

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

**FORM 8-K**

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

**Date of Report (Date of earliest event reported): November 22, 2021**

**Progenity, Inc.**  
(Exact name of Registrant as Specified in Its Charter)

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

**001-39334**  
(Commission  
File Number)

**27-3950390**  
(IRS Employer  
Identification No.)

**4330 La Jolla Village Drive, Suite 200**  
**San Diego, California**  
(Address of Principal Executive Offices)

**92122**  
(Zip Code)

**Registrant's Telephone Number, Including Area Code: (855) 293-2639**

**N/A**  
(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))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
<b>Common Stock, par value \$0.001 per share</b>	<b>PROG</b>	<b>The Nasdaq Global Market</b>

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

Emerging growth company

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

### Item 1.01 Entry into a Material Definitive Agreement.

On November 22, 2021, Progenity, Inc. (the “Company”) entered into an At Market Issuance Sales Agreement (the “Sale Agreement”) with B. Riley Securities, Inc., BTIG, LLC, and H.C. Wainwright & Co. LLC (the “Agents”), pursuant to which the Company may offer and sell shares of the Company’s common stock having an aggregate offering price of up to \$90,000,000, from time to time, in “at the market” offerings through the Agents. Sales of the shares of common stock, if any, will be made at prevailing market prices at the time of sale, or as otherwise agreed with the Agents. The Agents will receive a commission from the Company of up to 3.0% of the gross proceeds of any shares of common stock sold under the Sale Agreement.

The Company is not obligated to sell, and the Agents are not obligated to buy or sell, any shares of common stock under the Sale Agreement. As a result of the approximately \$44 million in warrant exercises to date in the fourth quarter of 2021 and other capital-raising transactions, management believes that the Company’s liquidity position prior to any sales of common stock under the Sale Agreement provides sufficient runway to support achievement of critical research and development milestones for at least the next 12 months. No assurance can be given that the Company will sell any shares of common stock under the Sale Agreement, or, if it does, as to the price or amount of shares of common stock that it sells or the dates when such sales will take place.

In the Sale Agreement, the Company agreed to indemnify the Agents against certain liabilities, including under the Securities Act of 1933, as amended, or to contribute payments that the Agents may be required to make because of such liabilities.

The shares of common stock sold pursuant to the Sale Agreement will be offered pursuant to a shelf registration statement on Form S-3 (File No. 333-258301), which became effective on August 6, 2021. The Company filed a prospectus supplement with the U.S. Securities and Exchange Commission on November 22, 2021 in connection with the offer and sale of shares of the Company’s common stock pursuant to the Sale Agreement.

A copy of the Sale Agreement is attached as Exhibit 1.1 hereto and is incorporated herein by reference. The foregoing description of the Sale Agreement does not purport to be complete and is qualified in its entirety by reference to the full text of the Sale Agreement.

A copy of the opinion of Gibson, Dunn & Crutcher LLP relating to the validity of the shares of common stock that may be sold pursuant to the Sale Agreement is filed herewith as Exhibit 5.1.

### Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

Exhibit Number	Exhibit Description
1.1	<a href="#">At Market Issuance Sales Agreement, dated November 22, 2021, by and among Progenity, Inc., B. Riley Securities, Inc., BTIG, LLC, and H.C. Wainwright &amp; Co. LLC.</a>
5.1	<a href="#">Opinion of Gibson, Dunn &amp; Crutcher LLP.</a>
23.1	<a href="#">Consent of Gibson, Dunn &amp; Crutcher LLP (contained in Exhibit 5.1).</a>
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

**SIGNATURES**

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

**Progenity, Inc.**

Date: November 22, 2021

By: /s/ Eric d'Esparbes

Eric d'Esparbes

Chief Financial Officer

\$90 million

Common Stock  
(par value \$0.001 per share)

**At Market Issuance Sales Agreement**

November 22, 2021

B. Riley Securities, Inc.  
299 Park Avenue, 21st Floor  
New York, NY 10171

BTIG, LLC  
65 East 55th Street  
New York, NY 10022

H.C. Wainwright & Co., LLC  
430 Park Avenue  
New York, NY 10022

Ladies and Gentlemen:

Progenity, Inc., a Delaware corporation (the “Company”), confirms its agreement (this “Agreement”) with B. Riley Securities, Inc., BTIG, LLC and H.C. Wainwright & Co., LLC (each, individually, an “Agent” and, collectively, the “Agents”) as follows:

1. Issuance and Sale of Shares. The Company agrees that, from time to time during the term of this Agreement, on the terms and subject to the conditions set forth herein, it may issue and sell through or to the Agents, as sales agents or principals, shares (the “Placement Shares”); of the Company’s common stock, par value \$0.001 per share (the “Common Stock”), having an aggregate offering price of up to \$90,000,000; *provided however*, that in no event shall the Company issue or sell through the Agents such number of Placement Shares that (a) exceeds the number of shares or dollar amount of Common Stock registered on the effective Registration Statement (as defined below) pursuant to which the offering is being made or (b) exceeds the number of shares or dollar amount registered on the Prospectus Supplement (as defined below) (the lesser of (a) or (b) the “Maximum Amount”) and *provided further, however*, that in no event shall the aggregate number of Placement Shares sold pursuant to this Agreement exceed the number of authorized but unissued shares of Common Stock. Notwithstanding anything to the contrary contained herein, the parties hereto agree that compliance with the limitations set forth in this Section 1 on the number of Placement Shares issued and sold under this Agreement shall be the sole responsibility of the Company and that the Agents shall have no obligation in connection with such compliance. The issuance and sale of Placement Shares through the Agents will be effected pursuant to the Registration Statement (as defined below), although nothing in this Agreement shall be construed as requiring the Company to use the Registration Statement to issue any Placement Shares.

The Company has filed, in accordance with the provisions of the Securities Act of 1933,

as amended and the rules and regulations thereunder (the “Securities Act”), with the Securities and Exchange Commission (the “Commission”), a registration statement on Form S-3 (File No. 333-258301), including a base prospectus, relating to certain securities including the Placement Shares to be issued from time to time by the Company, and which incorporates by reference documents that the Company has filed or will file in accordance with the provisions of the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder (the “Exchange Act”). The Company has prepared a prospectus supplement to the base prospectus included as part of such registration statement specifically relating to the Placement Shares (the “Prospectus Supplement”). The Company will furnish to the Agents, for use by the Agents, copies of the base prospectus included as part of such registration statement, as supplemented by the Prospectus Supplement, relating to the Placement Shares. Except where the context otherwise requires, such registration statement, and any post-effective amendment thereto, including all documents filed as part thereof or incorporated by reference therein, and including any information contained in a Prospectus (as defined below) subsequently filed with the Commission pursuant to Rule 424(b) under the Securities Act or deemed to be a part of such registration statement pursuant to Rule 430B or 462(b) of the Securities Act, or any subsequent registration statement on Form S-3 filed pursuant to Rule 415(a)(6) under the Securities Act by the Company to cover any Placement Shares, is herein called the “Registration Statement.” The base prospectus, including all documents incorporated or deemed incorporated therein by reference to the extent such information has not been superseded or modified in accordance with Rule 412 under the Securities Act (as qualified by Rule 430B(g) of the Securities Act), included in the Registration Statement, as it may be supplemented by the Prospectus Supplement, in the form in which such base prospectus and/or Prospectus Supplement have most recently been filed by the Company with the Commission pursuant to Rule 424(b) under the Securities Act is herein called the “Prospectus.” Any reference herein to the Registration Statement, the Prospectus or any amendment or supplement thereto shall be deemed to refer to and include the documents incorporated by reference therein, and any reference herein to the terms “amend,” “amendment” or “supplement” with respect to the Registration Statement or the Prospectus shall be deemed to refer to and include the filing after the execution hereof of any document with the Commission incorporated by reference therein (the “Incorporated Documents”).

For purposes of this Agreement, all references to the Registration Statement, the Prospectus or to any amendment or supplement thereto shall be deemed to include the most recent copy filed with the Commission pursuant to its Electronic Data Gathering Analysis and Retrieval System, or if applicable, the Interactive Data Electronic Application system when used by the Commission (collectively, “EDGAR”).

2. Placements. Each time that the Company wishes to issue and sell Placement Shares hereunder (each, a “Placement”), it will notify an Agent (the “Designated Agent”) by electronic mail (or other method mutually agreed to in writing by the Company and the Designated Agent) of the number or dollar value of Placement Shares to be issued, the time period during which sales are requested to be made, any limitation on the number of Placement Shares that may be sold in any one Trading Day (as defined below) and any minimum price below which sales may not be made (a “Placement Notice”), the form of which is attached hereto as Schedule 1. The Placement Notice shall originate from any of the individuals from the Company set forth on Schedule 3 (with a copy to each of the other individuals from the Company listed on such schedule), and shall be

addressed to each of the individuals from the Designated Agent set forth on Schedule 3, as such Schedule 3 may be amended from time to time. The Placement Notice shall be effective immediately upon receipt by the Designated Agent unless and until (i) in accordance with the notice requirements set forth in Section 14, the Designated Agent declines to accept the terms contained therein for any reason, in its sole discretion, (ii) the entire amount of the Placement Shares thereunder has been sold, (iii) in accordance with the notice requirements set forth in Section 14, the Company suspends or terminates the Placement Notice, which suspension and termination rights may be exercised by the Company in its sole discretion, (iv) the Company issues a subsequent Placement Notice with parameters superseding those on the earlier dated Placement Notice, or (v) this Agreement has been terminated under the provisions of Section 13. The amount of any discount, commission or other compensation to be paid by the Company to the Designated Agent in connection with the sale of the Placement Shares shall be calculated in accordance with the terms set forth in Schedule 2. It is expressly acknowledged and agreed that neither the Company nor the Designated Agent will have any obligation whatsoever with respect to a Placement or any Placement Shares unless and until the Company delivers a Placement Notice to the Designated Agent and the Designated Agent does not decline such Placement Notice pursuant to the terms set forth above, and then only upon the terms specified therein and herein. In the event of a conflict between the terms of Sections 2 or 3 of this Agreement and the terms of a Placement Notice, the terms of the Placement Notice will control.

3. Sale of Placement Shares by the Agents. Subject to the terms and conditions of this Agreement, for the period specified in a Placement Notice, the Designated Agent will use its commercially reasonable efforts consistent with its normal trading and sales practices and applicable state and federal laws, rules and regulations and the rules of the Nasdaq Global Market (the “Exchange”), to sell the Placement Shares up to the amount specified in, and otherwise in accordance with the terms of, such Placement Notice. The Designated Agent will provide written confirmation to the Company no later than the opening of the Trading Day immediately following the Trading Day on which it has made sales of Placement Shares hereunder setting forth the number of Placement Shares sold on such day, the volume weighted average trading price of the Placement Shares sold, the compensation payable by the Company to the Designated Agent pursuant to Section 2 with respect to such sales, and the Net Proceeds (as defined below) payable to the Company, with an itemization of the deductions made by the Designated Agent (as set forth in Section 5(b)) from the gross proceeds that it receives from such sales. Subject to the terms of a Placement Notice, the Designated Agent may sell Placement Shares by any method permitted by law deemed to be an “at the market offering” as defined in Rule 415 of the Securities Act. “Trading Day” means any day on which shares of Common Stock are purchased and sold on the Exchange.

4. Suspension of Sales. The Company or the Designated Agent may, upon notice to the other party in writing (including by email correspondence to each of the individuals of the other party set forth on Schedule 3, if receipt of such correspondence is actually acknowledged by any of the individuals to whom the notice is sent, other than via auto-reply) or by telephone (confirmed immediately by verifiable facsimile transmission or email correspondence to each of the individuals of the other party set forth on Schedule 3), suspend any sale of Placement Shares (a “Suspension”); *provided, however*, that such suspension shall not affect or impair any party’s obligations with respect to any Placement Shares sold hereunder prior to the receipt of such notice. While a Suspension is in effect, any obligation under Sections 7(l), 7(m), and 7(n) with respect to the delivery of certificates, opinions, or comfort letters to the Agents, shall be waived. Each of the

parties agrees that no such notice under this Section 4 shall be effective against any other party unless it is made to one of the individuals named on Schedule 3 hereto, as such Schedule may be amended from time to time.

5. Sale and Delivery to the Designated Agent; Settlement.

a. Sale of Placement Shares. On the basis of the representations and warranties herein contained and subject to the terms and conditions herein set forth, upon the Designated Agent's acceptance of the terms of a Placement Notice, and unless the sale of the Placement Shares described therein has been declined, suspended, or otherwise terminated in accordance with the terms of this Agreement, the Designated Agent, for the period specified in the Placement Notice, will use its commercially reasonable efforts consistent with its normal trading and sales practices and applicable state and federal laws, rules and regulations and the rules of the Exchange to sell such Placement Shares up to the amount specified in, and otherwise in accordance with the terms of, such Placement Notice. The Company acknowledges and agrees that (i) there can be no assurance that the Designated Agent will be successful in selling Placement Shares, (ii) the Designated Agent will incur no liability or obligation to the Company or any other person or entity if it does not sell Placement Shares for any reason other than a failure by the Designated Agent to use its commercially reasonable efforts consistent with its normal trading and sales practices and applicable state and federal laws, rules and regulations and the rules of the Exchange to sell such Placement Shares as required under this Agreement and (iii) the Designated Agent shall be under no obligation to purchase Placement Shares on a principal basis pursuant to this Agreement, except as otherwise agreed by the Designated Agent and the Company.

b. Settlement of Placement Shares. Unless otherwise specified in the applicable Placement Notice, settlement for sales of Placement Shares will occur on the second (2<sup>nd</sup>) Trading Day (or such earlier day as is industry practice for regular-way trading) following the date on which such sales are made (each, a "Settlement Date"). The Designated Agent shall notify the Company of each sale of Placement Shares no later than the opening of the Trading Day immediately following the Trading Day that the Designated Agent sold Placement Shares. The amount of proceeds to be delivered to the Company on a Settlement Date against receipt of the Placement Shares sold (the "Net Proceeds") will be equal to the aggregate sales price received by the Designated Agent for the Placement Shares sold, after deduction for (i) the Designated Agent's commission, discount or other compensation for such sales payable by the Company pursuant to Section 2 hereof, and (ii) any transaction fees imposed by any governmental or self-regulatory organization in respect of such sales.

c. Delivery of Placement Shares. On or before each Settlement Date, the Company will, or will cause its transfer agent to, electronically transfer the Placement Shares being sold by crediting the Designated Agent's or its designee's account (provided the Designated Agent shall have given the Company written notice of such designee and such designee's account information at least one Trading Day prior to the Settlement Date) at The Depository Trust Company through its Deposit and Withdrawal at Custodian System or by such other means of delivery as may be mutually agreed upon by the parties hereto which in all cases shall be freely tradable, transferable, registered shares in good deliverable form. On each Settlement Date, the Designated Agent will deliver the related Net Proceeds in same day funds to an account designated by the Company on, or prior to, the Settlement Date. The Company agrees that if the Company, or

its transfer agent (if applicable), defaults in its obligation to deliver Placement Shares on a Settlement Date through no fault of the Designated Agent, then in addition to and in no way limiting the rights and obligations set forth in Section 11(a) hereto, it will (i) hold the Designated Agent harmless against any loss, claim, damage, or reasonable, documented expense (including reasonable and documented legal fees and expenses), as incurred, arising out of or in connection with such default by the Company or its transfer agent (if applicable) and (ii) pay to the Designated Agent (without duplication) any commission, discount, or other compensation to which it would otherwise have been entitled absent such default.

d. Limitations on Offering Size. Under no circumstances shall the Company cause or request the offer or sale of any Placement Shares if, after giving effect to the sale of such Placement Shares, the aggregate number of Placement Shares sold pursuant to this Agreement would exceed the lesser of (A) together with all sales of Placement Shares under this Agreement, the Maximum Amount, (B) the amount available for offer and sale under the currently effective Registration Statement and (C) the amount authorized from time to time to be issued and sold under this Agreement by the Company's board of directors, a duly authorized committee thereof or a duly authorized executive committee, and notified to the Designated Agent in writing. Under no circumstances shall the Company cause or request the offer or sale of any Placement Shares pursuant to this Agreement at a price lower than the minimum price authorized from time to time by the Company's board of directors, a duly authorized committee thereof or a duly authorized executive committee, and notified to the Designated Agent in writing.

e. Sales Through Agents. The Company agrees that any offer to sell, any solicitation of an offer to buy, or any sales of Placement Shares hereunder shall only be effected by or through an Agent, and only a single Agent, on any single given date, and in no event shall the Company request that more than one Agent sell Placement Shares on the same day; provided, however, that the foregoing limitation shall not apply to (A) exercise of any option, warrant, right or any conversion privilege set forth in the instruction governing such securities, (B) sales solely to employees, directors or security holders of the Company or its subsidiaries, or to a trustee or other person acquiring such securities for the accounts of such person, (C) on any day during which no sales are made pursuant to this Agreement or (D) during a period in which the Company has notified the Agents that it will not sell Common Stock pursuant to this Agreement and (x) no Placement Notice is pending or (y) after a Placement Notice has been withdrawn.

