

**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, 2019

Cue Biopharma, Inc.

(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation)	001-38327 (Commission File Number)	47-3324577 (IRS Employer Identification No.)
21 Erie St., Cambridge, Massachusetts (Address of principal executive offices)		02139 (Zip Code)

(Registrant's telephone number, including area code): **(617) 949-2680**

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

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

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

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

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, par value \$0.001 per share	CUE	The Nasdaq Stock Market LLC

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 25, 2019, Cue Biopharma, Inc. (the “Company”) entered into an At-The-Market Equity Offering Sales Agreement (the “Sales Agreement”) with Stifel, Nicolaus & Company, Incorporated, as agent (“Stifel”), pursuant to which the Company may offer and sell, from time to time through Stifel, shares of its common stock, par value \$0.001 per share (the “Common Stock”), for aggregate gross proceeds of up to \$20.0 million (the “Shares”). The offer and sale of the Shares will be made pursuant to a shelf registration statement on Form S-3 and the related prospectus (File No. 333-229140) that became effective on February 3, 2019, as supplemented by a prospectus supplement dated November 25, 2019 and filed with the Securities and Exchange Commission pursuant to Rule 424(b) under the Securities Act of 1933, as amended (the “Securities Act”).

Pursuant to the Sales Agreement, Stifel may sell the Shares in sales deemed to be “at-the-market” equity offerings as defined in Rule 415 promulgated under the Securities Act, including sales made directly on or through the Nasdaq Capital Market. If agreed to in a transaction notice, the Company may sell Shares to Stifel as principal, at a purchase price agreed upon by Stifel and the Company. Stifel may also sell Shares in negotiated transactions with the Company’s prior approval. The offer and sale of the Shares pursuant to the Sales Agreement will terminate upon the earlier of (a) the issuance and sale of all of the Shares subject to the Sales Agreement or (b) the termination of the Sales Agreement by Stifel or the Company pursuant to the terms thereof.

The Company has agreed to pay Stifel a commission of up to 3.0% of the aggregate gross proceeds from any Shares sold by Stifel and to provide Stifel with customary indemnification and contribution rights, including for liabilities under the Securities Act. The Company also will reimburse Stifel for certain specified expenses in connection with entering into the Sales Agreement. The Sales Agreement contains customary representations and warranties and conditions to the placements of the Shares pursuant thereto.

A copy of the Sales Agreement is filed as Exhibit 1.1 to this Current Report, and the description of the terms of the Sales Agreement is qualified in its entirety by reference to such exhibit. A copy of the opinion of K&L Gates LLP relating to the legality of the issuance and sale of the Shares is attached as Exhibit 5.1 hereto.

This Current Report on Form 8-K shall not constitute an offer to sell or the solicitation of an offer to buy the Shares, nor shall there be any offer, solicitation, or sale of the Company’s Common Stock in any state in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state.

Item 1.02 Termination of a Material Definitive Agreement

On June 5, 2019, the Company entered into an At-The-Market Equity Offering Sales Agreement with Stifel (the “Prior Sales Agreement”) providing for the sale of up to \$30.0 million of shares of Common Stock. On November 22, 2019, the Prior Sales Agreement terminated due to the issuance and sale of all the shares of Common Stock subject thereto.

Item 9.01 Financial Statements and Exhibits

Exhibit No.	Description
1.1	<u>At-the-Market Equity Offering Sales Agreement by and between Cue Biopharma, Inc. and Stifel, Nicolaus & Company, Incorporated, dated November 25, 2019</u>
5.1	<u>Opinion of K&L Gates LLP</u>
23.1	<u>Consent of K&L Gates LLP (included in Exhibit 5.1)</u>

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 thereunto duly authorized.

Cue Biopharma, Inc.

Date: November 26, 2019

By: /s/ Daniel R. Passeri

Name: Daniel R. Passeri

Title: Chief Executive Officer

CUE BIOPHARMA, INC.

Common Stock
(\$0.001 par value per share)

AT-THE-MARKET EQUITY OFFERING SALES AGREEMENT

November 25, 2019

STIFEL, NICOLAUS & COMPANY, INCORPORATED
One South Street, 17th Floor
Baltimore, Maryland 21202

Ladies and Gentlemen:

Cue Biopharma, Inc., a Delaware corporation (the “Company”), proposes, subject to the terms and conditions stated herein, to issue and sell from time to time to or through Stifel, Nicolaus & Company, Incorporated (“Stifel”), as sales agent and/or principal (“Agent”), shares (the “Shares”) of the Company’s common stock, \$0.001 par value per share (the “Common Stock”), having an aggregate offering price of up to \$20,000,000.00 on the terms set forth in Section 2 of this At-The-Market Equity Offering Sales Agreement (the “Agreement”). The Company agrees that whenever it determines to sell Shares directly to the Agent as principal, it will enter into a separate agreement (each, a “Terms Agreement”) in substantially the form of Annex I hereto, relating to such sale in accordance with Section 3 of this Agreement.

The Company has prepared and filed with the Securities and Exchange Commission (the “Commission”) a registration statement on Form S-3 (File No. 333-229140), and such amendments to such registration statement as may have been required to the date of this Agreement, under the Securities Act of 1933, as amended (the “1933 Act”) and the rules and regulations of the Commission under the 1933 Act (the “1933 Act Regulations”). Such registration statement, at any given time, including the amendments thereto to such time, the exhibits and schedules thereto at such time, the documents incorporated or deemed to be incorporated by reference therein pursuant to Item 12 of Form S-3 under the 1933 Act at such time and the documents and information otherwise deemed to be a part thereof or included therein by Rule 430B under the 1933 Act (the “Rule 430B Information”) or otherwise pursuant to the 1933 Act Regulations at such time, is herein called the “Registration Statement.” Any registration statement filed pursuant to Rule 462(b) of the 1933 Act Regulations is herein called the “Rule 462(b) Registration Statement” and, after such filing, the term “Registration Statement” shall include the Rule 462(b) Registration Statement. The Registration Statement at the time it originally became effective is herein called the “Initial Registration Statement.” The prospectus in the form in which it appeared in the Initial Registration Statement is herein called the “Base Prospectus.” Promptly after execution and delivery of this Agreement, the Company will prepare and file with the Commission a final prospectus supplement to the Base Prospectus relating to the Shares and the offering thereof in accordance with the provisions of Rule 430B (“Rule 430B”) and Rule 424(b) (“Rule 424(b)”) of the 1933 Act Regulations. Such final supplemental form of prospectus (including the Base Prospectus as so supplemented), in the form filed with the Commission pursuant to Rule 424(b) under the 1933 Act is herein called the “Prospectus.” Any reference herein to the Base Prospectus, or the Prospectus shall be deemed to refer to and include the documents incorporated by reference therein pursuant to Item 12 of Form S-3 under the 1933 Act as of the date of such prospectus.

For the purposes of this Agreement:

“Applicable Time” means, with respect to any Shares, the time of sale of such Shares pursuant to this Agreement.

“Issuer Free Writing Prospectus” means any “issuer free writing prospectus,” as defined in Rule 433 of the 1933 Act Regulations (“Rule 433”), including without limitation any “free writing prospectus” (as defined in Rule 405 of the 1933 Act Regulations (“Rule 405”)) relating to the Shares that is (i) required to be filed with the Commission by the Company, (ii) 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 (iii) exempt from filing with the

Commission pursuant to Rule 433(d)(5)(i) because it contains a description of the 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).

