.com).

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

### **About AxoGen, Inc.**

AxoGen is a global leader in innovative surgical solutions for peripheral nerve injuries. AxoGen's portfolio of products includes Avance<sup>®</sup> Nerve Graft, an off-the-shelf processed human nerve allograft for bridging severed nerves without the comorbidities associated with a second surgical site, AxoGuard<sup>®</sup> Nerve Connector, a porcine submucosa extracellular matrix ("ECM") coaptation aid for tensionless repair of severed nerves, and AxoGuard<sup>®</sup> Nerve Protector, a porcine submucosa ECM product used to wrap and protect injured peripheral nerves and reinforce the nerve reconstruction while preventing soft tissue attachments. Along with these

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core surgical products, AxoGen also offers AxoTouch™ Two-Point Discriminator and AcroVal™ Neurosensory & Motor Testing System. These evaluation and measurement tools assist healthcare professionals in detecting changes in sensation, assessing return of sensory, grip and pinch function, evaluating effective treatment interventions, and providing feedback to patients on nerve function. The AxoGen portfolio of products is available in the United States, Canada, the United Kingdom and several European and international countries.

### **Forward-Looking Statements**

*This announcement contains forward-looking statements within the meaning of the Securities Act of 1933, as amended, the Securities Exchange Act of 1934, as amended, and the Private Securities Litigation Reform Act of 1995. These forward-looking statements, including statements regarding the proposed public offering and the anticipated use of proceeds therefrom, are subject to a number of risks and uncertainties which may cause actual results or outcomes to be materially different from those expressed or implied by the forward-looking statements. These risks and uncertainties include market risks and uncertainties and risks and uncertainties relating to the satisfaction of customary closing conditions for an underwritten offering of securities, as well as the risks and uncertainties that could affect the Company's business and financial results described in the preliminary prospectus supplement and registration statement referenced above, as well as the Company's other filings with the SEC, including, without limitation, under the caption "Risk Factors." There can be no assurance that the Company will be able to complete the proposed public offering on the anticipated terms, or at all. Forward-looking statements relate only to events as of the date on which the statements are made, and the Company undertakes no obligation to publicly update or review any forward-looking statement.*

### **Contacts:**

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386.462.6856  
InvestorRelations@AxoGenInc.com

The Trout Group – Investor Relations  
Brian Korb  
646.378.2923  
bkorb@troutgroup.com

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## **AxoGen Announces Pricing of Public Offering of Common Stock**

**ALACHUA, FL., October 07, 2016** - - AxoGen, Inc. (NASDAQ: AXGN), a global leader in innovative surgical solutions for peripheral nerve injuries, today announced the pricing of an underwritten public offering of 2,333,334 shares of its common stock, offered at a price to the public of \$7.50 per share. The gross proceeds to AxoGen from this offering are expected to be approximately \$17.5 million, before deducting underwriting discounts and commissions and other estimated offering expenses payable by AxoGen. In addition, the Company has granted the underwriters a 30-day option to purchase up to 350,000 additional shares of its common stock. The offering is expected to close on or about October 12, 2016, subject to customary closing conditions.

AxoGen intends to use the net proceeds of the offering for general working capital purposes and for expanded development of new nerve repair markets and products.

JMP Securities LLC is acting as sole book-running manager for the offering. Dougherty & Company LLC is acting as a co-manager for the offering.

The offering is being made pursuant to an effective shelf registration statement on Form S-3 that was initially filed with the U.S. Securities and Exchange Commission (the "SEC") on November 5, 2015. The offering is being made only by means of a written prospectus and prospectus supplement that form a part of the registration statement. A preliminary prospectus supplement and accompanying prospectus relating to the offering have been filed with the SEC and is available on the SEC's website located at <http://www.sec.gov>. Copies of the final prospectus supplement and the accompanying prospectus may be obtained from the offices of JMP Securities LLC, 600 Montgomery Street, Suite 1100, San Francisco, California 94111, by calling (415) 835-8985, or by email at [syndicate@jmpsecurities.com](mailto:syndicate@jmpsecurities.com).

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

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AxoGen is a global leader in innovative surgical solutions for peripheral nerve injuries. AxoGen's portfolio of products includes Avance® Nerve Graft, an off-the-shelf processed human nerve allograft for bridging severed nerves without the comorbidities associated with a second

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surgical site, AxoGuard® Nerve Connector, a porcine submucosa extracellular matrix ("ECM") coaptation aid for tensionless repair of severed nerves, and AxoGuard® Nerve Protector, a porcine submucosa ECM product used to wrap and protect injured peripheral nerves and reinforce the nerve reconstruction while preventing soft tissue attachments. Along with these core surgical products, AxoGen also offers AxoTouch™ Two-Point Discriminator and AcroVal™ Neurosensory & Motor Testing System. These evaluation and measurement tools assist healthcare professionals in detecting changes in sensation, assessing return of sensory, grip and pinch function, evaluating effective treatment interventions, and providing feedback to patients on nerve function. The AxoGen portfolio of products is available in the United States, Canada, the United Kingdom and several European and international countries.

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## **AxoGen Announces Closing of Public Offering of Common Stock and Underwriters' Full Exercise of Option to Purchase Additional Shares**

**ALACHUA, FL., October 13, 2016** - AxoGen, Inc. (NASDAQ: AXGN), a global leader in innovative surgical solutions for peripheral nerve injuries, today announced the closing of its previously announced underwritten public offering of 2,333,334 shares of its common stock at a price to the public of \$7.50 per share. In addition, the underwriters have exercised in full their option to purchase an additional 350,000 shares of common stock. The total net proceeds from the offering are estimated to be approximately \$18.62 million, after deducting underwriting discounts and commissions and other estimated offering expenses payable by AxoGen.

JMP Securities LLC was the sole book-running manager for the offering and Dougherty & Company LLC was co-manager for the offering.

The offering was made pursuant to an effective shelf registration statement on Form S-3 that was initially filed with the U.S. Securities and Exchange Commission (the "SEC") on November 5, 2015. A final prospectus supplement describing the terms of the offering has been filed with the SEC and forms a part of the effective registration statement. Copies of the final prospectus supplement and the accompanying prospectus relating to the offering may be obtained from the offices of JMP Securities LLC, 600 Montgomery Street, Suite 1100, San Francisco, California 94111, by calling (415) 835-8985, or by email at [syndicate@jmpsecurities.com](mailto:syndicate@jmpsecurities.com).

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

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