6. Representations and Warranties of the Company. The Company represents and warrants to, and agrees with each of the Agents that as of the date of this Agreement and as of each Applicable Time (as defined below), unless such representation, warranty or agreement specifies a different date or time:

a. Registration Statement and Prospectus. The transactions contemplated by this Agreement meet the requirements for and comply with the conditions for the use of Form S-3 under the Securities Act. The Registration Statement has been filed with the Commission and has been declared effective under the Securities Act. The Prospectus Supplement will name B. Riley Securities, Inc., BTIG, LLC and H.C. Wainwright & Co., LLC as the agents in the section entitled "Plan of Distribution." The Company has not received, and has no notice of, any order of the Commission preventing or suspending the use of the Registration Statement, or threatening or instituting proceedings for that purpose. The Registration Statement and the offer and sale of

Placement Shares as contemplated hereby meet the requirements of Rule 415 under the Securities Act and comply in all material respects with said Rule. Any statutes, regulations, contracts or other documents that are required to be described in the Registration Statement or the Prospectus or to be filed as exhibits to the Registration Statement have been so described or filed, as applicable. Copies of the Registration Statement, the Prospectus, and any such amendments or supplements and all documents incorporated by reference therein that were filed with the Commission on or prior to the date of this Agreement have been delivered, or are available through EDGAR, to the Agents and their counsel. The Company has not distributed and, prior to the later to occur of each Settlement Date and completion of the distribution of the Placement Shares, will not distribute any offering material in connection with the offering or sale of the Placement Shares other than the Registration Statement and the Prospectus and any Issuer Free Writing Prospectus (as defined below) to which the Agents have consented, which consent will not be unreasonably withheld or delayed, or that is required by applicable law or the listing maintenance requirements of the Exchange. The Common Stock is currently quoted on the Exchange under the trading symbol "PROG." The Company has not, in the 12 months preceding the date hereof, received notice from the Exchange to the effect that the Company is not in compliance with the listing or maintenance requirements of the Exchange. To the Company's knowledge, it is in compliance with all such listing and maintenance requirements.

b. No Misstatement or Omission. At each Settlement Date, the Registration Statement and the Prospectus, as of such date, will conform in all material respects with the requirements of the Securities Act. The Registration Statement, when it became or becomes effective, did not, and will not, contain an untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading. The Prospectus and any amendment and supplement thereto, on the date thereof and at each Applicable Time (defined below), did not or will not include an 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. The documents incorporated by reference in the Prospectus or any Prospectus Supplement did not, and any further documents filed and incorporated by reference therein will not, when filed with the Commission, contain an untrue statement of a material fact or omit to state a material fact required to be stated in such document or necessary to make the statements in such document, in light of the circumstances under which they were made, not misleading. The foregoing shall not apply to statements in, or omissions from, any such document made in reliance upon, and in conformity with, information furnished to the Company by the Agent specifically for use in the preparation thereof.

c. Conformity with Securities Act and Exchange Act. The Registration Statement, the Prospectus, any Issuer Free Writing Prospectus or any amendment or supplement thereto, and the Incorporated Documents, when such documents were or are filed with the Commission under the Securities Act or the Exchange Act or became or become effective under the Securities Act, as the case may be, conformed or will conform in all material respects with the requirements of the Securities Act and the Exchange Act, as applicable.

d. Financial Statements. The financial statements of the Company, together with the related notes and schedules, included or incorporated by reference in the Registration Statement and the Prospectus comply in all material respects with the requirements of the Securities Act and the Exchange Act and fairly present the financial condition of the Company and its consolidated

subsidiaries as of the dates indicated and the results of operations and changes in cash flows for the periods therein specified in conformity with generally accepted accounting principles in the United States (“GAAP”) consistently applied throughout the periods involved; the supporting schedules included or incorporated by reference in the Registration Statement present fairly the information required to be stated therein; all non-GAAP financial information, if any, included or incorporated by reference in the Registration Statement and the Prospectus complies in all material respects with the requirements of Regulation G and Item 10 of Regulation S-K under the Securities Act; and, except as disclosed in the Registration Statement and the Prospectus, there are no material off-balance sheet arrangements (as defined in Regulation S-K under the Securities Act, Item 303(a)(4)(ii)) or any other relationships with unconsolidated entities or other persons, that are reasonably likely to have a material effect on the Company’s financial condition, results of operations, liquidity, capital expenditures, capital resources or significant components of revenue or expenses. No other financial statements or schedules are required to be included or incorporated by reference in the Registration Statement or the Prospectus. To the Company’s knowledge, KPMG LLP, which has expressed its opinion with respect to the financial statements and schedules filed or incorporated by reference as a part of the Registration Statement and included in the Registration Statement and the Prospectus, is (A) an independent public accounting firm within the meaning of the Securities Act, (B) a registered public accounting firm (as defined in Section 2(a)(12) of the Sarbanes-Oxley Act of 2002 (the “Sarbanes-Oxley Act”)) and (C) not in violation of the auditor independence requirements of the Sarbanes-Oxley Act.

e. Organization and Good Standing. Each of the Company and its subsidiaries, including, without limitation, the entities set forth on Schedule 4 hereto (each, a “Subsidiary,” collectively, the “Subsidiaries”), has been duly organized, and is validly existing and in good standing under the laws of their respective jurisdictions of organization. The Company and the Subsidiaries have all corporate power and authority necessary to own or hold their respective properties and to conduct their respective businesses as currently being carried on and as described in the Registration Statement and the Prospectus, and are duly qualified to do business and in good standing in each jurisdiction in which they own or lease real property or in which the conduct of their respective businesses makes such qualification necessary and in which the failure to so qualify would have a material adverse effect upon the business, prospects, management, properties, operations, condition (financial or otherwise) or results of operations of the Company and the Subsidiaries, taken as a whole, or prevent the consummation of the transactions contemplated hereby (a “Material Adverse Effect”).

(f) Absence of Certain Events. Except as contemplated in the Registration Statement and the Prospectus, subsequent to their respective dates, neither the Company nor any of the Subsidiaries has incurred any material liabilities or obligations, direct or contingent, or entered into any material transactions, or declared or paid any dividends or made any distribution of any kind with respect to its capital stock; and there has not been any change in the capital stock (other than a change in the number of outstanding shares of Common Stock due to the issuance of shares upon the exercise of outstanding options or warrants or conversion of convertible securities described as outstanding in, and the grant of options and awards under existing equity incentive plans described in, the Registration Statement or the Prospectus), or any material change in the short-term or long-term debt (other than as a result of the conversion of convertible securities), or any issuance of options, warrants, convertible securities or other rights to purchase the capital stock, of the Company or any of the Subsidiaries, or any material adverse change in the general

affairs, condition (financial or otherwise), business, prospects, management, properties, operations or results of operations of the Company and the Subsidiaries, taken as a whole (“Material Adverse Change”), or any development which could reasonably be expected to result in any Material Adverse Change.

g. Capitalization; the Securities; Registration Rights. All of the issued and outstanding shares of capital stock of the Company, including the outstanding shares of Common Stock, have been duly authorized and validly issued, are fully paid and nonassessable, have been issued in compliance with all applicable federal and state and foreign securities laws, were not issued in violation of or subject to any preemptive rights or other rights to subscribe for or purchase securities that have not been waived in writing (a copy of which has been delivered to counsel to the Agents), and the holders thereof are not subject to personal liability by reason of being such holders, and the capital stock of the Company, including the Common Stock, conforms in all material respects to the description thereof in the Registration Statement and the Prospectus. Except as otherwise stated in the Registration Statement and the Prospectus, (A) there are no preemptive rights or other rights to subscribe for or to purchase, or any restriction upon the voting or transfer of, any shares of Common Stock pursuant to the Company’s charter, by-laws or any agreement or other instrument to which the Company or any of the Subsidiaries is a party or by which the Company or any of the Subsidiaries is bound and (B) the offering or sale of the Placement Shares as contemplated by this Agreement does not give rise to any rights for or relating to the registration of any shares of Common Stock or other securities of the Company (collectively “Registration Rights”) that have not been validly waived. All of the issued and outstanding shares of capital stock of each of the Subsidiaries have been duly and validly authorized and issued and are fully paid and nonassessable, and, except as otherwise described in the Registration Statement and the Prospectus, the Company owns of record and beneficially, free and clear of any security interests, claims, liens, proxies, equities or other encumbrances, all of the issued and outstanding shares of such stock. The Company has an authorized and outstanding capitalization as set forth in the Registration Statement and the Prospectus. The Common Stock (including the Placement Shares) conforms in all material respects to the description thereof contained in the Registration Statement and the Prospectus.

h. Stock Options. Except as described in the Registration Statement and the Prospectus, there are no options, warrants, agreements, contracts or other rights in existence to purchase or acquire from the Company or any Subsidiary any shares of the capital stock of the Company or any Subsidiary. The description of the Company’s stock option, stock bonus and other stock plans or arrangements (the “Company Stock Plans”), and the options (the “Options”) or other rights granted thereunder, set forth in the Registration Statement and the Prospectus accurately and fairly presents the information required to be shown with respect to such plans, arrangements, options and rights. Each grant of an Option (A) was duly authorized no later than the date on which the grant of such Option was by its terms to be effective by all necessary corporate action, including, as applicable, approval by the board of directors of the Company (or a duly constituted and authorized committee thereof) and any required stockholder approval by the necessary number of votes or written consents, and the award agreement governing such grant (if any) was duly executed and delivered by each party thereto and (B) was made in accordance with the terms of the applicable Company Stock Plan, and all applicable laws and regulatory rules or requirements, including all applicable federal securities laws.

i. Eligibility to use Form S-3. (i) At the time of filing the Registration Statement and (ii) at the time of the most recent amendment thereto for the purposes of complying with Section 10(a)(3) of the Securities Act (whether such amendment was by post-effective amendment, incorporated report filed pursuant to Section 13 or 15(d) of the Exchange Act or form of prospectus), the conditions for use of Form S-3, set forth in the General Instructions thereto, including, but not limited to, General Instruction I.B.1 of Form S-3, had been satisfied.

j. Authorization; No Conflicts. This Agreement has been duly authorized, executed and delivered by the Company, and constitutes a valid, legal and binding obligation of the Company, enforceable in accordance with its terms, except as rights to indemnity hereunder may be limited by federal or state securities laws and except as such enforceability may be limited by bankruptcy, insolvency, reorganization or similar laws affecting the rights of creditors generally and subject to general principles of equity. The execution, delivery and performance of this Agreement and the consummation of the transactions herein contemplated will not (A) conflict with or result in a breach or violation of any of the terms or provisions of, or constitute a default under, or result in the creation or imposition of any lien, charge or encumbrance upon any property or assets of the Company or any of the Subsidiaries pursuant to any indenture, mortgage, deed of trust, loan agreement or other agreement or instrument to which the Company or any of the Subsidiaries is a party or by which the Company or any of the Subsidiaries is bound or to which any of the property or assets of the Company or any of the Subsidiaries is subject, (B) result in any violation of the provisions of the Company's charter or by-laws or (C) result in the violation of any law or statute or any judgment, order, rule, regulation or decree of any court or arbitrator or federal, state, local or foreign governmental agency or regulatory authority having jurisdiction over the Company or any of the Subsidiaries or any of their properties or assets (each, a "Governmental Authority"), except in the case of clause (A) as would not reasonably be expected to result in a Material Adverse Effect.

k. Authorization of Placement Shares. The Placement Shares, when issued and delivered pursuant to the terms approved by the board of directors of the Company or a duly authorized committee thereof, or a duly authorized executive committee, against payment therefor as provided herein, have been duly authorized and, when issued, delivered and paid for in accordance with the terms of this Agreement, will be validly issued and fully paid and nonassessable, and the holders thereof will not be subject to personal liability by reason of being such holders, and will be registered pursuant to Section 12 of the Exchange Act. The Placement Shares, when issued, will conform in all material respects to the description thereof set forth in or incorporated into the Prospectus.

l. No Consents Required. No consent, approval, authorization or order of, or registration or filing with any Governmental Authority is required for the execution, delivery and performance by the Company of this Agreement, and the issuance and sale by the Company of the Placement Shares as contemplated hereby, except such as may be required under the Securities Act, the rules of the Financial Industry Regulatory Authority, Inc. ("FINRA") or state securities or blue sky laws or the Exchange, including any notices that may be required by the Exchange, in connection with the sale of the Placement Shares by the Agents; and the Company has full power and authority to enter into this Agreement and to consummate the transactions contemplated hereby, including the authorization, issuance and sale of the Placement Shares. No consent, approval, authorization, order, registration or qualification of or with any court or arbitrator or any governmental or regulatory authority is required for the execution, delivery and performance by

the Company of this Agreement, and the issuance and sale by the Company of the Placement Shares as contemplated hereby.