"Issuer General Use Free Writing Prospectus" means any Issuer Free Writing Prospectus that is intended for general distribution to prospective investors (other than a "bona fide electronic road show," as defined in Rule 433).

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

"Statutory Prospectus" means the Base Prospectus, as amended and supplemented immediately prior to the Applicable Time, including any document incorporated by reference therein and any prospectus supplement deemed to be a part thereof, including the final prospectus supplement dated the date hereof. For purposes of this definition, Rule 430B Information contained in a form of prospectus that is deemed retroactively to be a part of the Registration Statement shall be considered to be included in the Statutory Prospectus as of the actual time that form of prospectus is filed with the Commission pursuant to Rule 424(b) under the Securities Act.

All references in this Agreement to financial statements and schedules and other information which is "described," "contained," "included" or "stated" (or other references of like import) in the Registration Statement, the Base Prospectus, or the Prospectus shall be deemed to mean and include all such financial statements and schedules and other information incorporated or deemed incorporated by reference in the Registration Statement, the Base Prospectus, or the Prospectus, as the case may be, prior to the execution and delivery of this Agreement; and all references in this Agreement to amendments or supplements to the Registration Statement, the Base Prospectus, or the Prospectus shall be deemed to mean and include the filing of any document under the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder (collectively, the "1934 Act"), incorporated or deemed to be incorporated by reference in the Registration Statement, the Base Prospectus, or the Prospectus, as the case may be, at or after the execution and delivery of this Agreement.

Section 1. Representations and Warranties. The Company represents and warrants to the Agent that, except as described in the Registration Statement and the Prospectus, as of the date of this Agreement, any applicable Registration Statement Amendment Date (as defined in Section 3 below), Company Periodic Report Date (as defined in Section 3 below), Applicable Time and Settlement Date (as defined in Section 2 below), unless such representation, warranty or agreement specifies a different time:

(i) Registration Statement and Prospectuses. The Company meets the requirements for use of Form S-3 under the 1933 Act without reliance on General Instruction I.B.6 of Form S-3. Each of the Registration Statement and any amendment thereto has become effective under the 1933 Act. No stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto has been issued under the 1933 Act, no order preventing or suspending the use of the Prospectus has been issued and no proceedings for any of those purposes have been instituted or are pending or, to the Company's knowledge, contemplated by the Commission. The Company has complied with each request (if any) from the Commission for additional information.

Each of the Registration Statement and any post-effective amendment thereto, at the time it became effective, complied in all material respects with the requirements of the 1933 Act and the 1933 Act Regulations. The Prospectus and any amendment or supplement thereto, at the time each was filed with the Commission, complied in all material respects with the requirements of the 1933 Act and the 1933 Act Regulations.

The documents incorporated or deemed to be incorporated by reference in the Registration Statement and the Prospectus, when they became effective or at the time they were or hereafter are filed with the Commission, complied and will comply in all material respects with the requirements of the 1934 Act and the rules and regulations of the Commission under the 1934 Act (the "1934 Act Regulations").

(ii) Accurate Disclosure. Neither the Registration Statement nor any post-effective amendment thereto, contained, contains or will contain an untrue statement of a material fact or omitted, omits or

will omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading. As of each Applicable Time, no individual Issuer Limited Use Free Writing Prospectus included, includes or will include an untrue statement of a material fact or omitted, omits or will omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. Neither the Prospectus nor any amendment or supplement thereto (including any prospectus wrapper), as of its issue date, at the time of any filing with the Commission pursuant to Rule 424(b) and at each Applicable Time, included, includes or will include an untrue statement of a material fact or omitted, omits or will omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The documents incorporated or deemed to be incorporated by reference in the Registration Statement and the Prospectus, at the time the Registration Statement became effective or when such documents incorporated by reference were filed with the Commission, as the case may be, when read together with the other information in the Registration Statement or the Prospectus, as the case may be, did not and will not include 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 representations and warranties in this subsection shall not apply to statements in or omissions from the Registration Statement (or any post-effective amendment thereto) or the Prospectus (or any amendment or supplement thereto) made in reliance upon and in conformity with written information furnished to the Company by the Agent expressly for use therein.

(iii) Issuer Free Writing Prospectuses. No Issuer Free Writing Prospectus conflicts or will conflict with the information contained in the Registration Statement, any Statutory Prospectus or the Prospectus, including any document incorporated by reference therein, and any preliminary or other prospectus deemed to be a part thereof that has not been superseded or modified.

(iv) Company Not Ineligible Issuer. At the time of filing the Registration Statement and any post-effective amendment thereto, at the earliest time thereafter that the Company or another offering participant made a *bona fide* offer (within the meaning of Rule 164(h)(2) of the 1933 Act Regulations) of the Shares and at the date hereof, the Company was not and is not an “ineligible issuer,” as defined in Rule 405, without taking account of any determination by the Commission pursuant to paragraph (2) of the definition of such term in Rule 405.

(v) Independent Accountants. The accountants who certified the financial statements and supporting schedules included or incorporated by reference in the Registration Statement and the Prospectus are independent public accountants as required by the 1933 Act, the 1933 Act Regulations, the 1934 Act, the 1934 Act Regulations and the Public Accounting Oversight Board.

(vi) Financial Statements; Non-GAAP Financial Measures. The financial statements included or incorporated by reference in the Registration Statement and the Prospectus, together with the related schedules and notes, present fairly, in all material respects, the financial position of the Company at the dates indicated and the statement of operations, stockholders’ equity and cash flows of the Company for the periods specified; said financial statements have been prepared in conformity with U.S. generally accepted accounting principles (“GAAP”) applied on a consistent basis throughout the periods involved except as may be set forth in the notes included or incorporated by reference and except that unaudited financial statements may not contain footnotes required by GAAP. The supporting schedules, if any, included in the Registration Statement present fairly, in all material respects, in accordance with GAAP the information required to be stated therein. The selected financial data and the summary financial information included in the Prospectus present fairly, in all material respects, the information shown therein and have been compiled on a basis consistent with that of the audited financial statements included or incorporated by reference in the Registration Statement. The interactive data in eXtensible Business Reporting Language incorporated by reference in the Registration Statement and the Prospectus fairly presents the information called for in all material respects and has been prepared in accordance with the Commission’s rules and guidelines applicable thereto.

(vii) No Material Adverse Change in Business. Except as otherwise stated therein, since the respective dates as of which information is given in the Registration Statement or the Prospectus, (A) there has been no material adverse change in the condition, financial or otherwise, or in the business affairs or business prospects of the Company considered as one enterprise, whether or not arising in the ordinary course of business (a

“Material Adverse Effect”), (B) there have been no transactions entered into by the Company, other than those in the ordinary course of business, which are material with respect to the Company considered as one enterprise, and (C) there has been no dividend or distribution of any kind declared, paid or made by the Company on any class of its capital stock.

(viii) Good Standing of the Company. The Company has been duly organized and is validly existing as a corporation in good standing under the laws of the State of Delaware and has corporate power and authority to own, lease and operate its properties and to conduct its business as described in the Registration Statement and the Prospectus and to enter into and perform its obligations under this Agreement; and the Company is duly qualified as a foreign corporation to transact business and is in good standing in each other jurisdiction in which such qualification is required, whether by reason of the ownership or leasing of property or the conduct of business, except where the failure so to qualify or to be in good standing would not result in a Material Adverse Effect.