m. No Preferential Rights. (i) No person, as such term is defined in Rule 1-02 of Regulation S-X promulgated under the Securities Act (each, a “Person”), has the right, contractual or otherwise, to cause the Company to issue or sell to such Person any Common Stock or shares of any other capital stock or other securities of the Company (other than upon the exercise of options or warrants to purchase Common Stock or upon the exercise of options or other equity awards that may be granted from time to time under the Company’s equity incentive plans), (ii) no Person has any preemptive rights, rights of first refusal, or any other rights (whether pursuant to a “poison pill” provision or otherwise) to purchase any Common Stock or shares of any other capital stock or other securities of the Company from the Company which have not been duly waived with respect to the offering contemplated hereby, (iii) no Person has the right to act as an underwriter or as a financial advisor to the Company in connection with the offer and sale of the Common Stock, and (iv) no Person has the right, contractual or otherwise, to require the Company to register under the Securities Act any Common Stock or shares of any other capital stock or other securities of the Company, or to include any such shares or other securities in the Registration Statement or the offering contemplated thereby, whether as a result of the filing or effectiveness of the Registration Statement or the sale of the Placement Shares as contemplated thereby or otherwise, except in each case for such rights as have been waived on or prior to the date hereof.

n. Absence of Proceedings. Except as set forth in the Registration Statement and the Prospectus, there is not pending or, to the knowledge of the Company, threatened or contemplated, any action, suit or proceeding (A) to which the Company or any of the Subsidiaries is a party or (B) which has as the subject thereof any officer or director of the Company or any Subsidiary, any employee benefit plan sponsored by the Company or any Subsidiary or any property or assets owned or leased by the Company or any Subsidiary before or by any court or Governmental Authority, or any arbitrator, which, individually or in the aggregate, could reasonably be expected to result in any Material Adverse Change, or would materially and adversely affect the ability of the Company to perform its obligations under this Agreement or which are otherwise material in the context of the sale of the Placement Shares. There are no current or, to the knowledge of the Company, pending, legal, governmental or regulatory actions, suits or proceedings (x) to which the Company or any of the Subsidiaries is subject or (y) which has as the subject thereof any officer or director of the Company or any Subsidiary, any employee plan sponsored by the Company or any Subsidiary or any property or assets owned or leased by the Company or any Subsidiary, that are required to be described in the Registration Statement and the Prospectus by the Securities Act that have not been so described.

o. Disclosure of Legal Matters. There are no statutes, regulations, legal or governmental proceedings or contracts or other documents required to be described in the Prospectus or included as exhibits to the Registration Statement that are not described or included as required.

p. Incorporated Documents. The documents incorporated by reference in the Prospectus, when they became effective or were filed with the Commission, as the case may be, conformed in all material respects to the requirements of the Securities Act or the Exchange Act, as applicable, and were filed on a timely basis with the Commission and none of such documents

contained an untrue statement of a material fact or omitted to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading; any further documents so filed and incorporated by reference in the Prospectus, when such documents are filed with the Commission, will conform in all material respects to the requirements of the Exchange Act, and will not contain an untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

q. Compliance with Laws. Except as described in the Registration Statement and the Prospectus, the Company and each of the Subsidiaries holds, and is operating in compliance in all material respects with, all franchises, grants, authorizations, approvals, clearances, exemptions, registrations, licenses, permits, easements, consents, certificates and orders of any Governmental Authority or self-regulatory body required for the conduct of its business (“Permits”) and all such Permits are valid and in full force and effect; and neither the Company nor any of the Subsidiaries has received notice of any revocation or modification of any such Permits or has reason to believe that any such Permit will not be renewed in the ordinary course; and the Company and each of the Subsidiaries is in compliance in all material respects with all applicable federal, state, local and foreign laws, regulations, orders and decrees.

r. No Violations or Defaults. (A) Neither the Company nor any of the Subsidiaries is in violation of its respective charter, by-laws or other organizational documents, or in breach of or otherwise in default, and (B) except as would not reasonably be expected to result in a Material Adverse Effect, no event has occurred which, with notice or lapse of time or both, would constitute such a default in the performance of any material obligation, agreement or condition contained in any bond, debenture, note, indenture, loan agreement or any other material contract, lease or other instrument to which it is subject or by which any of them may be bound, or to which any of the material property or assets of the Company or any of the Subsidiaries is subject.

s. Certain Market Activities. Neither the Company, nor any Subsidiary, nor, to the knowledge of the Company, any of their respective directors, officers or controlling persons has taken, directly or indirectly, any action designed, or that has constituted or would cause or result in, under the Exchange Act or otherwise, the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Placement Shares.

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

u. No Reliance. The Company has not relied upon the Agents or legal counsel for the Agents for any legal, tax or accounting advice in connection with the offering and sale of the Placement Shares.

v. Taxes. The Company and the Subsidiaries have timely filed all federal, state, local and foreign income and franchise tax returns required to be filed or have properly requested extensions thereof (except as such failure to timely file such tax returns would not result in a Material Adverse Effect) and are not in default in the payment of any taxes which were payable pursuant to

said returns or any assessments with respect thereto, other than any which the Company or any of the Subsidiaries is contesting in good faith. There is no pending dispute with any taxing authority relating to any of such returns, and the Company has no knowledge of any proposed liability for any tax to be imposed upon the properties or assets of the Company or any of the Subsidiaries for which there is not an adequate reserve reflected in the Company's financial statements included or incorporated by reference in the Registration Statement and the Prospectus.

w. Ownership of Assets. The Company and the Subsidiaries have good and marketable title to all property (whether real or personal) described in the Registration Statement and the Prospectus as being owned by them, in each case free and clear of all liens, claims, security interests, other encumbrances or defects except such as would not reasonably be expected to result in a Material Adverse Effect or as are described in the Registration Statement and the Prospectus. The property held under lease by the Company and the Subsidiaries is held by them under valid, subsisting and enforceable leases with only such exceptions with respect to any particular lease as do not interfere in any material respect with the conduct of the business of the Company or the Subsidiaries.

x. Intellectual Property. The Company and each of the Subsidiaries owns, possesses, or can acquire or license on reasonable terms, all Intellectual Property necessary for the conduct of the Company's and the Subsidiaries' businesses as now conducted and as proposed to be conducted as described in the Registration Statement and the Prospectus to be conducted, except as such failure to own, possess, acquire or license such rights would not result in a Material Adverse Effect. Furthermore, (A) to the knowledge of the Company, there is no infringement, misappropriation or violation by third parties of any such Intellectual Property, except as such infringement, misappropriation or violation would not result in a Material Adverse Effect; (B) there is no pending or, to the knowledge of the Company, threatened, action, suit, proceeding or claim by others challenging the Company's or any of the Subsidiaries' rights in or to any such Intellectual Property, and the Company is unaware of any facts which would form a reasonable basis for any such claim; (C) the Intellectual Property owned by the Company and the Subsidiaries, and to the knowledge of the Company, the Intellectual Property licensed to the Company and the Subsidiaries, has not been adjudged invalid or unenforceable, in whole or in part, and there is no pending or, to the knowledge of the Company, threatened action, suit, proceeding or claim by others challenging the validity or scope of any such Intellectual Property, and the Company is not aware of any facts which would form a reasonable basis for any such claim; (D) except as set forth in the Registration Statement and the Prospectus, there is no prior, pending or, to the knowledge of the Company, threatened action, suit, proceeding or claim by others that the Company or any of the Subsidiaries infringes, misappropriates or otherwise violates any Intellectual Property or other proprietary rights of others, neither the Company or any of the Subsidiaries has received any written notice of such claim and the Company is not aware of any other fact which would form a reasonable basis for any such claim; and (E) to the Company's knowledge, no employee of the Company or any of the Subsidiaries is in or has ever been in violation of any term of any employment contract, patent disclosure agreement, invention assignment agreement, non-competition agreement, non-solicitation agreement, nondisclosure agreement or any restrictive covenant to or with a former employer where the basis of such violation relates to such employee's employment with the Company or any of the Subsidiaries or actions undertaken by the employee while employed with the Company or any of the Subsidiaries. "Intellectual Property." shall mean all patents, patent applications, trade and service marks, trade and service mark registrations, trade names, copyrights, licenses, inventions, trade secrets,

Internet domain names, technology, know-how and other intellectual property in the United States and foreign jurisdictions.

y. Compliance with Environmental Laws. Except as disclosed in the Registration Statement and the Prospectus, neither the Company nor any of the Subsidiaries is in violation of any statute, any rule, regulation, decision or order of any Governmental Authority or any court, domestic or foreign, relating to the use, disposal or release of hazardous or toxic substances or relating to the protection or restoration of the environment or human exposure to hazardous or toxic substances (collectively, "Environmental Laws"), owns or operates any real property contaminated with any substance that is subject to any Environmental Laws, is liable for any off-site disposal or contamination pursuant to any Environmental Laws, or is subject to any claim relating to any Environmental Laws, which violation, contamination, liability or claim would individually or in the aggregate, have a Material Adverse Effect; and the Company is not aware of any pending investigation which might lead to such a claim. Neither the Company nor any of the Subsidiaries anticipates incurring any material capital expenditures relating to compliance with Environmental Laws.

z. Disclosure Controls. The Company has established and maintains disclosure controls and procedures (as defined in Rules 13a-14 and 15d-14 under the Exchange Act) and such controls and procedures are effective in ensuring that material information relating to the Company, including the Subsidiaries, is made known to the principal executive officer and the principal financial officer. The Company has utilized such controls and procedures in preparing and evaluating the disclosures in the Registration Statement and the Prospectus.

aa. Sarbanes-Oxley Act. The Company is in compliance with all applicable provisions of the Sarbanes-Oxley Act and the rules and regulations of the Commission thereunder.

bb. Finder's Fees. Neither the Company nor any Subsidiary has incurred any liability for any finder's fees, brokerage commissions or similar payments in connection with the transactions herein contemplated, except as may otherwise exist with respect to the Agents pursuant to this Agreement.

cc. Labor Matters. No labor problem or dispute with the employees of the Company or any of the Subsidiaries exists or, to the knowledge of the Company, is threatened or imminent, and the Company is not aware of any existing or imminent labor disturbance by the employees of any of its or the Subsidiaries' principal suppliers, contractors or customers, that could have a Material Adverse Effect.

dd. Investment Company Act. The Company is not and, after giving effect to the offering and sale of the Placement Shares, will not be an "investment company," as such term is defined in the Investment Company Act of 1940, as amended (the "Investment Company Act").

ee. Anti-Bribery and Anti-Money Laundering Laws. Each of the Company, the Subsidiaries, any of their respective officers, directors, affiliates and employees, and, to the Company's knowledge, any of their respective agents has not violated, its participation in the offering will not violate, and the Company and each of the Subsidiaries has instituted and maintains policies and procedures designed to ensure continued compliance with, each of the following laws: (A) anti-bribery laws, including but not limited to, any applicable law, rule or regulation of any locality,

including but not limited to any law, rule or regulation promulgated to implement the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions, signed December 17, 1997, including the U.S. Foreign Corrupt Practices Act of 1977, as amended, the U.K. Bribery Act 2010, or any other law, rule or regulation of similar purposes and scope or (B) anti-money laundering laws, including but not limited to, applicable federal, state, international, foreign or other laws, regulations or government guidance regarding anti-money laundering, including, without limitation, Title 18 U.S. Code section 1956 and 1957, the Patriot Act, the Bank Secrecy Act and international anti-money laundering principles or procedures by an intergovernmental group or organization, such as the Financial Action Task Force on Money Laundering, of which the United States is a member and with which designation the United States representative to the group or organization continues to concur, all as amended, and any Executive order, directive or regulation pursuant to the authority of any of the foregoing, or any orders or licenses issued thereunder.

ff. Underwriter Agreements. Other than with respect to this Agreement, the Company is not a party to any agreement with an agent or underwriter for any other “at the market” or continuous equity transaction.

gg. ERISA and Employee Benefits Matters. (A) To the knowledge of the Company, no “prohibited transaction” as defined under Section 406 of ERISA or Section 4975 of the Code and not exempt under ERISA Section 408 and the regulations and published interpretations thereunder has occurred with respect to any Employee Benefit Plan. At no time has the Company or any ERISA Affiliate maintained, sponsored, participated in, contributed to or has or had any liability or obligation in respect of any Employee Benefit Plan subject to Part 3 of Subtitle B of Title I of ERISA, Title IV of ERISA, or Section 412 of the Code or any “multiemployer plan” as defined in Section 3(37) of ERISA or any multiple employer plan for which the Company or any ERISA Affiliate has incurred or would reasonably be expected to incur liability under Section 4063 or 4064 of ERISA. No Employee Benefit Plan provides or promises, or at any time provided or promised, retiree health, life insurance, or other retiree welfare benefits except as may be required by the Consolidated Omnibus Budget Reconciliation Act of 1985, as amended, or similar state law. Each Employee Benefit Plan is and has been operated in material compliance with its terms and all applicable laws, including but not limited to ERISA and the Code and, to the knowledge of the Company, no event has occurred (including a “reportable event” as such term is defined in Section 4043 of ERISA) and no condition exists that would subject the Company or any ERISA Affiliate to any material tax, fine, lien, penalty or liability imposed by ERISA, the Code or other applicable law. Each Employee Benefit Plan intended to be qualified under Code Section 401(a) is so qualified and has a favorable determination or opinion letter from the Internal Revenue Service upon which it can rely, and any such determination or opinion letter remains in effect and has not been revoked; to the knowledge of the Company, nothing has occurred since the date of any such determination or opinion letter that is reasonably likely to adversely affect such qualification; (B) with respect to each Foreign Benefit Plan, such Foreign Benefit Plan (1) if intended to qualify for special tax treatment, meets, in all material respects, the requirements for such treatment, and (2) if required to be funded, is funded to the extent required by applicable law, and with respect to all other Foreign Benefit Plans, adequate reserves therefor have been established on the accounting statements of the applicable Company or Subsidiary; (C) the Company does not have any obligations under any collective bargaining agreement with any union and no organization efforts are underway with respect to Company employees. As used in

this Agreement, “Code” means the Internal Revenue Code of 1986, as amended; “Employee Benefit Plan” means any “employee benefit plan” within the meaning of Section 3(3) of ERISA, including, without limitation, all stock purchase, stock option, stock-based severance, employment, change-in-control, medical, disability, fringe benefit, bonus, incentive, deferred compensation, employee loan and all other employee benefit plans, agreements, programs, policies or other arrangements, whether or not subject to ERISA, under which (x) any current or former employee, director or independent contractor of the Company or the Subsidiaries has any present or future right to benefits and which are contributed to, sponsored by or maintained by the Company or any of the Subsidiaries or (y) the Company or any of the Subsidiaries has had or has any present or future obligation or liability; “ERISA” means the Employee Retirement Income Security Act of 1974, as amended; “ERISA Affiliate” means any member of the company’s controlled group as defined in Code Section 414(b), (c), (m) or (o); and “Foreign Benefit Plan” means any Employee Benefit Plan established, maintained or contributed to outside of the United States or which covers any employee working or residing outside of the United States.

hh. 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 or the Prospectus has been made or reaffirmed without a reasonable basis or has been disclosed other than in good faith.

ii. Margin Rules. Neither the issuance, sale and delivery of the Placement Shares nor the application of the proceeds thereof by the Company as described in the Registration Statement and the Prospectus will violate Regulation T, U or X of the Board of Governors of the Federal Reserve System.

jj. Insurance. The Company and each of the Subsidiaries carries, or is covered by, insurance from reputable insurers in such amounts and covering such risks as the Company reasonably believes is adequate for the conduct of its business and the value of its properties and the properties of the Subsidiaries and as is customary for companies engaged in similar businesses in similar industries; all policies of insurance and any fidelity or surety bonds insuring the Company or any of the Subsidiaries or its business, assets, employees, officers and directors are in full force and effect; the Company and the Subsidiaries are in compliance with the terms of such policies and instruments in all material respects; there are no claims by the Company or any of the Subsidiaries under any such policy or instrument as to which any insurance company is denying liability or defending under a reservation of rights clause; neither the Company nor any of the Subsidiaries has been refused any insurance coverage sought or applied for; and neither the Company nor any of the Subsidiaries has reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage from similar insurers as may be necessary to continue its business at a cost that would not have a Material Adverse Effect.

kk. OFAC.