(ix) Subsidiaries. The Company does not own or control, directly or indirectly, any corporation, association or other entity other than Cue Biopharma Securities Corp., its wholly-owned subsidiary.

(x) Capitalization. The authorized, issued and outstanding shares of capital stock of the Company are as set forth in the Registration Statement and the Prospectus (except for subsequent issuances, if any, pursuant to this Agreement, pursuant to reservations, agreements, employee benefit plans or employee or director stock option, stock purchase or other equity incentive plans referred to in the Registration Statement and the Prospectus or pursuant to the exercise of warrants, convertible securities or options referred to in the Registration Statement and the Prospectus). The outstanding shares of capital stock of the Company have been duly authorized and validly issued and are fully paid and non-assessable. None of the outstanding shares of capital stock of the Company were issued in violation of the preemptive or other similar rights of any securityholder of the Company.

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

(xii) Authorization and Description of Shares. The Shares to be sold by the Company pursuant to this Agreement have been duly authorized for issuance and sale pursuant to this Agreement and, when issued and delivered by the Company pursuant to this Agreement against payment of the consideration described herein, will be validly issued and fully paid and non-assessable; and the issuance of the Shares is not subject to the preemptive or other similar rights of any securityholder of the Company. The Common Stock conforms in all material respects to all statements relating thereto contained in the Registration Statement and the Prospectus and such description conforms in all material respects to the rights set forth in the instruments defining the same. No holder of Shares will be subject to personal liability solely by reason of being such a holder.

(xiii) Registration Rights. Except as have been waived or complied with, there are no persons with registration rights or other similar rights to have any securities registered for sale pursuant to the Registration Statement or otherwise registered for sale or sold by the Company under the 1933 Act pursuant to this Agreement.

(xiv) Absence of Violations, Defaults and Conflicts. The Company is not (A) in violation of its charter, by-laws or similar organizational document, (B) in default in the performance or observance of any obligation, agreement, covenant or condition contained in any contract, indenture, mortgage, deed of trust, loan or credit agreement, note, lease or other agreement or instrument to which the Company is a party or by which it or any of them may be bound or to which any of the properties or assets of the Company or any subsidiary is subject (collectively, “Agreements and Instruments”), except for such violations or defaults that would not, singly or in the aggregate, result in a Material Adverse Effect, or (C) in violation of any law, statute, rule, regulation, judgment, order, writ or decree of any arbitrator, court, governmental body, regulatory body, administrative agency or other authority, body or agency having jurisdiction over the Company or any of its respective properties, assets or operations (each, a “Governmental Entity”), except for such violations that would not, singly or in the aggregate, result in a Material Adverse Effect. The execution, delivery and performance of this Agreement and the consummation of the transactions contemplated herein and in the Registration Statement (including the issuance and sale of the Shares and the use of the proceeds from the sale of the Shares as described in the Prospectus under the caption “Use of Proceeds”) and compliance by the Company with its obligations hereunder have been duly

authorized by all necessary corporate action and do not and will not, whether with or without the giving of notice or passage of time or both, conflict with or constitute a breach of, or default or Repayment Event (as defined below) under, or result in the creation or imposition of any lien, charge or encumbrance upon any properties or assets of the Company or any subsidiary pursuant to, the Agreements and Instruments (except for such conflicts, breaches, defaults or Repayment Events or liens, charges or encumbrances that would not, singly or in the aggregate, result in a Material Adverse Effect), nor will such action result in any violation of (i) the provisions of the charter, by-laws or similar organizational document of the Company or (ii) any law, statute, rule, regulation, judgment, order, writ or decree of any Governmental Entity, except for such violations described in (ii) that would not, singly or in the aggregate, result in a Material Adverse Effect. As used herein, a “Repayment Event” means any event or condition which gives the holder of any note, debenture or other evidence of indebtedness (or any person acting on such holder’s behalf) the right to require the repurchase, redemption or repayment of all or a portion of such indebtedness by the Company.

(xv) Absence of Labor Dispute. No labor dispute with the employees of the Company exists or, to the knowledge of the Company, is imminent, and the Company is not aware of any existing or imminent labor disturbance by the employees of any of its or any subsidiary’s principal suppliers, manufacturers, customers or contractors, which, in either case, would result in a Material Adverse Effect.

(xvi) Absence of Proceedings. There is no action, suit, proceeding, inquiry or investigation before or brought by any Governmental Entity now pending or, to the knowledge of the Company, threatened, against or affecting the Company, which could reasonably be expected to result in a Material Adverse Effect, or which could reasonably be expected to materially and adversely affect their respective properties or assets or the consummation of the transactions contemplated in this Agreement or the performance by the Company of its obligations hereunder; and the aggregate of all pending legal or governmental proceedings to which the Company or any such subsidiary is a party or of which any of their respective properties or assets is the subject which are not described in the Registration Statement and the Prospectus, including ordinary routine litigation incidental to the business, could not reasonably be expected to result in a Material Adverse Effect.

(xvii) Accuracy of Descriptions and Exhibits. The information included or incorporated by reference in the Registration Statement and the Prospectus under the captions “Risk Factors—Risks Related to Intellectual Property and Other Legal Matters,” “Risk Factors—Risks Related to Government Regulation,” “Business—Our Intellectual Property,” “Business—Government Regulation and Product Approval” and “Description of Common Stock We May Offer” and the information in the Registration Statement under Items 14 and 15, in each case to the extent that it constitutes matters of law, summaries of legal matters, summaries of provisions of the Company’s charter or bylaws or any other instruments or agreements, summaries of legal proceedings, or legal conclusions, is correct in all material respects; all descriptions in the Registration Statement and the Prospectus of any other Company Documents are accurate in all material respects; and there are no franchises, contracts, indentures, mortgages, deeds of trust, loan or credit agreements, bonds, notes, debentures, evidences of indebtedness, leases or other instruments, agreements or documents required to be described or referred to in the Registration Statement or the Prospectus or to be filed as exhibits to the Registration Statement which have not been so described and filed as required.

(xviii) Absence of Further Requirements. Except where the absence thereof would not result in a Material Adverse Effect, no filing with, or authorization, approval, consent, license, order, registration, qualification or decree of, any Governmental Entity is necessary or required for the performance by the Company of its obligations hereunder, in connection with the offering, issuance or sale of the Shares hereunder or the consummation of the transactions contemplated by this Agreement, except such as have been already obtained or as may be required under the 1933 Act, the 1933 Act Regulations, the rules of the Nasdaq Stock Market LLC, state securities laws or the rules of Financial Industry Regulatory Authority, Inc. (“FINRA”).

(xix) Nasdaq Listing. The Common Stock of the Company is registered pursuant to Section 12(b) of the 1934 Act and is listed on the Nasdaq Capital Market under the ticker symbol “CUE.” The Company has taken no action designed to, or likely to have the effect of, terminating the registration of the Common Stock under the 1934 Act or delisting the Common Stock from the Nasdaq Capital Market nor has the Company received any notice that it is currently not in compliance with the listing or maintenance requirements of the Nasdaq Capital Market. The Company believes that it is, and it will in the foreseeable future continue to be, in material compliance

with all such listing and maintenance requirements. A registration statement relating to the Common Stock on Form 8-A or other applicable form under the 1934 Act is effective.