- a. Neither the Company nor any of the Subsidiaries, nor any or their directors, officers or employees, nor, to the Company’s knowledge, any agent, affiliate or representative of the Company or the Subsidiaries, is an individual or entity that is, or is owned or controlled by an individual or entity that is:

- i. the subject of any sanctions administered or enforced by the U.S. Department of Treasury’s Office of Foreign Assets Control, the United Nations Security Council, the European Union, Her Majesty’s Treasury, or other relevant sanctions authority (collectively, “Sanctions”), nor
  - ii. located, organized or resident in a country or territory that is the subject of Sanctions (including, without limitation, Burma/Myanmar, Cuba, Iran, Libya, North Korea and Syria).
- b. Neither the Company nor any of the Subsidiaries will, 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 individual or entity:
- i. to fund or facilitate any activities or business of or with any individual or entity or in any country or territory that, at the time of such funding or facilitation, is the subject of Sanctions; or
  - ii. in any other manner that will result in a violation of Sanctions by any individual or entity (including any individual or entity participating in the offering, whether as underwriter, advisor, investor or otherwise).

ll. Status Under the Securities Act. At the time of filing the Registration Statement and any post-effective amendment thereto, and at the date hereof, the Company was not and is not an “ineligible issuer,” as defined in Rule 405 of the rules and regulations under the Securities Act, without taking account of any determination by the Commission pursuant to Rule 405 that it is not necessary that the Company be considered an ineligible issuer.

mm. No Misstatement or Omission in an Issuer Free Writing Prospectus. Each issuer free writing prospectus, as of its issue date and at all subsequent times through the completion of the public offer and sale of the Placement Shares or until any earlier date that the Company notified or notifies the Agents, 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. The foregoing sentence does not apply to statements in or omissions from any issuer free writing prospectus based upon and in conformity with written information furnished to the Company by the Agents specifically for use therein. Each issuer free writing prospectus satisfied, as of its issue date and at all subsequent times through the completion of the offer and sale of the Placement Shares, all other conditions to use thereof as set forth in Rules 164 and 433 under the Securities Act.

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

oo. Cybersecurity. The Company’s, its Subsidiaries’ and the Managed Practice’s information technology assets and equipment, computers, systems, networks, hardware,

software, websites, applications, and databases (collectively, “IT Systems”) are adequate for, and operate and perform in all material respects as required in connection with the operation of the business of the Company, its Subsidiaries and the Managed Practice (as defined below) as currently conducted, free and clear of all material bugs, errors, defects, Trojan horses, time bombs, malware and other corruptants. The Company, its Subsidiaries and the Managed Practice have implemented and maintained commercially reasonable physical, technical and administrative controls, policies, procedures, and safeguards to maintain and protect their material confidential information and the integrity, continuous operation, redundancy and security of all IT Systems and data, including “Personal Data,” used in connection with their businesses. “Personal Data” means (i) a natural person’s name, street address, telephone number, e-mail address, photograph, social security number or tax identification number, driver’s license number, passport number, credit card number, bank information, or customer or account number; (ii) any information which would qualify as “personally identifying information” under the Federal Trade Commission Act, as amended; (iii) “personal data” as defined by GDPR (as defined below); (iv) any information which would qualify as “protected health information” under the Health Insurance Portability and Accountability Act of 1996, as amended by the Health Information Technology for Economic and Clinical Health Act (collectively, “HIPAA”); and (v) any other piece of information that allows the identification of such natural person, or his or her family, or permits the collection or analysis of any data related to an identified person’s health or sexual orientation. There have been no breaches, violations, outages or unauthorized uses of or accesses to same, except for those that have been remedied without material cost or liability or the duty to notify any other person, nor any incidents under internal review or investigations relating to the same. The Company, its Subsidiaries and the Managed Practice are presently in material compliance with all applicable laws or statutes and all judgments, orders, rules and regulations of any court or arbitrator or governmental or regulatory authority, internal policies and contractual obligations relating to the privacy and security of IT Systems and Personal Data and to the protection of such IT Systems and Personal Data from unauthorized use, access, misappropriation or modification.

pp. Health Care Authorizations. The Company and each of the Subsidiaries has submitted and possesses, or qualifies for applicable exemptions to, such valid and current material registrations, listings, approvals, clearances, licenses, certificates, authorizations, accreditations, provider or supplier numbers, or permits and supplements or amendments thereto issued or required by the appropriate state, federal or foreign regulatory agencies or bodies necessary to conduct their business, including, without limitation, all such material registrations, listings, approvals, clearances, licenses, certificates, authorizations, accreditations, exemptions, provider or supplier numbers, or permits and supplements or amendments thereto required by the United States Food and Drug Administration (the “FDA”), the United States Department of Health and Human Services (“HHS”), the United States Centers for Medicare & Medicaid Services (“CMS”), the European Medicines Agency (the “EMA”), Health Canada or any other state, federal or foreign agencies or bodies engaged in the regulation of medical devices (including diagnostic products, such as laboratory developed tests), drugs, biologics or biohazardous materials (the “Regulatory Agencies”) (collectively, “Regulatory Licenses”), and except as disclosed in the Registration Statement and the Prospectus: (i) the Company, each of its Subsidiaries and Mattison Pathology, LLP d/b/a Avero Diagnostics (“Managed Practice”) has fulfilled and performed all of its obligations with respect to each Regulatory License and, to the Company’s knowledge, no event has occurred which allows, or after notice or lapse of time would allow, revocation or termination thereof or results in any other material impairment of the rights of the holder of any Regulatory

License, and (ii) none of the Company, any of the Subsidiaries or the Managed Practice has received any notice of proceedings relating to the revocation or modification of, or non-compliance with, any such Regulatory License, the lack of which would not, individually or in the aggregate, have a Material Adverse Effect.

qq. Clinical Trials. The studies, tests and preclinical and clinical trials conducted by or on behalf of, or sponsored by, the Company or the Subsidiaries, or in which the Company or the Subsidiaries have participated, that are described in the Registration Statement or the Prospectus, or the results of which are referred to in the Registration Statement or the Prospectus, were and, if still pending, are being conducted in all material respects in accordance with the protocols, procedures and controls established for each such study, test or preclinical or clinical trial and pursuant to, where applicable, accepted professional and scientific standards for products or product candidates comparable to those being developed by the Company or the Subsidiaries and all applicable statutes, rules and regulations of the Regulatory Agencies to which they are subject, including without limitation the Health Care Laws (as defined below), including 21 C.F.R. Parts 50, 54, 56, 58, 312 and 812; the descriptions of the results of such studies, tests and trials contained in the Registration Statement or the Prospectus do not contain any misstatement of a material fact or omit a material fact necessary to make such statements not misleading; the Company has no knowledge of any studies, tests or trials not described in the Registration Statement and the Prospectus the results of which reasonably call into question in any material respect the results of the studies, tests and trials described in the Registration Statement or the Prospectus; and neither the Company nor any of the Subsidiaries has received any notices or other correspondence from the FDA, the EMA, Health Canada or any other foreign, state or local governmental body exercising comparable authority or any Institutional Review Board or comparable authority requiring or threatening the termination, suspension or material modification of any studies, tests or preclinical or clinical trials conducted by or on behalf of, or sponsored by, the Company or in which the Company has participated, and, to the Company's knowledge, there are no reasonable grounds for the same. Except as disclosed in the Registration Statement and the Prospectus, there has not been any violation of law or regulation by the Company or the Subsidiaries in their respective product development efforts, submissions or reports to any regulatory authority that could reasonably be expected to require investigation, corrective action or enforcement action.

rr. Compliance with Health Care Laws. Except as disclosed in the Registration Statement and the Prospectus, the Company, the Subsidiaries, the Managed Practice and, to the Company's knowledge, their respective directors, employees and agents (while acting in such capacity) are in material compliance with all health care laws applicable to the Company and the Subsidiaries, or any of their products or activities, including, but not limited to, the federal Anti-Kickback Statute (42 U.S.C. Section 1320a-7b(b)), the Civil Monetary Penalties Law (42 U.S.C. Section 1320a-7a), the civil False Claims Act (31 U.S.C. Section 3729 et seq.), the criminal False Claims Law (42 U.S.C. Section 1320a-7b(a)), the Stark law (42 U.S.C. Section 1395nn), the Physician Payments Sunshine Act (42 U.S.C. § 1320a-7h), the Health Insurance Portability and Accountability Act of 1996 (42 U.S.C. Section 1320d et seq.) as amended by HIPAA, all criminal laws relating to healthcare fraud and abuse, including but not limited to 18 U.S.C. sections 286 and 287, the healthcare fraud criminal provisions under HIPAA, the exclusion laws (42 U.S.C. Section 1320a-7), the Federal Food, Drug, and Cosmetic Act (21 U.S.C. Section 301 et seq.), the

Controlled Substances Act (21 U.S.C. Section 801 et seq.), the Public Health Service Act (42 U.S.C. Section 201 et seq.), the Clinical Laboratory Improvement Amendments of 1988 (42 U.S.C. Section 263a), Medicare (Title XVIII of the Social Security Act), Medicaid (Title XIX of the Social Security Act), TRICARE (10 U.S.C. Sections 1071 et seq.), any state corporate practice or fee-splitting prohibitions, and any state or federal anti-markup or comparable laws or regulations, the regulations promulgated pursuant to such laws, and any other state, federal or foreign law, accreditation standards, regulation, memorandum, opinion letter or other issuance which imposes requirements on the manufacturing, development, testing, labeling, advertising, marketing or distribution of drugs, biologics and medical devices (including diagnostic products and laboratory developed tests), kickbacks, patient or program charges, recordkeeping, claims process, documentation requirements, medical necessity, referrals, the hiring of employees or acquisition of services or supplies from those who have been excluded from government health care programs, quality, safety, privacy, security, licensure, accreditation or any other aspect of providing health care, clinical laboratory or diagnostics products or services (collectively, "Health Care Laws"). None of the Company, the Subsidiaries, the Managed Practice or any of its respective officers, directors, employees or, to the Company's knowledge, agents, have engaged in activities which are, as applicable, cause for false claims liability, civil penalties, or mandatory or permissive exclusion from Medicare, Medicaid, TRICARE or any other state or federal healthcare program (collectively, the "Programs"). Except as disclosed in the Registration Statement and the Prospectus, none of the Company, any of the Subsidiaries or the Managed Practice has received any notification, correspondence or any other written or, to the Company's knowledge, oral communication, including notification of any pending or threatened claim, suit, proceeding, hearing, enforcement, investigation, arbitration or other action ("Action") from any governmental authority, including, without limitation, the FDA, the EMA, Health Canada, the United States Federal Trade Commission, the United States Drug Enforcement Administration, CMS, HHS's Office of Inspector General, the United States Department of Justice and state Attorneys General or similar agencies of potential or actual non-compliance by, or liability of, the Company, the Subsidiaries or the Managed Practice under any Health Care Laws, except, with respect to any of the foregoing, such as would not, individually or in the aggregate, be material to the Company, its Subsidiaries or the Managed Practice. Except as disclosed in the Registration Statement and the Prospectus, to the Company's knowledge, there are no facts or circumstances that would reasonably be expected to give rise to material liability of the Company, the Subsidiaries or the Managed Practice under any Health Care Laws. Except as set forth in the Registration Statement and the Prospectus, none of the Company, any of its Subsidiaries or the Managed Practice is a party to, and has any ongoing reporting obligations pursuant to any corporate integrity agreement, deferred prosecution agreement, monitoring agreement, consent decree, settlement order, plan of correction or similar agreement imposed by any governmental or regulatory authority. Additionally, none of the Company, its Subsidiaries, the Managed Practice or any of its respective employees, officers or directors, nor to the Company's knowledge, any of its agents, has been excluded, suspended or debarred from participation in any Program or human clinical research or, to the knowledge of the Company, is subject to a governmental inquiry, investigation, proceeding, or other similar Action that could reasonably be expected to result in debarment, suspension, or exclusion. The statements with respect to Health Care Laws and the Company's, the Subsidiaries' and the Managed Practice's compliance therewith included in the Prospectus fairly summarize the matters therein described.

ss. Third-Party Payor Programs. Each of the Company, its Subsidiaries and the Managed Practice meets all Program requirements and conditions of participation and are a party to valid participation or other agreements required for payment by such Programs and other third-party payor programs in which the Company is a participant. There are no material suspensions, offsets, overpayments or recoupments of any Program or material third-party payor payments being sought, requested or claimed, or to the Company's knowledge, threatened against the Company, any Subsidiary or the Managed Practice. Except as disclosed in the Registration Statement and the Prospectus, none of the Company, any Subsidiary or the Managed Practice has received any notice of denial of payment, recoupment, or overpayment from any Program or other third-party payor in excess of Five Hundred Thousand Dollars (\$500,000). Except as set forth in the Registration Statement and the Prospectus, there is no Action pending or received or, to the Company's knowledge, threatened, against the Company, any Subsidiary or the Managed Practice which relates to a violation of any legal requirement pertaining to the Programs or other third-party payor requirement which could result in the imposition of material penalties, termination or the exclusion by the Company or its Subsidiary from participation in any Program or other third-party payor program in which the Company is a participant.

tt. Compliance with Data Privacy Laws. The Company, its Subsidiaries and the Managed Practice are, and at all prior times were, in material compliance with all applicable state and federal data privacy and security laws and regulations, including without limitation HIPAA, and the Company, its Subsidiaries and the Managed Practice have taken commercially reasonable actions to prepare to comply with, and currently are in compliance with, the European Union General Data Protection Regulation ("GDPR") (EU 2016/679) (collectively, the "Privacy Laws"). To ensure compliance with the Privacy Laws, the Company, its Subsidiaries and the Managed Practice have in place, comply with, and take appropriate steps reasonably designed to ensure compliance in all material respects with their policies and procedures relating to data privacy and security and the collection, storage, use, disclosure, handling, and analysis of Personal Data (the "Policies"). The Company, its Subsidiaries and the Managed Practice have at all times made all disclosures to users or customers required by applicable laws and regulatory rules or requirements, and none of such disclosures made or contained in any Policy have, to the knowledge of the Company, been inaccurate or in violation of any applicable laws and regulatory rules or requirements in any material respect. The Company further certifies that neither it nor any Subsidiary or the Managed Practice: (i) has received notice of any actual or potential liability under or relating to, or actual or potential violation of, any of the Privacy Laws, and has no knowledge of any event or condition that would reasonably be expected to result in any such notice; (ii) is currently conducting or paying for, in whole or in part, any investigation, remediation, or other corrective action pursuant to any Privacy Law; or (iii) is a party to any order, decree, or agreement that imposes any obligation or liability under any Privacy Law.