(xx) Possession of Licenses and Permits. The Company possesses such permits, licenses, approvals, consents and other authorizations (collectively, “Governmental Licenses”) issued by the appropriate Governmental Entities necessary to conduct the business now operated by them, including without limitation the United States Food and Drug Administration (“FDA”) or any other federal, state or foreign agencies or bodies engaged in the regulation of pharmaceuticals, animal or human clinical studies or biohazardous substances, except where the failure so to possess would not, singly or in the aggregate, result in a Material Adverse Effect. The Company is in compliance with the terms and conditions of all Governmental Licenses, except where the failure so to comply would not, singly or in the aggregate, result in a Material Adverse Effect. All of the Governmental Licenses are valid and in full force and effect, except when the invalidity of such Governmental Licenses or the failure of such Governmental Licenses to be in full force and effect would not, singly or in the aggregate, result in a Material Adverse Effect. The Company has not received any notice of proceedings relating to the revocation or modification of any Governmental Licenses which, singly or in the aggregate, if the subject of an unfavorable decision, ruling or finding, would reasonably be expected to result in a Material Adverse Effect.

(xxi) Compliance with Food and Drug Laws. Except as described in the Registration Statement and the Prospectus, the conduct of the preclinical testing and clinical trials and manufacture of the products of the Company is in compliance, in all material respects, with all laws, rules and regulations applicable to such activities, including without limitation applicable good laboratory practices, good clinical practices and good manufacturing practices. The descriptions of the results of such tests and trials contained in the Registration Statement and the Prospectus are accurate in all material respects. The Company has not received a warning letter or clinical hold notice from the FDA or any non-U.S. counterpart of any of the foregoing, or any untitled letter or other correspondence or notice from the FDA or any other governmental authority or agency or any institutional or ethical review board alleging or asserting noncompliance with any law, rule or regulation applicable in any jurisdiction. The Company has not, either voluntarily or involuntarily, initiated, conducted or issued, or caused to be initiated, conducted or issued, any recall, field correction, market withdrawal or replacement, safety alert, warning, “dear doctor” letter, investigator notice, or other notice or action relating to an alleged or potential lack of safety or efficacy of any product or potential product of the Company, any alleged defect of any product of the Company, or any violation of any material applicable law, rule, regulation or any clinical trial or marketing license, approval, permit or authorization for any product of the Company. The Company has not received any written notices, correspondence or other communication from the FDA or other governmental regulatory agency or subdivision thereof, or any institutional or ethical review boards, asserting non-compliance with any applicable statutes, rules, regulations, orders, or other laws, or requiring or requesting the termination, suspension or modification of any preclinical or clinical studies, tests, investigations, or trials conducted by, or on behalf of, the Company or in which the Company has participated.

(xxii) Title to Property. Except where the failure thereof would not result in a Material Adverse Effect, to the Company’s knowledge, the Company has good and marketable title to any real property owned by them and good title to any other properties owned by them, in each case, free and clear of all mortgages, pledges, liens, security interests, claims, restrictions or encumbrances of any kind except such as do not, singly or in the aggregate, materially affect the value of such property and do not interfere with the use made and proposed to be made of such property by the Company; and all of the leases and subleases material to the business of the Company, considered as one enterprise, and under which the Company holds properties described in the Registration Statement or the Prospectus, are in full force and effect, and neither the Company nor any such subsidiary has any notice of any material claim of any sort that has been asserted by anyone adverse to the rights of the Company or any subsidiary under any of the leases or subleases mentioned above, or affecting or questioning the rights of the Company or such subsidiary to the continued possession of the leased or subleased premises under any such lease or sublease.

(xxiii) Possession of Intellectual Property. The Company owns and possesses or have valid and enforceable licenses to use, all patents, patent rights, patent applications, licenses, copyrights, inventions, know how (including trade secrets and other unpatented and/or unpatentable proprietary or confidential information, systems or procedures), trademarks, service marks, trade names, service names, software, internet addresses, domain names and other intellectual property (collectively, “Intellectual Property”) that is described in the Registration

Statement or the Prospectus or that is necessary for the conduct of their respective businesses as currently conducted, as proposed to be conducted and as described in the Registration Statement and the Prospectus; the Company has not received any notice or is otherwise aware of any infringement of or conflict with rights of others with respect to any Intellectual Property or of any facts or circumstances which would render any Intellectual Property invalid or inadequate to protect the interests of the Company therein; there are no third parties who have or, to the knowledge of the Company, will be able to establish rights to any Intellectual Property of the Company, except for, and to the extent of, the ownership rights of the owners of the Intellectual Property which the Registration Statement and the Prospectus disclose is licensed to the Company; there is no pending or, to the knowledge of the Company, threatened action, suit, proceeding or claim by others challenging the Company's rights in or to any such Intellectual Property, or challenging the validity, enforceability or scope of any such Intellectual Property, or asserting that the Company infringes or otherwise violates, or would, upon the commercialization of any product or service described in the Registration Statement or the Prospectus, infringe or violate, any Intellectual Property of others, and the Company is unaware of any facts which could form a reasonable basis for any such action, suit, proceeding or claim; the Company have complied with the terms of each agreement pursuant to which any Intellectual Property has been licensed to the Company, all such agreements are in full force and effect, and no event or condition has occurred or exists that gives or, with notice or passage of time or both, would give any person the right to terminate any such agreement; and there is no patent or patent application that contains claims that interfere with the issued or pending claims of any such Intellectual Property of the Company or that challenges the validity, enforceability or scope of any such Intellectual Property.

(xxiv) Environmental Laws. Except as described in the Registration Statement and the Prospectus and except as would not, individually or in the aggregate, result in a Material Adverse Effect, (A) the Company is not in violation of any federal, state, local or foreign statute, law, rule, regulation, ordinance, code, policy or rule of common law or any judicial or administrative interpretation thereof, including any judicial or administrative order, consent, decree or judgment, relating to pollution or protection of human health, the environment (including, without limitation, ambient air, surface water, groundwater, land surface or subsurface strata) or wildlife, including, without limitation, laws and regulations relating to the release or threatened release of chemicals, pollutants, contaminants, wastes, toxic substances, hazardous substances, petroleum or petroleum products (collectively, "Hazardous Materials") or to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of Hazardous Materials (collectively, "Environmental Laws"), (B) the Company has all permits, authorizations and approvals required under any applicable Environmental Laws and are each in compliance with their requirements, (C) there are no pending or threatened administrative, regulatory or judicial actions, suits, demands, demand letters, claims, Liens, notices of noncompliance or violation, investigation or proceedings relating to any Environmental Law against the Company and (D) there are no events or circumstances that might reasonably be expected to form the basis of an order for clean-up or remediation, or an action, suit or proceeding by any private party or governmental body or agency, against or affecting the Company relating to Hazardous Materials or any Environmental Laws.

(xxv) Cybersecurity. (i)(A) There has been no security breach or other compromise of or relating to any of the Company's information technology and computer systems, networks, hardware, software, data (including the data of their respective customers, employees, suppliers, vendors and any third party data maintained by or on behalf of them), equipment or technology (collectively, "IT Systems and Data") and (B) the Company has not been notified of, and has no knowledge of any event or condition that would reasonably be expected to result in, any security breach or other compromise to their IT Systems and Data, except as would not, in the case of this clause (i), individually or in the aggregate, have a Material Adverse Effect; (ii) the Company is presently in 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 Data and to the protection of such IT Systems and Data from unauthorized use, access, misappropriation or modification, except as would not, in the case of this clause (ii), individually or in the aggregate, have a Material Adverse Effect; and (iii) the Company has implemented backup and disaster recovery technology the Company reasonably believes are consistent with industry standards and practices.

(xxvi) Accounting Controls and Disclosure Controls. The Company maintains effective internal control over financial reporting (as defined under Rule 13a-15 and 15d-15 under the 1934 Act Regulations) and a system of internal accounting controls sufficient to provide reasonable assurances that (A) transactions are executed in accordance with management's general or specific authorization; (B) transactions are recorded as

necessary to permit preparation of financial statements in conformity with GAAP and to maintain accountability for assets; (C) access to assets is permitted only in accordance with management's general or specific authorization; (D) the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any differences; and (E) the interactive data in eXtensible Business Reporting Language incorporated by reference in the Registration Statement and the Prospectus fairly presents the information called for in all material respects and is prepared in accordance with the Commission's rules and guidelines applicable thereto. Since the end of the Company's most recent audited fiscal year, the Company's not aware of any (1) material weakness (as defined in Rule 1-02 of Regulation S-X of the Commission) in the Company's internal control over financial reporting (whether or not remediated) and (2) change in the Company's internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting. The Company maintains an effective system of disclosure controls and procedures (as defined in Rule 13a-15 and Rule 15d-15 under the 1934 Act Regulations) that are designed to ensure that information required to be disclosed by the Company in the reports that it files or submits under the 1934 Act and the interactive data in eXtensible Business Reporting Language included as an exhibit to the Registration Statement or incorporated by reference in the Registration Statement are recorded, processed, summarized and reported, within the time periods specified in the Commission's rules and forms, and is accumulated and communicated to the Company's management, including its principal executive officer or officers and principal financial officer or officers, as appropriate, to allow timely decisions regarding disclosure. The Company's independent public accountants and the audit committee of the Company's board of directors have been advised of all material weaknesses, if any, and significant deficiencies (as defined in Rule 1-01 of Regulation S-X of the Commission), if any, in the Company's internal control over financial reporting and of all fraud, if any, whether or not material, involving management or other employees who have a role in the Company's internal controls and financial reports, in each case that occurred or existing, or was first detected, at any time during the Company's two consecutive fiscal years ended with and including the Company's most recent fiscal year for which audited financial statements are included in the Registration Statement and the Prospectus or at any time subsequent thereto.

(xxvii) Compliance with the Sarbanes-Oxley Act. There is and has been no failure on the part of the Company or any of the Company's directors or officers, in their capacities as such, to comply in all material respects with any provision of the Sarbanes-Oxley Act of 2002 and the rules and regulations promulgated in connection therewith, including Section 402 related to loans and Sections 302 and 906 related to certifications.

(xxviii) Payment of Taxes. The Company has filed all foreign, federal, state and local tax returns that are required to be filed or have obtained extensions thereof, except where the failure so to file would not, individually or in the aggregate, result in a Material Adverse Effect, and have paid all taxes (including, without limitation, any estimated taxes) required to be paid and any other assessment, fine or penalty, to the extent that any of the foregoing is due and payable, except for any such tax, assessment, fine or penalty that is currently being contested in good faith by appropriate actions and except for such taxes, assessments, fines or penalties the nonpayment of which would not, individually or in the aggregate, result in a Material Adverse Effect.

(xxix) ERISA Compliance. None of the following events has occurred or exists: (i) a failure to fulfill the obligations, if any, under the minimum funding standards of Section 302 of the Employee Retirement Income Security Act of 1974, as amended, and the regulations and published interpretations thereunder ("ERISA") with respect to a Plan (as defined below) determined without regard to any waiver of such obligations or extension of any amortization period; (ii) an audit or investigation by the Internal Revenue Service, the U.S. Department of Labor, the Pension Benefit Guaranty Corporation or any other federal, state or foreign governmental or regulatory agency with respect to the employment or compensation of employees by the Company that might reasonably be expected, individually or in the aggregate, to result in a Material Adverse Effect; or (iii) any breach of any contractual obligation, or any violation of law or applicable qualification standards, with respect to the employment or compensation of employees by the Company that might reasonably be expected, individually or in the aggregate, to result in a Material Adverse Effect. None of the following events has occurred or is reasonably likely to occur: (i) a material increase in the aggregate amount of contributions required to be made to all Plans in the current fiscal year of the Company compared to the amount of such contributions made in the Company's most recently completed fiscal year; (ii) a material increase in the "accumulated post-retirement benefit obligations" (within the meaning of Statement of Financial Accounting Standards 106) of the Company compared to the amount of such obligations in the Company's most recently completed fiscal year; (iii) any event or condition giving rise to a liability under Title IV of ERISA that might reasonably be expected, individually or in the aggregate, to result in a

Material Adverse Effect; or (iv) the filing of a claim by one or more employees or former employees of the Company related to its or their employment that might reasonably be expected, individually or in the aggregate, to result in a Material Adverse Effect. For purposes of this paragraph and the definition of ERISA, the term “Plan” means a plan (within the meaning of Section 3(3) of ERISA) with respect to which the Company may have any liability.

(xxx) Insurance. The Company is insured by insurers of recognized financial responsibility against such losses and risks and in such amounts as are prudent and customary in the businesses in which they are engaged; all policies of insurance and any fidelity or surety bonds insuring the Company its businesses, assets, employees, officers and directors are in full force and effect; the Company is in compliance with the terms of such policies and instruments in all material respects; there are no claims by the Company under any such policy or instrument as to which any insurance company is denying liability or defending under a reservation of rights clause; the Company has not been refused any insurance coverage sought or applied for; and the Company has no reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage from similar insurers at a cost that would not, individually or in the aggregate, result in a Material Adverse Effect.

(xxxi) Investment Company Act. The Company is not required, and upon the issuance and sale of the Shares as herein contemplated and the application of the net proceeds therefrom as described in the Registration Statement and the Prospectus will not be required, to register as an “investment company” within the meaning of the Investment Company Act of 1940, as amended (the “1940 Act”).

(xxxii) Absence of Manipulation. Neither the Company nor any affiliate of the Company has taken, nor will the Company or any affiliate take, directly or indirectly, any action which is designed, or would reasonably be expected, to cause or result in, or which constitutes, the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Shares or to result in a violation of Regulation M under the 1934 Act.

(xxxiv) No Unlawful Payments. Neither the Company nor any of its director, officer, or employee, nor, to the knowledge of the Company, any agent, affiliate or other person associated with or acting on behalf of the Company is aware of or has taken any action, directly or indirectly, that has resulted or would result in (i) the use of any funds for any unlawful contribution, gift, entertainment or other unlawful expense relating to political activity; (ii) the making or taking of an act in furtherance of an offer, promise or authorization of any direct or indirect unlawful payment or benefit to any foreign or domestic government or regulatory official or employee, including of any government-owned or controlled entity or of a public international organization, or any person acting in an official capacity for or on behalf of any of the foregoing, or any political party or party official or candidate for political office; (iii) a violation by any such person of any provision of the Foreign Corrupt Practices Act of 1977, as amended, or any applicable law or regulation implementing the OECD Convention on Combating Bribery of Foreign Public Officials in International Business Transactions, or committed an offence under the Bribery Act 2010 of the United Kingdom, or any other applicable anti-bribery or anti-corruption laws; or (iv) the making, offering, requesting or taking of, or the agreement to take, an act in furtherance of any unlawful bribe or other unlawful benefit, including, without limitation, any rebate, payoff, influence payment, kickback or other unlawful or improper payment or benefit. The Company has instituted, maintain and enforce, and will continue to maintain and enforce policies and procedures designed to promote and ensure compliance with all applicable anti-bribery and anti-corruption laws.