uu. Post-Market Reporting Obligations. The Company and the Subsidiaries are in compliance in all material respects with all applicable regulatory post-market reporting obligations, including, without limitation, the FDA's adverse event reporting requirements at 21 CFR Parts 310, 314, 600, and 803, and, to the extent applicable, the respective counterparts thereof promulgated by governmental authorities in countries outside the United States.

vv. No Shutdowns or Prohibitions. Neither the Company nor any of the Subsidiaries has had any product, clinical laboratory or manufacturing site (whether Company-owned or that of a third party manufacturer) subject to a governmental authority (including FDA) shutdown or import or export prohibition, nor received any FDA Form 483 or other governmental authority notice of inspectional observations, “warning letters,” “untitled letters,” requests to make changes to the Company’s products, processes or operations, or similar correspondence or notice from the FDA or other governmental authority alleging or asserting material noncompliance with any applicable Health Care Laws. To the Company’s knowledge, neither the FDA nor any other governmental authority is considering such action.

ww. No Safety Notices. (A) Except as disclosed in the Registration Statement and the Prospectus, there have been no recalls, field notifications, field corrections, market withdrawals or replacements, warnings, “dear doctor” letters, investigator notices, safety alerts or other notice of action relating to an alleged lack of safety, efficacy, or regulatory compliance of the Company or the Subsidiaries’ products (“Safety Notices”) and (B) to the Company’s knowledge, there are no facts that would be reasonably likely to result in (1) a Safety Notice with respect to the Company or any of the Subsidiaries’ products or services, (2) a change in labeling of any of the Company’s or the Subsidiaries’ respective products or services, or (3) a termination or suspension of marketing or testing of any of the Company’s or the Subsidiaries’ respective products or services.

xx. Compliance with Occupational Laws. The Company and each of the Subsidiaries (A) is in compliance, in all material respects, with any and all applicable foreign, federal, state and local laws, rules, regulations, treaties, statutes and codes promulgated by any and all Governmental Authorities (including pursuant to the Occupational Health and Safety Act) relating to the protection of human health and safety in the workplace (“Occupational Laws”); (B) has received all material permits, licenses or other approvals required of it under applicable Occupational Laws to conduct its business as currently conducted; and (C) is in compliance, in all material respects, with all terms and conditions of such permit, license or approval. No action, proceeding, revocation proceeding, writ, injunction or claim is pending or, to the Company’s knowledge, threatened against the Company or any of the Subsidiaries relating to Occupational Laws, and the Company does not have knowledge of any facts, circumstances or developments relating to its operations or cost accounting practices that could reasonably be expected to form the basis for or give rise to such actions, suits, investigations or proceedings.

yy. Business Arrangements. Except as disclosed in the Registration Statement and the Prospectus, neither the Company nor any of the Subsidiaries has granted rights to develop, manufacture, produce, assemble, distribute, license, market or sell its products to any other person and is not bound by any agreement that affects the exclusive right of the Company or such Subsidiary to develop, manufacture, produce, assemble, distribute, license, market or sell its products.

zz. Restrictions on Subsidiary Payments to the Company. No Subsidiary is currently prohibited, directly or indirectly, from paying any dividends to the Company, from making any other distribution on such Subsidiary’s capital stock, from repaying to the Company any loans or advances to such Subsidiary from the Company or from transferring any of such

Subsidiary's property or assets to the Company or any other Subsidiary, except as described in or contemplated by the Registration Statement and the Prospectus.

Any certificate signed by an officer of the Company and delivered to the Agents or to counsel for the Agents pursuant to or in connection with this Agreement shall be deemed to be a representation and warranty by the Company, as applicable, to the Agents as to the matters set forth therein.

7. Covenants of the Company. The Company covenants and agrees with the Agents that:

a. Registration Statement Amendments. After the date of this Agreement and during any period in which a prospectus relating to any Placement Shares is required to be delivered by the Agents under the Securities Act (including in circumstances where such requirement may be satisfied pursuant to Rule 172 under the Securities Act) (the "Prospectus Delivery Period") (i) the Company will notify the Agents promptly of the time when any subsequent amendment to the Registration Statement, other than documents incorporated by reference or amendments not related to any Placement Shares, has been filed with the Commission and/or has become effective or any subsequent supplement to the Prospectus has been filed and of any request by the Commission for any amendment or supplement to the Registration Statement or Prospectus related to the Placement Shares or for additional information related to the transactions contemplated hereby, (ii) the Company will prepare and file with the Commission, promptly upon the Agents' reasonable request, any amendments or supplements to the Registration Statement or Prospectus that, upon the advice of the Company's legal counsel, may be necessary or advisable in connection with the distribution of the Placement Shares by the Agents (*provided, however*, that the failure of the Agents to make such request shall not relieve the Company of any obligation or liability hereunder, or affect the Agents' right to rely on the representations and warranties made by the Company in this Agreement and provided, further, that the only remedy the Agents shall have with respect to the failure to make such filing shall be to cease making sales under this Agreement until such amendment or supplement is filed); (iii) the Company will not file any amendment or supplement to the Registration Statement or Prospectus relating to the Placement Shares or a security convertible into the Placement Shares (other than an Incorporated Document) unless a copy thereof has been submitted to the Agents within a reasonable period of time before the filing and the Agents have not reasonably objected in writing thereto within two (2) Business Days (*provided, however*, that (A) the failure of the Agents to make such objection shall not relieve the Company of any obligation or liability hereunder, or affect the Agents' right to rely on the representations and warranties made by the Company in this Agreement and (B) the Company has no obligation to provide the Agents any advance copy of such filing or to provide the Agents an opportunity to object to such filing if the filing does not name the Agents or does not relate to the transaction herein provided; and *provided, further*, that the only remedy the Agents shall have with respect to the failure by the Company to provide the Agents with such copy of such amendment or supplement prior to filing, or the filing thereof despite the Agents' objection shall be to cease making sales under this Agreement) and the Company will furnish to the Agents at the time of filing thereof a copy of any document that upon filing is deemed to be incorporated by reference into the Registration Statement or Prospectus, except for those documents available via EDGAR; and (iv) the Company will cause each amendment or supplement to the Prospectus, other than Incorporated Documents, to be filed with the Commission as required pursuant to the

applicable paragraph of Rule 424(b) of the Securities Act or, in the case of any Incorporated Document, to be filed with the Commission as required pursuant to the Exchange Act, within the time period prescribed (the determination to file or not file any amendment or supplement with the Commission under this Section 7(a), based on the Company's reasonable opinion or reasonable objections, shall be made exclusively by the Company).

b. Notice of Commission Stop Orders. The Company will advise the Agents, promptly after it receives notice or obtains knowledge thereof, of the issuance or threatened issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement, of the suspension of the qualification of the Placement Shares for offering or sale in any jurisdiction, or of the initiation or threatening of any proceeding for any such purpose; and it will promptly use its commercially reasonable efforts to prevent the issuance of any stop order or to obtain its withdrawal if such a stop order should be issued. The Company will advise the Agents promptly after it receives any request by the Commission for any amendments to the Registration Statement or any amendment or supplements to the Prospectus or any Issuer Free Writing Prospectus or for additional information related to the offering of the Placement Shares or for additional information related to the Registration Statement, the Prospectus or any Issuer Free Writing Prospectus.

c. Delivery of Prospectus; Subsequent Changes. During the Prospectus Delivery Period, the Company will comply with all requirements imposed upon it by the Securities Act, as from time to time in force, and to file on or before their respective due dates (taking into account any extensions available under the Exchange Act) all reports and any definitive proxy or information statements required to be filed by the Company with the Commission pursuant to Sections 13(a), 13(c), 14, 15(d) or any other provision of or under the Exchange Act. If during the Prospectus Delivery Period the Company has omitted any information from the Registration Statement pursuant to Rule 430A under the Securities Act, it will use its commercially reasonable efforts to comply with the provisions of and make all requisite filings with the Commission pursuant to said Rule 430A and to notify the Designated Agent promptly of all such filings. If during the Prospectus Delivery Period any event occurs as a result of which the Prospectus as then amended or supplemented would include an untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances then existing, not misleading, or if during such Prospectus Delivery Period it is necessary to amend or supplement the Registration Statement or Prospectus to comply with the Securities Act, the Company will promptly notify the Agent to suspend the offering of Placement Shares during such period and the Company will promptly amend or supplement the Registration Statement or Prospectus (at the expense of the Company) so as to correct such statement or omission or effect such compliance; *provided, however*, that the Company may delay the filing of any amendment or supplement, if in the reasonable judgment of the Company, it is in the best interest of the Company.

d. Listing of Placement Shares. During the Prospectus Delivery Period, the Company will use its commercially reasonable efforts to cause the Placement Shares to be listed on the Exchange and to qualify the Placement Shares for sale under the securities laws of such jurisdictions in the United States as the Agents reasonably designate and to continue such qualifications in effect so long as required for the distribution of the Placement Shares; *provided, however*, that the Company shall not be required in connection therewith to qualify as a foreign corporation or dealer in securities, file a general consent to service of process, or subject itself to

taxation in any jurisdiction if it is not otherwise so subject.

e. Delivery of Registration Statement and Prospectus. The Company will furnish to the Agents and their counsel (at the reasonable expense of the Company) copies of the Registration Statement, the Prospectus (including all documents incorporated by reference therein) and all amendments and supplements to the Registration Statement or Prospectus that are filed with the Commission during the Prospectus Delivery Period (including all documents filed with the Commission during such period that are deemed to be incorporated by reference therein), in each case as soon as reasonably practicable and in such quantities as the Agents may from time to time reasonably request and, at the Agents' request, will also furnish copies of the Prospectus to each exchange or market on which sales of the Placement Shares may be made; *provided, however*, that the Company shall not be required to furnish any document (other than the Prospectus) to the Agents to the extent such document is available on EDGAR.

f. Earnings Statement. The Company will make generally available to its security holders as soon as practicable, but in any event not later than 15 months after the end of the Company's current fiscal quarter, an earnings statement covering a 12-month period that satisfies the provisions of Section 11(a) and Rule 158 of the Securities Act, which requirement may be satisfied by publicly filing the required information on EDGAR.

g. Use of Proceeds. The Company will use the Net Proceeds as described in the Prospectus in the section entitled "Use of Proceeds."

h. Notice of Other Sales. During the pendency of any Placement Notice given hereunder, the Company shall not offer to sell, sell, contract to sell, grant any option to sell or otherwise dispose of any shares Common Stock (other than the Placement Shares offered pursuant to this Agreement) or securities convertible into or exchangeable for Common Stock, warrants or any rights to purchase or acquire, Common Stock without the prior written consent of the Agents. At any other time, the Company shall provide the Agents notice as promptly as reasonably possible before it offers to sell, sells, contracts to sell, grants any option to sell or otherwise dispose of any shares Common Stock (other than the Placement Shares offered pursuant to this Agreement) or securities convertible into or exchangeable for Common Stock, warrants or any rights to purchase or acquire, Common Stock. However, the prior written consent of the Agents or notice, as applicable, will not be required in connection with (i) the issuance, grant or sale of shares of Common Stock, options to purchase shares of Common Stock or shares of Common Stock issuable upon the exercise of options or exercise or vesting of other equity awards, pursuant to any stock option, or other stock plan or arrangement described in the Prospectus, whether now in effect or hereafter implemented; (ii) the issuances of shares of Common Stock issuable upon conversion of securities, including convertible notes, or the exercise of warrants, options or other rights in effect or outstanding, and disclosed in filings by the Company available on EDGAR or otherwise in writing to the Agents, (iii) the issuance of shares of Common Stock, or securities convertible into or exercisable for Common Stock, offered and sold in a privately negotiated transaction to vendors, customers, strategic partners or potential strategic partners or other investors conducted in a manner so as not to be integrated with the offering of Common Stock hereby and (iv) the issuance of shares of Common Stock in connection with any acquisition, strategic investment or other similar transaction (including any joint venture, strategic alliance or partnership). Without the prior written consent of the Agents, the Company will not directly or indirectly in any other "at the

market” or continuous equity transaction offer to sell, sell, contract to sell, grant any option to sell or otherwise dispose of any Common Stock (other than the Placement Shares offered pursuant to this Agreement) or securities convertible into or exchangeable for Common Stock, warrants or any rights to purchase or acquire, Common Stock prior to the termination of this Agreement. For avoidance of doubt, nothing herein shall be construed to restrict the Company’s ability, or require the Company to provide notice to the Agents, to file a registration statement with the Commission.

i. Change of Circumstances. The Company will, at any time during the pendency of a Placement Notice advise the Agents promptly after it shall have received notice or obtained knowledge thereof, of any information or fact that would alter or affect in any material respect any opinion, certificate, letter or other document required to be provided to the Agents pursuant to this Agreement.

j. Due Diligence Cooperation. During the term of this Agreement, the Company will cooperate with any reasonable due diligence review conducted by the Agents or their representatives in connection with the transactions contemplated hereby, including, without limitation, providing information and making available documents and senior corporate officers, during regular business hours and at the Company’s principal offices, as the Agents may reasonably request.

k. Required Filings Relating to Placement of Placement Shares. The Company agrees that on such dates as the Securities Act shall require, the Company will (i) file a prospectus supplement with the Commission under the applicable paragraph of Rule 424(b) under the Securities Act (each and every date a filing under Rule 424(b) is made, a “Filing Date”), which prospectus supplement will set forth, within the relevant period, the amount of Placement Shares sold through the Agents, the Net Proceeds to the Company and the compensation payable by the Company to the Agents with respect to such Placement Shares (provided that the Company may satisfy its obligations under this Section 7(k)(i) by effecting a filing in accordance with the Exchange Act with respect to such information), and (ii) deliver such number of copies of each such prospectus supplement to each exchange or market on which such sales were effected as may be required by the rules or regulations of such exchange or market.

l. Representation Dates; Certificate. Each time during the term of this Agreement that the Company:

(i) amends or supplements (other than a prospectus supplement relating solely to an offering of securities other than the Placement Shares or a prospectus supplement filed in accordance with Section 7(k) of this Agreement) the Registration Statement or the Prospectus relating to the Placement Shares by means of a post-effective amendment, sticker, or supplement but not by means of incorporation of documents by reference into the Registration Statement or the Prospectus relating to the Placement Shares;

(ii) files an annual report on Form 10-K under the Exchange Act (including any Form 10-K/A containing amended audited financial information or a material amendment to the previously filed Form 10-K);