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

(xxxvi) No Conflicts with Sanction Laws. Neither the Company nor any of its directors, officers or employees, nor, to the knowledge of the Company, any agent, employee or affiliate or other person associated with or acting on behalf of the Company is currently the subject or the target of any sanctions administered or enforced by the U.S. Government, (including, without limitation, OFAC or the U.S. Department of State and including, without limitation, the designation as a “specially designated national” or “blocked person”), the UNSC, the European Union, Her Majesty’s Treasury (“HMT”), or other relevant sanctions authority (collectively, “Sanctions”), nor is the Company located, organized or resident in a country or territory that is the subject or the target of Sanctions, including, without limitation, Cuba, Burma (Myanmar), Iran, North Korea, Sudan and Syria (each, a “Sanctioned Country”); and the Company will not directly or indirectly use any of the proceeds of the offering, or lend, contribute or otherwise make available such proceeds to any joint venture partner or other person or entity (i) to fund or facilitate any activities of or business with any person that, at the time of such funding or facilitation, is the subject or the target of any Sanctions, (ii) to fund or facilitate any activities of or any business in any Sanctioned Country or (iii) in any other manner that could result in a violation by any person (including any person participating in the transaction, whether as underwriter, advisor, investor or otherwise) of any Sanctions. For the past five years, the Company have not knowingly engaged in, are not now knowingly engaged in, and will not engage in, any dealings or transactions with any person that at the time of the dealing or transaction is or was the subject or the target of any Sanctions or with any Sanctioned Country.

(xxxvii) Lending and Other Relationship. Except as disclosed in the Registration Statement and the Prospectus, (i) the Company does not have any lending or similar relationship with the Agent or any bank or other lending institution affiliated with the Agent; (ii) the Company will not, directly or indirectly, use any of the proceeds from the sale of the Shares by the Company hereunder to reduce or retire the balance of any loan or credit facility extended by the Agent or any of its “affiliates” or “associated persons” (as such terms are used in FINRA Rule 5121) or otherwise direct any such proceeds to the Agent or any of its “affiliates” or “associated persons” (as so defined); and (iii) there are and have been no transactions, arrangements or dealings between the Company, on one hand, and the Agent or any of its “affiliates” or “associated persons” (as so defined), on the other hand, that, under FINRA Rule 5110 or 5121, must be disclosed in a submission to FINRA in connection with the offering of the Shares contemplated hereby or disclosed in the Registration Statement or Prospectus.

(xxxviii) Statistical and Market-Related Data. Any statistical and market-related data included in the Registration Statement or the Prospectus are based on or derived from sources that the Company believes to be reliable and accurate and accurately reflect the materials upon which such data is based or from which it was derived.

(xxxix) Immunity from Jurisdiction. Neither the Company nor any of its properties or assets has any immunity from the jurisdiction of any court or from any legal process (whether through service or notice, attachment prior to judgment, attachment in aid of execution or otherwise) under the laws of Delaware.

(xl) No Commissions. The Company is not a party to any contract, agreement or understanding with any person (other than as contemplated by this Agreement or any Terms Agreement) that would give rise to a valid claim against the Company or the Agent for a brokerage commission, finder’s fee or like payment in connection with the offering and sale of the Shares.

(xli) Related Party Transactions. There are no business relationships or related party transactions involving the Company or, to the knowledge of the Company, any other person that are required to be described in the Registration Statement or the Prospectus that have not been described as required.

(xlii) Deemed Representation. Any certificate signed by any officer of the Company delivered to the Agent or to counsel for the Agent pursuant to or in connection with this Agreement shall be deemed a representation and warranty by the Company to the Agent as to the matters covered thereby as of the date or dates indicated in such certificate.

Section 2. Sale and Delivery of Shares.

(a) Subject to the terms and conditions set forth herein, the Company agrees to issue and sell exclusively through the Agent acting as sales agent or directly to the Agent acting as principal from time to time,

and the Agent agrees to use its commercially reasonable efforts to sell as sales agent for the Company, the Shares. Sales of the Shares, if any, through the Agent acting as sales agent or directly to the Agent acting as principal will be made by means of ordinary brokers' transactions on the Nasdaq Capital Market, in negotiated transactions or otherwise at market prices prevailing at the time of sale, at prices related to prevailing market prices or at negotiated prices. Anything to the contrary notwithstanding in this Agreement, without the Company's prior written consent, the Agent may not place any Shares by any method other than transactions that are deemed to be "at-the-market offerings" as defined in Rule 415 under the 1933 Act, including sales made directly on the Nasdaq Capital Market, or sales made to or through a market maker other than on an exchange or through an electronic communications network. The Agent shall effect any sales of shares in accordance with applicable state and federal rules and regulations and the rules of The Nasdaq Stock Market LLC and otherwise in accordance with the instructions to sell Shares delivered pursuant to Section 2(b). Nothing contained herein restricts, nor may be deemed to restrict, the Company from undertaking another offering of its securities pursuant to a separate registration statement under the 1933 Act (or any exemption from registration), or another offering under the Registration Statement, provided the Company complies with Section 3(p).

(b) Subject to instructions to sell Shares delivered pursuant to this Section 2(b) or the applicable Terms Agreement, the Shares are to be sold on a daily basis or otherwise as shall be agreed to by the Company and the Agent on that trading day (other than a day on which the Nasdaq Capital Market is scheduled to close prior to its regular weekday closing time, each, a "Trading Day") that the Company has satisfied its obligations under Section 6 of this Agreement and that the Company has instructed the Agent to make such sales. For the avoidance of doubt, the foregoing limitation shall not apply to sales solely to employees or security holders of the Company, or to a trustee or other person acquiring such securities for the accounts of such persons in which Stifel is acting for the Company in a capacity other than as Agent under this Agreement. On any Trading Day, the Company may instruct the Agent by telephone (confirmed promptly by telecopy or email, which confirmation will be promptly acknowledged by the Agent) as to the maximum aggregate dollar value or number of Shares to be sold by the Agent on such day (in any event not in excess of the number of Shares available for issuance under the Prospectus and the currently effective Registration Statement) and the minimum price per Share at which such Shares may be sold. Subject to the terms and conditions hereof, the Agent shall use its commercially reasonable efforts to sell as sales agent all of the Shares so designated by the Company and in the manner and on the terms so designated by the Company. The Company and the Agent each acknowledge and agree that (A) there can be no assurance that the Agent will be successful in selling the Shares, (B) the Agent will incur no liability or obligation to the Company or any other person or entity if they do not sell Shares for any reason other than a failure by the Agent to use its commercially reasonable efforts consistent with its normal trading and sales practices and applicable law and regulations to sell such Shares as required by this Agreement, and (C) the Agent shall be under no obligation to purchase Shares on a principal basis except as otherwise specifically agreed by each of the Agent and the Company pursuant to a Terms Agreement. In the event of a conflict between the terms of this Agreement and the terms of a Terms Agreement, the terms of such Terms Agreement will control.