(iii) files its quarterly reports on Form 10-Q under the Exchange Act; or

(iv) files a current report on Form 8-K containing amended financial information (other than information “furnished” pursuant to Items 2.02 or 7.01 of Form 8-K);

(each date of filing of one or more of the documents referred to in clauses (i) through (iv) shall be a “Representation Date”)

the Company shall furnish the Agents (but in the case of clause (iv) above only if any of the Agents reasonably determines that the information contained in such Form 8-K is material) with a certificate, in the form attached hereto as Exhibit 7(1), within five (5) Trading Days of any Representation Date. The requirement to provide a certificate under this Section 7(1) shall be automatically waived for any Representation Date occurring at a time at which no Placement Notice is pending, which waiver shall continue until the earlier to occur of the date the Company delivers a Placement Notice hereunder (which for such calendar quarter shall be considered a Representation Date) and the next occurring Representation Date on which the Company files its annual report on Form 10-K. Notwithstanding the foregoing, (i) upon the delivery of the first Placement Notice hereunder and (ii) if the Company subsequently decides to sell Placement Shares following a Representation Date when the Company relied on such waiver and did not provide the Agents with a certificate under this Section 7(1), then before the Agents sell any Placement Shares, the Company shall provide the Agents with a certificate, in the form attached hereto as Exhibit 7(1), dated the date of the Placement Notice.

m. Legal Opinion. On or prior to the date of the first Placement Notice given hereunder, the Company shall cause to be furnished to the Agents a written opinion and a negative assurance letter of Gibson, Dunn & Crutcher LLP (“Company Counsel”) and a written opinion of Casimir Jones S.C., intellectual property counsel for the Company (“Casimir Jones”), Wilson, Sonsini, Goodrich & Rosati, P.C., intellectual property counsel for the Company (“Wilson Sonsini”), Procopio, Cory, Hargreaves & Savitch LLP, intellectual property counsel for the Company (“Procopio”) and in-house counsel for the Company (and together with Casimir Jones, Wilson Sonsini and Procopio “Intellectual Property Counsel”) or other counsel reasonably satisfactory to the Agents, each in form and substance reasonably satisfactory to the Agents. Thereafter, within five (5) Trading Days of each Representation Date with respect to which the Company is obligated to deliver a certificate in the form attached hereto as Exhibit 7(1) for which no waiver is applicable, the Company shall cause to be furnished to the Agents a written opinion and negative assurance letter of Company Counsel and written opinions of Intellectual Property Counsel in form and substance reasonably satisfactory to the Agent; provided that, in lieu of such negative assurance and legal opinions for subsequent periodic filings under the Exchange Act, counsel may furnish the Agents with a letter (a “Reliance Letter”) to the effect that the Agents may rely on the negative assurance letter and legal opinion previously delivered under this Section 7(m) to the same extent as if it were dated the date of such letter (except that statements in such prior letter shall be deemed to relate to the Registration Statement and the Prospectus as amended or supplemented as of the date of the Reliance Letter).

n. Comfort Letter. On or prior to the date of the first Placement Notice given hereunder and within five (5) Trading Days after each subsequent Representation Date with respect to which the Company is obligated to deliver a certificate in the form attached hereto as Exhibit 7(1) for which no waiver is applicable, the Company shall cause its independent accountants to furnish the Agents letters (the “Comfort Letters”), dated the date the Comfort Letter is delivered,

which shall meet the requirements set forth in this Section 7(n). The Comfort Letter from the Company's independent accountants shall be in a form and substance reasonably satisfactory to the Agents, (i) confirming that they are an independent public accounting firm within the meaning of the Securities Act and the Public Company Accounting Oversight Board (the "PCAOB"), (ii) stating, as of such date, the conclusions and findings of such firm with respect to the financial information and other matters ordinarily covered by accountants' "comfort letters" to underwriters in connection with registered public offerings (the first such letter, the "Initial Comfort Letter") and (iii) updating the Initial Comfort Letter with any information that would have been included in the Initial Comfort Letter had it been given on such date and modified as necessary to relate to the Registration Statement and the Prospectus, as amended and supplemented to the date of such letter.

o. Market Activities. The Company will not, directly or indirectly, (i) take any action designed to cause or result in, or that constitutes or would constitute, the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Placement Shares or (ii) sell, bid for, or purchase the Common Stock to be issued and sold pursuant to this Agreement in violation of Regulation M, or pay anyone any compensation for soliciting purchases of the Placement Shares other than the Agents.

p. Investment Company Act. The Company will conduct its affairs in such a manner so as to reasonably ensure that neither it nor the Subsidiaries will be or become, at any time prior to the termination of this Agreement, an "investment company," as such term is defined in the Investment Company Act.

q. No Offer to Sell. Other than an Issuer Free Writing Prospectus approved in advance by the Company and the Agents in their capacity as agents hereunder pursuant to Section 23, neither the Agents nor the Company (including its agents and representatives, other than the Agents in their capacity as such) will make, use, prepare, authorize, approve or refer to any written communication (as defined in Rule 405), required to be filed with the Commission, that constitutes an offer to sell or solicitation of an offer to buy Placement Shares hereunder.

r. Sarbanes-Oxley Act. The Company will maintain and keep accurate books and records reflecting its assets and maintain internal accounting controls in a manner designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with GAAP and including 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, (ii) provide reasonable assurance that transactions are recorded as necessary to permit the preparation of the Company's consolidated financial statements in accordance with GAAP, (iii) that receipts and expenditures of the Company are being made only in accordance with management's and the Company's directors' authorization, and (iv) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of the Company's assets that could have a material effect on its financial statements. The Company will maintain disclosure controls and procedures that comply with the requirements of the Exchange Act.

8. Representations and Covenants of the Agents. Each of the Agents represents and warrants that it is duly registered as a broker-dealer under FINRA, the Exchange Act and the

applicable statutes and regulations of each state in which the Placement Shares will be offered and sold, except such states in which such Agent is exempt from registration or such registration is not otherwise required. Each of the Agents shall continue, for the term of this Agreement, to be duly registered as a broker-dealer under FINRA, the Exchange Act and the applicable statutes and regulations of each state in which the Placement Shares will be offered and sold, except such states in which it is exempt from registration or such registration is not otherwise required, during the term of this Agreement. Each of the Agent shall comply with all applicable law and regulations in connection with the transactions contemplated by this Agreement, including the issuance and sale through such Agent of the Placement Shares.

9. Payment of Expenses. The Company will pay all expenses incident to the performance of its obligations under this Agreement, including (i) the preparation, filing, including any fees required by the Commission, and printing of the Registration Statement (including financial statements and exhibits) as originally filed and of each amendment and supplement thereto and each Free Writing Prospectus, in such number as the Agents shall deem reasonably necessary, (ii) the printing and delivery to the Agents of this Agreement and such other documents as may be required in connection with the offering, purchase, sale, issuance or delivery of the Placement Shares, (iii) the preparation, issuance and delivery of the certificates, if any, for the Placement Shares to the Agents, including any stock or other transfer taxes and any capital duties, stamp duties or other duties or taxes payable upon the sale, issuance or delivery of the Placement Shares to the Agents, (iv) the fees and disbursements of the counsel, accountants and other advisors to the Company, (v) the reasonable and documented out-of-pocket fees and disbursements of counsel to the Agents (x) not to exceed \$75,000 in connection with the filing of this Agreement and (y) not to exceed \$15,000 in connection with each Representation Date on which the Company is required to provide a certificate under Section 7(l); (vi) the fees and expenses of the transfer agent and registrar for the Common Stock, (vii) the filing fees incident to any review by FINRA of the terms of the sale of the Placement Shares, and (viii) the fees and expenses incurred in connection with the listing of the Placement Shares on the Exchange.

10. Conditions to the Agents' Obligations. The obligations of the Agents hereunder with respect to a Placement will be subject to the continuing accuracy and completeness of the representations and warranties made by the Company herein (other than those representations and warranties made as of a specified date or time), to the due performance in all material respects by the Company of its obligations hereunder, to the completion by each of the Agents of a due diligence review satisfactory to it in its reasonable judgment, and to the continuing reasonable satisfaction (or waiver by the Agents in their sole discretion) of the following additional conditions:

a. Registration Statement Effective. The Registration Statement shall remain effective and shall be available for the sale of all Placement Shares contemplated to be issued by any Placement Notice.

b. No Material Notices. None of the following events shall have occurred and be continuing: (i) receipt by the Company of any request for additional information from the Commission or any other federal or state governmental authority during the period of effectiveness of the Registration Statement, the response to which would require any post-effective amendments or supplements to the Registration Statement or the Prospectus; (ii) the issuance by the

Commission or any other federal or state governmental authority of any stop order suspending the effectiveness of the Registration Statement or receipt by the Company of notification of the initiation of any proceedings for that purpose; (iii) receipt by the Company of any notification with respect to the suspension of the qualification or exemption from qualification of any of the Placement Shares for sale in any jurisdiction or receipt by the Company of notification of the initiation of, or a threat to initiate, any proceeding for such purpose; or (iv) the occurrence of any event that makes any material statement made in the Registration Statement or the Prospectus or any material Incorporated Document untrue in any material respect or that requires the making of any changes in the Registration Statement, the Prospectus or any material Incorporated Document so that, in the case of the Registration Statement, it will not contain any materially untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein not misleading and, that in the case of the Prospectus or any material Incorporated Document, it will not contain any materially untrue statement of a material fact or omit to state any material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

c. No Misstatement or Material Omission. The Agents shall not have advised the Company that the Registration Statement or Prospectus, or any amendment or supplement thereto, contains an untrue statement of fact that in the Agents' reasonable opinion is material, or omits to state a fact that in the Agents' reasonable opinion is material and is required to be stated therein or is necessary to make the statements therein not misleading.

d. Material Changes. Except as contemplated in the Prospectus, or disclosed in the Company's reports filed with the Commission, there shall not have been any Material Adverse Effect, or any development that would reasonably be expected to result in a Material Adverse Effect, or a downgrading in or withdrawal of the rating assigned to any of the Company's securities (other than asset backed securities) by any "nationally recognized statistical rating organization," as such term is defined by the Commission for purposes of Rule 436(g)(2) under the Securities Act (a "Rating Organization"), or a public announcement by any Rating Organization that it has under surveillance or review its rating of any of the Company's securities (other than asset backed securities), the effect of which, in the case of any such action by a Rating Organization described above, in the reasonable judgment of the Agents (without relieving the Company of any obligation or liability it may otherwise have), is so material as to make it impracticable or inadvisable to proceed with the offering of the Placement Shares on the terms and in the manner contemplated in the Prospectus.

e. Company Counsel Legal Opinion. The Agents shall have received the opinion and negative assurance letter of Company Counsel required to be delivered pursuant to Section 7(m) on or before the date on which such delivery of such opinion and negative assurance letter are required pursuant to Section 7(m).

f. Intellectual Property Counsel Legal Opinion. The Agents shall have received the opinion and negative assurance letter of Intellectual Property Counsel required to be delivered pursuant to Section 7(m) on or before the date on which such delivery of such opinion and negative assurance letter are required pursuant to Section 7(m).

g. Agent Counsel Legal Opinion. Agent shall have received from Latham &

Watkins LLP, counsel for the Agents, such opinion or opinions, on or before the date on which the delivery of the Company Counsel legal opinion is required pursuant to Section 7(m), with respect to such matters as the Agents may reasonably require, and the Company shall have furnished to such counsel such documents as they request for enabling them to pass upon such matters.

h. Comfort Letter. The Agents shall have received the Comfort Letter required to be delivered pursuant Section 7(n) on or before the date on which such delivery of such letter is required pursuant to Section 7(n).

i. Representation Certificate. The Agents shall have received the certificate required to be delivered pursuant to Section 7(1) on or before the date on which delivery of such certificate is required pursuant to Section 7(1).

j. Secretary's Certificate. On or prior to the first Representation Date, the Agents shall have received a certificate, signed on behalf of the Company by its corporate Secretary, in form and substance reasonably satisfactory to the Agents and their counsel.

k. No Suspension. Trading in the Common Stock shall not have been suspended on the Exchange and the Common Stock shall not have been delisted from the Exchange.

l. Other Materials. On each date on which the Company is required to deliver a certificate pursuant to Section 7(1), the Company shall have furnished to the Agents such appropriate further information, certificates and documents as the Agents may reasonably request and which are usually and customarily furnished by an issuer of securities in connection with a securities offering of the type contemplated hereby. All such opinions, certificates, letters and other documents will be in compliance with the provisions hereof.

m. Securities Act Filings Made. All filings with the Commission required by Rule 424 under the Securities Act to have been filed prior to the issuance of any Placement Notice hereunder shall have been made within the applicable time period prescribed for such filing by Rule 424.

n. Approval for Listing. The Placement Shares shall either have been approved for listing on the Exchange, subject only to notice of issuance, or the Company shall have filed an application for listing of the Placement Shares on the Exchange at, or prior to, the issuance of any Placement Notice.

o. No Termination Event. There shall not have occurred any event that would permit the Agents to terminate this Agreement pursuant to Section 13(a).

#### 11. Indemnification and Contribution.

(a) Company Indemnification. The Company agrees to indemnify and hold harmless the Agents, their respective partners, members, directors, officers, employees and agents and each person, if any, who controls the Agents within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act as follows:

(i) against any and all loss, liability, claim, damage and expense, as incurred, joint or several, arising out of or based 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, or arising out of any untrue statement or alleged untrue statement of a material fact included in any related Issuer Free Writing Prospectus or the Prospectus (or any amendment or supplement thereto), or the omission or alleged omission therefrom of a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading;

(ii) against any and all loss, liability, claim, damage and expense described in Section 11(a)(ii), as incurred, joint or several, to the extent of the aggregate amount paid in settlement of any litigation, or any investigation or proceeding by any governmental agency or body, commenced or threatened, or of any claim whatsoever based upon any such untrue statement or omission, or any such alleged untrue statement or omission; provided that (subject to Section 11(d) below) any such settlement is effected with the written consent of the Company, which consent shall not unreasonably be delayed or withheld;

(iii) against any and all expense, as incurred (including the reasonable and documented out-of-pocket fees and disbursements of counsel), reasonably incurred in investigating, preparing or defending against any litigation, or any investigation or proceeding by any governmental agency or body, commenced or threatened, or any claim described in Section 11(a)(ii) based upon any such untrue statement or omission, or any such alleged untrue statement or omission, to the extent that any such expense is not paid under (i) or (ii) above, *provided, however*, that Sections 11(a)(i)–(iii) shall not apply to any loss, liability, claim, damage or expense to the extent arising out of any untrue statement or omission or alleged untrue statement or omission made solely in reliance upon and in conformity with written information furnished to the Company by the Agents expressly for use in the Registration Statement (or any amendment thereto), or in any related Issuer Free Writing Prospectus or the Prospectus (or any amendment or supplement thereto).