(c) Notwithstanding the foregoing, the Company shall not authorize the issuance and sale of, and the Agent as sales agent shall not be obligated to use its commercially reasonable efforts to sell, any Shares (i) at a price lower than the minimum price therefor authorized from time to time, or (ii) in a number in excess of the number or maximum aggregate dollar value of Shares authorized from time to time to be issued and sold under this Agreement, in each case, by the Company's board of directors, or a duly authorized committee thereof, and notified to the Agent in writing. In addition, the Company may, upon notice to the Agent, suspend the offering of the Shares or the Agent may, upon notice to the Company, suspend the offering of the Shares with respect to which the Agent is acting as sales agent for any reason and at any time; provided, however, that such suspension or termination shall not affect or impair the parties' respective obligations with respect to the Shares sold hereunder prior to the giving of such notice. Any notice given pursuant to the preceding sentence may be given by telephone (confirmed promptly by telecopy or email, which confirmation will be promptly acknowledged).

(d) The gross sales price of any Shares sold pursuant to this Agreement by the Agent acting as sales agent of the Company shall be the market price prevailing at the time of sale for shares of the Company's Common Stock sold by the Agent on the Nasdaq Capital Market or otherwise, at prices relating to prevailing market prices or at negotiated prices. The compensation payable to the Agent for sales of Shares with respect to which the Agent acts as sales agent shall be up to 3.0% of the gross sales price of the Shares sold pursuant to this Agreement. The Company may sell Shares to the Agent, acting as principal, at a price agreed upon with the Agent

at the relevant Applicable Time and pursuant to a separate Terms Agreement. The remaining proceeds, after further deduction for any transaction fees imposed by any governmental, regulatory or self-regulatory organization in respect of such sales, shall constitute the net proceeds to the Company for such Shares (the “Net Proceeds”). The Agent shall notify the Company as promptly as practicable if any deduction referenced in the preceding sentence will be required.

(e) If acting as a sales agent hereunder, the Agent shall provide written confirmation to the Company following the close of trading on the Nasdaq Capital Market each day in which Shares are sold under this Agreement setting forth the number of Shares sold on such day, the aggregate gross sales proceeds of the Shares, the Net Proceeds to the Company and the compensation payable by the Company to such Agent with respect to such sales.

(f) Under no circumstances shall the aggregate offering price or number, as the case may be, of Shares sold pursuant to this Agreement and any Terms Agreement exceed the aggregate offering price or number, as the case may be, of Shares of Common Stock (i) set forth in the preamble paragraph of this Agreement, (ii) available for issuance under the Prospectus and the then currently effective Registration Statement, (iii) authorized from time to time to be issued and sold under this Agreement or any Terms Agreement by the Company’s board of directors, or a duly authorized committee thereof, and notified to the Agent in writing or (iv) authorized but unissued pursuant to the Company’s certificate of incorporation. In addition, under no circumstances shall any Shares with respect to which the Agent acts as sales agent be sold at a price lower than the minimum price therefor authorized from time to time by the Company’s board of directors, or a duly authorized committee thereof, and notified to the Agent in writing.

(g) Settlement for sales of Shares pursuant to this Section 2 will occur on the second business day that is also a Trading Day following the trade date on which such sales are made, unless another date shall be agreed to by the Company and the Agent (each such day, a “Settlement Date”). On each Settlement Date, the Shares sold through the Agent for settlement on such date shall be delivered by the Company to the Agent against payment of the Net Proceeds from the sale of such Shares. Settlement for all Shares shall be effected by book-entry delivery of Shares to the Agent’s account at The Depository Trust Company against payments by the Agent of the Net Proceeds from the sale of such Shares in same day funds delivered to an account designated by the Company. If the Company shall default on its obligation to deliver Shares on any Settlement Date, the Company shall (i) indemnify and hold the Agent harmless against any loss, claim or damage arising from or as a result of such default by the Company and (ii) pay the Agent any commission to which it would otherwise be entitled absent such default.

(h) Notwithstanding any other provision of this Agreement, the Company and the Agent agree that no sales of Shares shall take place, and the Company shall not request the sale of any Shares that would be sold, and the Agent shall not be obligated to sell, during any period in which the Company is, or would reasonably be deemed to be, in possession of material non-public information.

(i) Any obligation of the Agent to use its commercially reasonable efforts to sell the Shares on behalf of the Company as sales agent shall be subject to the continuing accuracy of the representations and warranties of the Company herein, to the performance by the Company of its obligations hereunder and to the continuing satisfaction of the additional conditions specified in Section 6 of this Agreement.

(j) If, at the time of execution of this Agreement, the Company’s Common Stock is not an “actively traded security” exempted from the requirements of Rule 101 of Regulation M under the 1934 Act by subsection (c)(1) of such rule, the Company shall notify the Agent at the time the Common Stock becomes an “actively traded security” under such rule. Furthermore, the Company shall notify the Agent immediately if the Common Stock, having once qualified for such exemption, ceases to so qualify.

Section 3. Covenants. The Company agrees with the Agent:

(a) During any period when the delivery of a prospectus is required in connection with the offering or sale of Shares (whether physically or through compliance with Rule 153 or 172, or in lieu thereof, a notice referred to in Rule 173(a) under the 1933 Act), (i) to make no further amendment or any supplement to the Registration Statement

or the Prospectus (other than an amendment or supplement relating to an offering of the Company's securities which is unrelated to the offering of Shares hereunder) prior to any Settlement Date which shall be disapproved by the Agent promptly after reasonable notice thereof and to advise the Agent, promptly after it receives notice thereof, of the time when any amendment to the Registration Statement has been filed or becomes effective or any amendment or supplement to the Prospectus (other than an amendment or supplement relating to an offering of the Company's securities which is unrelated to the offering of Shares hereunder) has been filed and to furnish the Agent with copies thereof, (ii) to file promptly all other material required to be filed by the Company with the Commission pursuant to Rule 433(d) under the 1933 Act, (iii) to file promptly all reports and any definitive proxy or information statements required to be filed by the Company with the Commission pursuant to Section 13(a), 13(c), 14 or 15(d) of the 1934 Act, (iv) to advise the Agent, promptly after it receives notice thereof, of the issuance by the Commission of any stop order or of any order preventing or suspending the use of the Prospectus or other prospectus in respect of the Shares, of the suspension of the qualification of the Shares for offering or sale in any jurisdiction, of the initiation or threatening of any proceeding for any such purpose, or of any request by the Commission for the amending or supplementing of the form of the Registration Statement or the Prospectus or for additional information, and (v) in the event of the issuance of any such stop order or of any such order preventing or suspending the use of the Prospectus in respect of the Shares or suspending any such qualification, to promptly use its commercially reasonable efforts to obtain the withdrawal of such order; and in the event of any such issuance of a notice of objection, promptly to take such reasonable steps as may be necessary to permit offers and sales of the Shares by the Agent, which may include, without limitation, amending the Registration Statement or filing a new registration statement, at the Company's expense (references herein to the Registration Statement shall include any such amendment or new registration statement). Notwithstanding the foregoing, the Company shall not be obligated to furnish copies of any report or statement filed with the Commission to the extent it is available on the Commission's Electronic Data Gathering, Analysis, and Retrieval System ("EDGAR").

(b) Promptly from time to time to take such action as the Agent may reasonably request to qualify the Shares for offering and sale under the securities laws of such jurisdictions as the Agent may request and to comply with such laws so as to permit the continuance of sales and dealings therein in such jurisdictions for as long as may be necessary to complete the sale of the Shares, provided that in connection therewith the Company shall not be required to qualify as a foreign corporation or to file a general consent to service of process in any jurisdiction; and to promptly advise the Agent of the receipt by the Company of any notification with respect to the suspension of the qualification of the Shares for offer or sale in any jurisdiction or the initiation or threatening of any proceeding for such purpose.