(b) Indemnification by the Agents. Each Agent agrees, severally and not jointly, to indemnify and hold harmless the Company and its directors and officers, and each person, if any, who (i) controls the Company within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange Act or (ii) is controlled by or is under common control with the Company against any and all loss, liability, claim, damage and expense described in the indemnity contained in Section 11(a), as incurred, but only with respect to untrue statements or omissions, or alleged untrue statements or omissions, made in the Registration Statement (or any amendments thereto) or in any related Issuer Free Writing Prospectus or the Prospectus (or any amendment or supplement thereto) in reliance upon and in conformity with information relating to such Agent and furnished to the Company in writing by such Agent expressly for use therein.

(c) Procedure. Any party that proposes to assert the right to be indemnified under this Section 11 will, promptly after receipt of notice of commencement of any action against such party in respect of which a claim is to be made against an indemnifying party or parties under this Section 11, notify each such indemnifying party of the commencement of such action,

enclosing a copy of all papers served, but the omission so to notify such indemnifying party in writing will not relieve the indemnifying party from (i) any liability that it might have to any indemnified party otherwise than under this Section 11 and (ii) any liability that it may have to any indemnified party under the foregoing provisions of this Section 11 unless, and only to the extent that, such omission results in the forfeiture of substantive rights or defenses by the indemnifying party. If any such action is brought against any indemnified party and it notifies the indemnifying party of its commencement, the indemnifying party will be entitled to participate in and, to the extent that it elects by delivering written notice to the indemnified party promptly as they are incurred after receiving notice of the commencement of the action from the indemnified party, jointly with any other indemnifying party similarly notified, to assume the defense of the action, with counsel reasonably satisfactory to the indemnified party, and after notice from the indemnifying party to the indemnified party of its election to assume the defense, the indemnifying party will not be liable to the indemnified party for any legal or other expenses except as provided below and except for the reasonable costs of investigation subsequently incurred by the indemnified party in connection with the defense. The indemnified party will have the right to employ its own counsel in any such action, but the fees, expenses and other charges of such counsel will be at the expense of such indemnified party unless (1) the employment of counsel by the indemnified party has been authorized in writing by the indemnifying party, (2) the indemnified party has reasonably concluded (based on advice of counsel) that there may be legal defenses available to it or other indemnified parties that are different from or in addition to those available to the indemnifying party, (3) a conflict or potential conflict of interest exists (based on advice of counsel to the indemnified party) between the indemnified party and the indemnifying party (in which case the indemnifying party will not have the right to direct the defense of such action on behalf of the indemnified party) or (4) the indemnifying party has not in fact employed counsel to assume the defense of such action within a reasonable time after receiving notice of the commencement of the action, in each of which cases the reasonable and documented out-of-pocket fees, disbursements and other charges of counsel will be at the expense of the indemnifying party or parties. It is understood that the indemnifying party or parties shall not, in connection with any proceeding or related proceedings in the same jurisdiction, be liable for the reasonable and documented out-of-pocket fees, disbursements and other charges of more than one separate firm admitted to practice in such jurisdiction at any one time for all such indemnified party or parties. All such reasonable and documented out-of-pocket fees, disbursements and other charges will be reimbursed by the indemnifying party promptly after the indemnifying party receives a written invoice relating to fees, disbursements and other charges in reasonable detail. An indemnifying party will not, in any event, be liable for any settlement of any action or claim effected without its written consent. No indemnifying party shall, without the prior written consent of each indemnified party, settle or compromise or consent to the entry of any judgment in any pending or threatened claim, action or proceeding relating to the matters contemplated by this Section 11 (whether or not any indemnified party is a party thereto), unless such settlement, compromise or consent (1) includes an unconditional release of each indemnified party from all liability arising or that may arise out of such litigation, investigation, proceeding or claim and (2) does not include a statement as to or an admission of fault, culpability or a failure to act by or on behalf of any indemnified party.

(d) Contribution. In order to provide for just and equitable contribution in circumstances in which the indemnification provided for in the foregoing paragraphs of this

Section 11 is applicable in accordance with its terms but for any reason is held to be unavailable from the Company or the Agents, the Company and the Agents will contribute to the total losses, claims, liabilities, expenses and damages (including any investigative, legal and other expenses reasonably incurred in connection with, and any amount paid in settlement of, any action, suit or proceeding or any claim asserted, but after deducting any contribution received by the Company from persons other than the Agents, such as persons who control the Company within the meaning of the Securities Act or the Exchange Act, officers of the Company who signed the Registration Statement and directors of the Company, who also may be liable for contribution) to which the Company and the Agents may be subject in such proportion as shall be appropriate to reflect the relative benefits received by the Company on the one hand and each of the Agents on the other hand. The relative benefits received by the Company on the one hand and each of the Agents on the other hand shall be deemed to be in the same proportion as the total Net Proceeds from the sale of the Placement Shares (before deducting expenses) received by the Company bear to the total compensation received by such Agent (before deducting expenses) from the sale of Placement Shares on behalf of the Company. If, but only if, the allocation provided by the foregoing sentence is not permitted by applicable law, the allocation of contribution shall be made in such proportion as is appropriate to reflect not only the relative benefits referred to in the foregoing sentence but also the relative fault of the Company, on the one hand, and each of the Agents, on the other hand, with respect to the statements or omission that resulted in such loss, claim, liability, expense or damage, or action in respect thereof, as well as any other relevant equitable considerations with respect to such offering. Such relative fault shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or omission or alleged omission to state a material fact relates to information supplied by the Company or such Agent, the intent of the parties and their relative knowledge, access to information and opportunity to correct or prevent such statement or omission. The Company and the Agents agree that it would not be just and equitable if contributions pursuant to this Section 11(d) were to be determined by pro rata allocation or by any other method of allocation that does not take into account the equitable considerations referred to herein. The amount paid or payable by an indemnified party as a result of the loss, claim, liability, expense, or damage, or action in respect thereof, referred to above in this Section 11(d) shall be deemed to include, for the purpose of this Section 11(d), any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim to the extent consistent with Section 11(c) hereof. Notwithstanding the foregoing provisions of this Section 11(d), an Agent shall not be required to contribute any amount in excess of the commissions received by it under this Agreement and no person found guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) will be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. For purposes of this Section 11(d), any person who controls a party to this Agreement within the meaning of the Securities Act or the Exchange Act, any affiliates of an Agent and any officers, directors, partners, employees or agents of an Agent or any of its affiliates, will have the same rights to contribution as that party, and each officer who signed the Registration Statement and director of the Company will have the same rights to contribution as the Company, subject in each case to the provisions hereof. Any party entitled to contribution, promptly after receipt of written notice of commencement of any action against such party in respect of which a claim for contribution may be made under this Section 11(d), will notify in writing any such party or parties from whom contribution may be sought, but the omission to so notify will not relieve that party or parties from whom contribution may be sought from any other

obligation it or they may have under this Section 11(d) except to the extent that the failure to so notify such other party materially prejudiced the substantive rights or defenses of the party from whom contribution is sought. Except for a settlement entered into pursuant to the last sentence of Section 11(c) hereof, no party will be liable for contribution with respect to any action or claim settled without its written consent if such consent is required pursuant to Section 11(c) hereof. The Agents' respective obligations to contribute pursuant to this Section 11(d) are several in proportion to the respective number of Placement Shares they have sold hereunder, and not joint.

12. Representations and Agreements to Survive Delivery. The indemnity and contribution agreements contained in Section 11 of this Agreement and all representations and warranties of the Company herein or in certificates delivered pursuant hereto shall survive, as of their respective dates, regardless of (i) any investigation made by or on behalf of the Agents, any controlling persons, or the Company (or any of their respective officers, directors or controlling persons), (ii) delivery and acceptance of the Placement Shares and payment therefor or (iii) any termination of this Agreement.

13. Termination.

a. An Agent may terminate this Agreement with respect to itself, by written notice to the Company, as hereinafter specified at any time (i) if there has been, since the time of execution of this Agreement or since the date as of which information is given in the Prospectus, any Material Adverse Effect, or any development that would have a Material Adverse Effect that, in the reasonable judgment of such Agent, is material and adverse and makes it impractical or inadvisable to market the Placement Shares or to enforce contracts for the sale of the Placement Shares, (ii) if there has occurred any material adverse change in the financial markets in the United States or the international financial markets, any outbreak of hostilities or escalation thereof or other calamity or crisis or any change or development involving a prospective change in national or international political, financial or economic conditions, in each case the effect of which is such as to make it, in the judgment of such Agent, impracticable or inadvisable to market the Placement Shares or to enforce contracts for the sale of the Placement Shares, (iii) if trading in the Common Stock has been suspended or limited by the Commission or the Exchange, or if trading generally on the Exchange has been suspended or limited, or minimum prices for trading have been fixed on the Exchange, (iv) if any suspension of trading of any securities of the Company on any exchange or in the over-the-counter market shall have occurred and be continuing, (v) if a major disruption of securities settlements or clearance services in the United States shall have occurred and be continuing, or (vi) if a banking moratorium has been declared by either U.S. Federal or New York authorities. Any such termination shall be without liability of any party to any other party except that the provisions of Section 9 (Payment of Expenses), Section 11 (Indemnification and Contribution), Section 12 (Representations and Agreements to Survive Delivery), Section 18 (Governing Law and Time; Waiver of Jury Trial) and Section 19 (Consent to Jurisdiction) hereof shall remain in full force and effect notwithstanding such termination. If an Agent elects to terminate this Agreement with respect to itself as provided in this Section 13(a), such Agent shall provide the required written notice as specified in Section 14 (Notices).

b. The Company shall have the right, by giving five (5) days' notice as hereinafter specified to terminate this Agreement with respect to any or all Agents in its sole discretion at any time after the date of this Agreement. Any such termination shall be without

liability of any party to any other party except that the provisions of Section 9 (Payment of Expenses), Section 11 (Indemnification and Contribution), Section 12 (Representations and Agreements to Survive Delivery), Section 18 (Governing Law and Time; Waiver of Jury Trial) and Section 19 (Consent to Jurisdiction) hereof shall remain in full force and effect notwithstanding such termination.

c. Each Agent shall have the right, by giving five (5) days' notice as hereinafter specified to terminate this Agreement with respect to itself in its sole discretion at any time after the date of this Agreement. Any such termination shall be without liability of any party to any other party except that the provisions of Section 9 (Payment of Expenses), Section 11 (Indemnification and Contribution), Section 12 (Representations and Agreements to Survive Delivery), Section 18 (Governing Law and Time; Waiver of Jury Trial) and Section 19 (Consent to Jurisdiction) hereof shall remain in full force and effect notwithstanding such termination.

d. Unless earlier terminated pursuant to this Section 13, this Agreement shall automatically terminate upon the issuance and sale of all of the Placement Shares through the Agents on the terms and subject to the conditions set forth herein except that the provisions of Section 9 (Payment of Expenses), Section 11 (Indemnification and Contribution), Section 12 (Representations and Agreements to Survive Delivery), Section 18 (Governing Law and Time; Waiver of Jury Trial) and Section 19 (Consent to Jurisdiction) hereof shall remain in full force and effect notwithstanding such termination.

e. This Agreement shall remain in full force and effect unless terminated pursuant to Sections 13(a), (b), (c), or (d) above or otherwise by mutual agreement of the parties; *provided, however*, that any such termination by mutual agreement shall in all cases be deemed to provide that Section 9 (Payment of Expenses), Section 11 (Indemnification and Contribution), Section 12 (Representations and Agreements to Survive Delivery), Section 18 (Governing Law and Time; Waiver of Jury Trial) and Section 19 (Consent to Jurisdiction) shall remain in full force and effect. Upon termination of this Agreement, the Company shall not have any liability to an Agent for any discount, commission or other compensation with respect to any Placement Shares not otherwise sold by an Agent under this Agreement. To the extent this Agreement is terminated by one Agent or by the Company with respect to one Agent pursuant to Sections 13(a), (b) or (c), this Agreement shall terminate only with respect to such Agent and shall remain in full force and effect with respect to the Company and the other Agents, unless and until terminated pursuant to Sections 13(a), (b), (c) or (d).

f. Any termination of this Agreement shall be effective on the date specified in such notice of termination; *provided, however*, that such termination shall not be effective until the close of business on the date of receipt of such notice by an Agent or the Company, as the case may be. If such termination shall occur prior to the Settlement Date for any sale of Placement Shares, such Placement Shares shall settle in accordance with the provisions of this Agreement.

14. Notices. All notices or other communications required or permitted to be given by any party to any other party pursuant to the terms of this Agreement shall be in writing, unless otherwise specified, and if sent to the Agents, shall be delivered to:

B. Riley Securities, Inc.  
299 Park Avenue, 7<sup>th</sup> Floor

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New York, NY 10171  
Attention: General Counsel  
Telephone:  
Email:

BTIG, LLC  
65 East 55th Street  
New York, NY 10022  
Attention: Equity Capital Markets  
Email:

BTIG, LLC  
600 Montgomery Street, 6th Floor  
San Francisco, CA 94111  
Attention: General Counsel and Chief Compliance Officer  
Email:

H.C. Wainwright & Co., LLC  
430 Park Avenue  
New York, NY 10022  
Attention: Craig Schwabe, Managing Director  
Telephone:  
Email:

with a copy to:

Latham & Watkins LLP  
12670 High Bluff Drive  
San Diego, CA 92130  
Attention: Michael E. Sullivan  
Telephone:  
Email:

and if to the Company, shall be delivered to:

Progenity, Inc.  
4330 La Jolla Village Drive  
San Diego, California 92122  
Attention: Clarke Neumann, General Counsel  
Telephone:  
Email:

with a copy to:

Gibson, Dunn & Crutcher LLP  
555 Mission Street, Suite 3000

San Francisco, CA 94105  
Attention: Branden Berns  
Telephone:  
Email:

Each party to this Agreement may change such address for notices by sending to the other parties to this Agreement written notice of a new address for such purpose. Each such notice or other communication shall be deemed given (i) when delivered personally, by email, or by verifiable facsimile transmission on or before 4:30 p.m., New York City time, on a Business Day or, if such day is not a Business Day, on the next succeeding Business Day, (ii) on the next Business Day after timely delivery to a nationally-recognized overnight courier and (iii) on the Business Day actually received if deposited in the U.S. mail (certified or registered mail, return receipt requested, postage prepaid). For purposes of this Agreement, "Business Day," shall mean any day on which the Exchange and commercial banks in the City of New York are open for business.

15. Successors and Assigns. This Agreement shall inure to the benefit of and be binding upon the Company and each Agent and their respective successors and the affiliates, controlling persons, officers and directors referred to in Section 11 hereof. References to any of the parties contained in this Agreement shall be deemed to include the successors and permitted assigns of such party. Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and permitted assigns any rights, remedies, obligations or liabilities under or by reason of this Agreement, except as expressly provided in this Agreement. Neither the Company nor the Agents may assign its rights or obligations under this Agreement without the prior written consent of the other party.

16. Adjustments for Stock Splits. The parties acknowledge and agree that all share-related numbers contained in this Agreement shall be adjusted to take into account any share consolidation, stock split, stock dividend, corporate domestication or similar event effected with respect to the Placement Shares.

17. Entire Agreement; Amendment; Severability. This Agreement (including all schedules and exhibits attached hereto and Placement Notices issued pursuant hereto) constitutes the entire agreement and supersedes all other prior and contemporaneous agreements and undertakings, both written and oral, among the parties hereto with regard to the subject matter hereof. Neither this Agreement nor any term hereof may be amended except pursuant to a written instrument executed by the Company and the Agents. In the event that any one or more of the provisions contained herein, or the application thereof in any circumstance, is held invalid, illegal or unenforceable as written by a court of competent jurisdiction, then such provision shall be given full force and effect to the fullest possible extent that it is valid, legal and enforceable, and the remainder of the terms and provisions herein shall be construed as if such invalid, illegal or unenforceable term or provision was not contained herein, but only to the extent that giving effect to such provision and the remainder of the terms and provisions hereof shall be in accordance with the intent of the parties as reflected in this Agreement.

18. GOVERNING LAW AND TIME; WAIVER OF JURY TRIAL. THIS AGREEMENT SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE

LAW OF THE STATE OF NEW YORK WITHOUT REGARD TO THE PRINCIPLES OF CONFLICTS OF LAWS. SPECIFIED TIMES OF DAY REFER TO NEW YORK CITY TIME. THE COMPANY AND THE AGENTS EACH HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED HEREBY.

19. CONSENT TO JURISDICTION. EACH PARTY HEREBY IRREVOCABLY SUBMITS TO THE NON-EXCLUSIVE JURISDICTION OF THE STATE AND FEDERAL COURTS SITTING IN THE CITY OF NEW YORK, BOROUGH OF MANHATTAN, FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION WITH ANY TRANSACTION CONTEMPLATED HEREBY, AND HEREBY IRREVOCABLY WAIVES, AND AGREES NOT TO ASSERT IN ANY SUIT, ACTION OR PROCEEDING, ANY CLAIM THAT IT IS NOT PERSONALLY SUBJECT TO THE JURISDICTION OF ANY SUCH COURT, THAT SUCH SUIT, ACTION OR PROCEEDING IS BROUGHT IN AN INCONVENIENT FORUM OR THAT THE VENUE OF SUCH SUIT, ACTION OR PROCEEDING IS IMPROPER. EACH PARTY HEREBY IRREVOCABLY WAIVES PERSONAL SERVICE OF PROCESS AND CONSENTS TO PROCESS BEING SERVED IN ANY SUCH SUIT, ACTION OR PROCEEDING BY MAILING A COPY THEREOF (CERTIFIED OR REGISTERED MAIL, RETURN RECEIPT REQUESTED) TO SUCH PARTY AT THE ADDRESS IN EFFECT FOR NOTICES TO IT UNDER THIS AGREEMENT AND AGREES THAT SUCH SERVICE SHALL CONSTITUTE GOOD AND SUFFICIENT SERVICE OF PROCESS AND NOTICE THEREOF. NOTHING CONTAINED HEREIN SHALL BE DEEMED TO LIMIT IN ANY WAY ANY RIGHT TO SERVE PROCESS IN ANY MANNER PERMITTED BY LAW.

20. Counterparts. This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Delivery of an executed Agreement by one party to the other may be made by facsimile transmission or email of a .pdf attachment.

21. Effect of Headings. The section, Schedule and Exhibit headings herein are for convenience only and shall not affect the construction hereof.

22. Permitted Free Writing Prospectuses. The Company represents, warrants and agrees that, unless it obtains the prior consent of each Agent, and each Agent represents, warrants and agrees that, unless it obtains the prior consent of the Company, it has not made and will not make any offer relating to the Placement Shares that would constitute an Issuer Free Writing Prospectus, or that would otherwise constitute a "free writing prospectus," as defined in Rule 405, required to be filed with the Commission. Any such free writing prospectus consented to by the Agents or by the Company, as the case may be, is hereinafter referred to as a "Permitted Free Writing Prospectus." The Company represents and warrants that it has treated and agrees that it will treat each Permitted Free Writing Prospectus as an "issuer free writing prospectus," as defined in Rule 433, and has complied and will comply with the requirements of Rule 433 applicable to any Permitted Free Writing Prospectus, including timely filing with the Commission where required, legending and record keeping. For the purposes of clarity, the parties hereto agree that all free writing prospectuses, if any, listed in Exhibit 22 hereto are Permitted Free Writing

Prospectuses.

23. Absence of Fiduciary Relationship. The Company acknowledges and agrees that:

a. Each Agent is acting solely as agent in connection with the public offering of the Placement Shares and in connection with each transaction contemplated by this Agreement and the process leading to such transactions, and no fiduciary or advisory relationship between the Company or any of its affiliates, stockholders (or other equity holders), creditors or employees or any other party, on the one hand, and the Agents, on the other hand, has been or will be created in respect of any of the transactions contemplated by this Agreement, irrespective of whether or not any Agent has advised or is advising the Company on other matters, and the Agents have no obligation to the Company with respect to the transactions contemplated by this Agreement except the obligations expressly set forth in this Agreement;

b. it is capable of evaluating and understanding, and understands and accepts, the terms, risks and conditions of the transactions contemplated by this Agreement;

c. the Agents have not provided any legal, accounting, regulatory or tax advice with respect to the transactions contemplated by this Agreement and it has consulted its own legal, accounting, regulatory and tax advisors to the extent it has deemed appropriate;

d. it is aware that the Agents and their respective affiliates are engaged in a broad range of transactions which may involve interests that differ from those of the Company and the Agents have no obligation to disclose such interests and transactions to the Company by virtue of any fiduciary, advisory or agency relationship or otherwise; and

e. it waives, to the fullest extent permitted by law, any claims it may have against the Agents for breach of fiduciary duty or alleged breach of fiduciary duty in connection with the sale of Placement Shares under this Agreement and agrees that the Agents shall not have any liability (whether direct or indirect, in contract, tort or otherwise) to it in respect of such a fiduciary duty claim or to any person asserting a fiduciary duty claim on its behalf or in right of it or the Company, employees or creditors of Company, other than in respect of the Agents' obligations under this Agreement and to keep information provided by the Company to the Agents and their counsel confidential to the extent not otherwise publicly-available.

24. Definitions. As used in this Agreement, the following terms have the respective meanings set forth below:

“Applicable Time” means (i) each Representation Date and (ii) the time of each sale of any Placement Shares pursuant to this Agreement.

“Issuer Free Writing Prospectus” means any “issuer free writing prospectus,” as defined in Rule 433, relating to the Placement Shares that (1) is required to be filed with the Commission by the Company, (2) is a “road show” that is a “written communication” within the meaning of Rule 433(d)(8) (i) whether or not required to be filed with the Commission, or (3) is exempt from filing pursuant to Rule 433(d)(5)(i) because it contains a description of the Placement Shares or of the offering that does not reflect the final terms, in each case in the form filed or required to be filed with the Commission or, if not required to be filed, in the form retained in the Company's records

pursuant to Rule 433(g) under the Securities Act.

“Rule 172,” “Rule 405,” “Rule 415,” “Rule 424,” “Rule 424(b),” “Rule 430B,” and “Rule 433” refer to such rules under the Securities Act.

All references in this Agreement to financial statements and schedules and other information that is “contained,” “included” or “stated” in the Registration Statement or the Prospectus (and all other references of like import) shall be deemed to mean and include all such financial statements and schedules and other information that is incorporated by reference in the Registration Statement or the Prospectus, as the case may be.

All references in this Agreement to the Registration Statement, 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 EDGAR; all references in this Agreement to any Issuer Free Writing Prospectus (other than any Issuer Free Writing Prospectuses that, pursuant to Rule 433, are not required to be filed with the Commission) shall be deemed to include the copy thereof filed with the Commission pursuant to EDGAR; and all references in this Agreement to “supplements” to the Prospectus shall include, without limitation, any supplements, “wrappers” or similar materials prepared in connection with any offering, sale or private placement of any Placement Shares by the Agent outside of the United States.

[Remainder of the page intentionally left blank]

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

Very truly yours,

**PROGENITY, INC.**

By: /s/ Eric d'Esparbes

Name: Eric d'Esparbes

Title: Chief Financial Officer

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

**B. RILEY SECURITIES, INC.**

By: /s/ Patrice McNicoll

Name: Patrice McNicoll

Title: Co-Head of Investment Banking

**BTIG, LLC**

By: /s/ Karen C. Koski

Name: Karen C. Koski

Title: Managing Director, Healthcare Investment  
Banking

**H.C. Wainwright & Co., LLC**

By: /s/ Edward D. Silvera

Name: Edward D. Silvera

Title: Chief Operating Officer

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FORM OF PLACEMENT NOTICE

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From: Progenity, Inc.  
To: [B. Riley Securities, Inc.] [BTIG, LLC] [H.C. Wainwright & Co., LLC]  
Attention: [•]  
Subject: At Market Issuance—Placement Notice

Ladies and Gentlemen:

Pursuant to the terms and subject to the conditions contained in the At Market Issuance Sales Agreement between Progenity, Inc., a Delaware corporation (the “Company”), and B. Riley Securities, Inc., BTIG, LLC and H.C. Wainwright & Co., LLC (each, individually, an “Agent” and, collectively, the “Agents”), dated November 22, 2021, the Company hereby requests that [Designated Agent] sell up to [\_\_\_\_] of the Company’s Common Stock, par value \$0.001 per share, at a minimum market price of \$[\_\_\_\_] per share, during the time period beginning [month, day, time] and ending [month, day, time].

**SCHEDULE 2**

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**Compensation**

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The Company shall pay to the Designated Agent in cash, upon each sale of the Placement Shares pursuant to this Agreement, an amount equal to up to 3.0% of the gross proceeds from each sale of the Placement Shares.

**SCHEDULE 3**

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**Notice Parties**

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The Company.

Adi Mohanty, Chief Executive Officer

Eric d'Esparbes, Chief Financial Officer

B. Riley Securities

Matthew Feinberg

Patrice McNicoll

Keith Pompliano

Scott Ammaturo

With a copy to

BTIG

Karen Koski

Mark Secrest

Crystal MacKay

Ariella Gomolin

Austin Hamilton

Carrie Taylor

Nicholas Nolan

Brenna Cummings

H.C. Wainwright & Co.

Kira Sheinerman:

Craig Schwabe:

With copies to

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**Subsidiaries of the Company**

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1. Avero Laboratory Holdings LLC
2. SPX3, Inc.
3. Progenity Holding Company, Inc.
4. Molecular Diagnostic Health Sciences, LLC
5. Progenity UK Limited
6. Progenity Pty Ltd

**EXHIBIT 7(1)**

**Form of Representation Date Certificate**

\_\_\_\_\_, 20\_\_

This Representation Date Certificate (this "Certificate") is executed and delivered in connection with Section 7(1) of the At Market Issuance Sales Agreement (the "Agreement"), dated November 22, 2021, and entered into between Progenity, Inc. (the "Company") and B. Riley Securities, Inc., BTIG, LLC and H.C. Wainwright & Co., LLC. All capitalized terms used but not defined herein shall have the meanings given to such terms in the Agreement.

The Company hereby certifies as follows:

1. As of the date of this Certificate (i) the Registration Statement does not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements therein not misleading and (ii) neither the Registration Statement nor the Prospectus contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary in order to make the statements therein, in light of the circumstances under which they were made, not misleading and (iii) no event has occurred as a result of which it is necessary to amend or supplement the Prospectus in order to make the statements therein not untrue or misleading for this paragraph 1 to be true.

2. Each of the representations and warranties of the Company contained in the Agreement were, when originally made, and are, as of the date of this Certificate, true and correct in all material respects.

3. Except as waived by the Agents in writing, each of the covenants required to be performed by the Company in the Agreement on or prior to the date of the Agreement, this Representation Date, and each such other date prior to the date hereof as set forth in the Agreement, has been duly, timely and fully performed in all material respects and each condition required to be complied with by the Company on or prior to the date of the Agreement, this Representation Date, and each such other date prior to the date hereof as set forth in the Agreement has been duly, timely and fully complied with in all material respects.

4. Subsequent to the date of the most recent financial statements in the Prospectus, and except as described in the Prospectus, including Incorporated Documents, there has been no Material Adverse Effect.

5. No stop order suspending the effectiveness of the Registration Statement or of any part thereof has been issued, and no proceedings for that purpose have been instituted or are pending or threatened by any securities or other governmental authority (including, without limitation, the Commission).

6. No order suspending the effectiveness of the Registration Statement or the qualification or registration of the Placement Shares under the securities or Blue Sky laws of any

jurisdiction are in effect and no proceeding for such purpose is pending before, or threatened, to the Company's knowledge or in writing by, any securities or other governmental authority (including, without limitation, the Commission).

The undersigned has executed this Representation Date Certificate as of the date first written above.

**PROGENITY, INC.**

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

Name: \_\_\_\_\_  
\_\_\_\_\_

Title: \_\_\_\_\_  
\_\_\_\_\_

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**EXHIBIT 22**

**Permitted Issuer Free Writing Prospectuses**

None.

November 22, 2021

Progenity, Inc.  
4330 La Jolla Village Drive, Suite 200  
San Diego, California 92122

Re: *Progenity, Inc.*  
*Registration Statement on Form S-3 (File No. 333-258301)*

Ladies and Gentlemen:

We have examined the Registration Statement on Form S-3 (File No. 333-258301) (the "Registration Statement"), of Progenity, Inc., a Delaware corporation (the "Company"), filed with the Securities and Exchange Commission (the "Commission") pursuant to the Securities Act of 1933, as amended (the "Securities Act"), and the prospectus supplement thereto dated November 22, 2021 (the "Prospectus Supplement"), in connection with the offering by the Company of up to \$90,000,000 of the Company's common stock, par value \$0.001 per share (the "Shares").

In arriving at the opinion expressed below, we have examined originals, or copies certified or otherwise identified to our satisfaction as being true and complete copies of the originals, of specimen Common Stock certificates and such other documents, corporate records, certificates of officers of the Company and of public officials and other instruments as we have deemed necessary or advisable to enable us to render the opinions set forth below. In our examination, we have assumed without independent investigation the genuineness of all signatures, the legal capacity and competency of all natural persons, the authenticity of all documents submitted to us as originals and the conformity to original documents of all documents submitted to us as copies. We have further assumed that all offers and sales of the Shares will comply with the minimum offering price and pricing formula set forth in the authorization of the offering and sale of the Shares by the Company's Board of Directors.

Based upon the foregoing, and subject to the assumptions, exceptions, qualifications and limitations set forth herein, we are of the opinion that the Shares, when issued against payment therefor as set forth in the Registration Statement and the Prospectus Supplement thereto, will be validly issued, fully paid and non-assessable.

We consent to the filing of this opinion as an exhibit to the Registration Statement, and we further consent to the use of our name under the caption "Legal Matters" in the Registration Statement and the Prospectus Supplement. In giving these consents, we do not thereby admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the Rules and Regulations of the Commission.

Very truly yours,

/s/ Gibson, Dunn & Crutcher LLP