(c) During any period when the delivery of a prospectus is required (whether physically or through compliance with Rules 153 or 172, or in lieu thereof, a notice referred to in Rule 173(a) under the 1933 Act) in connection with the offering or sale of Shares, the Company will make available to the Agent, as soon as practicable after the execution of this Agreement, and thereafter from time to time furnish to the Agent, copies of the most recent Prospectus in such quantities and at such locations as the Agent may reasonably request for the purposes contemplated by the 1933 Act. During any period when the delivery of a prospectus is required (whether physically or through compliance with Rules 153 or 172, or in lieu thereof, a notice referred to in Rule 173(a) under the 1933 Act) in connection with the offering or sale of Shares, and if at such time any event shall have occurred 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 any material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made when such Prospectus is delivered, not misleading, or, if for any other reason it shall be necessary during such same period to amend or supplement the Prospectus or to file under the 1934 Act any document incorporated by reference in the Prospectus in order to comply with the 1933 Act or the 1934 Act, to notify the Agent and to file such document and to prepare and furnish without charge to the Agent as many written and electronic copies as the Agent may from time to time reasonably request of an amended Prospectus or a supplement to the Prospectus which will correct such statement or omission or effect such compliance. Notwithstanding the foregoing, the Company shall not be obligated to furnish copies of any report or statement filed with the Commission to the extent it is available on EDGAR.

(d) To make generally available to its securityholders as soon as practicable, but in any event not later than sixteen months after effective date of the Registration Statement (as defined in Rule 158(c) under the 1933 Act), an earnings statement of the Company (which need not be audited) complying with Section 11(a) of the 1933

(e) [Reserved].

(f) To use the Net Proceeds received by it from the sale of the Shares pursuant to this Agreement and any Terms Agreement in the manner specified in the Prospectus.

(g) In connection with the offering and sale of the Shares, the Company will file with the Nasdaq Capital Market all documents and notices, and make all certifications, required by the Nasdaq Capital Market of companies that have securities that are listed or quoted on the Nasdaq Capital Market and will maintain such listings or quotations.

(h) To not take, directly or indirectly, and to use commercially reasonable efforts to cause its affiliates to refrain from taking, any action designed to cause or result in, or that has constituted or might reasonably be expected to constitute, under the 1934 Act or otherwise, the stabilization or manipulation of the price of any securities of the Company to facilitate the sale or resale of the Shares.

(i) At each Applicable Time, each Settlement Date, each Registration Statement Amendment Date (as defined below), each Company Periodic Report Date (as defined below) and each date on which Shares are delivered to the Agent pursuant to a Terms Agreement, the Company shall be deemed to have affirmed each representation, warranty, covenant and other agreement contained in this Agreement or any Terms Agreement. In each Annual Report on Form 10-K or Quarterly Report on Form 10-Q filed by the Company in respect of any quarter in which sales of Shares were made by or through the Agent under this Agreement or any Terms Agreement (each date on which any such document is filed, and any date on which an amendment to any such document is filed, a "Company Periodic Report Date"), the Company shall set forth with regard to such quarter the number of Shares sold through the Agent under this Agreement or any Terms Agreement and the Net Proceeds received by the Company with respect to sales of Shares pursuant to this Agreement or any Terms Agreement.

(j) Upon commencement of the offering of Shares under this Agreement and each time the Shares are delivered to the Agent as principal on a Settlement Date and promptly after each (i) date the Registration Statement or the Prospectus shall be amended or supplemented (other than (1) by an amendment or supplement providing solely for the determination of the terms of the Shares, (2) in connection with the filing of a prospectus supplement that contains solely the information set forth in Section 3(i), (3) in connection with the filing of any current reports on Form 8-K (other than any current reports on Form 8-K which contain financial statements, supporting schedules or other financial data, including any current report on Form 8-K under Item 2.02 of such form that is considered "filed" under the 1934 Act) or (4) a prospectus supplement relating to the offering of other securities (including, without limitation, other shares of Common Stock)) (each such date, a "Registration Statement Amendment Date") and (ii) Company Periodic Report Date, the Company will furnish or cause to be furnished forthwith to the Agent a certificate dated the date of effectiveness of such amendment or the date of filing with the Commission of such supplement or other document, as the case may be, in a form reasonably satisfactory to the Agent to the effect that the statements contained in the certificate referred to in Section 6(f) of this Agreement which were last furnished to the Agent are true and correct at the time of such amendment, supplement or filing, as the case may be, as though made at and as of such time (except that such statements shall be deemed to relate to the Registration Statement and the Prospectus as amended and supplemented to such time) or, in lieu of such certificate, a certificate of the same tenor as the certificate referred to in said Section 6(f), but modified as necessary to relate to the Registration Statement and the Prospectus as amended and supplemented, or to the document incorporated by reference into the Prospectus, to the time of delivery of such certificate. As used in this paragraph, to the extent there shall be an Applicable Time on or following the date referred to in clause (i) or (ii) above, promptly shall be deemed to be on or prior to the next succeeding Applicable Time. Notwithstanding the foregoing, the Company shall not be required to deliver any such certificate at any time there is no instruction to sell shares delivered pursuant to Section 2(b) then in effect; provided however, that such a certificate shall then be required to be delivered to the Agent prior to any further sales of Shares under this Agreement covering the period which would most recently have been required but for this sentence.

(k) Upon commencement of the offering of Shares under this Agreement and promptly after each (i) Registration Statement Amendment Date and (ii) Company Periodic Report Date, the Company will furnish or cause to be furnished to the Agent the written opinion and written negative assurance statement of K&L Gates LLP, counsel to the Company, and Bozicevic, Field & Francis LLP, intellectual property counsel for the Company, or other counsel reasonably satisfactory to the Agent, dated the date of effectiveness of such amendment or the date of filing with the Commission of such supplement or other document, as the case may be, in a form and substance reasonably satisfactory to the Agent and its counsel, of the same tenor as the opinions and letters referred to in Section 6(c) of this Agreement, but modified as necessary to relate to the Registration Statement and the Prospectus as amended and supplemented, or to the document incorporated by reference into the Prospectus, to the time of delivery of such opinion and letter or, in lieu of such opinion and letter, counsel last furnishing such letter to the Agent shall furnish such Agent with a letter substantially to the effect that the Agent may rely on such last opinion and letter to the same extent as though each were dated the date of such letter authorizing reliance (except that statements in such last letter shall be deemed to relate to the Registration Statement and the Prospectus as amended and supplemented to the time of delivery of such letter authorizing reliance). As used in this paragraph, to the extent there shall be an Applicable Time on or following the date referred to in clause (i) or (ii) above, promptly shall be deemed to be on or prior to the next succeeding Applicable Time. Notwithstanding the foregoing, (y) the Company shall not be required to furnish or cause to be furnished any such opinion or statement at any time there are no instructions to sell shares delivered pursuant to Section 2(b) or a Terms Agreement then in effect; provided, however, that such an opinion or letter shall then be required to be furnished to the Agent prior to any further sales of Shares under this Agreement covering the period which would most recently have been required but for this sentence, and (z) following the Agent being furnished with the first opinion(s) pursuant this Section 3(k), subsequent opinions or letters furnished pursuant to this Section 3(k) shall only consist of customary written negative assurance statements.

(l) Upon commencement of the offering of Shares under this Agreement and promptly after each (i) Registration Statement Amendment Date and (ii) Company Periodic Report Date, the Company will cause each of Gumbiner Savett, Inc. and RSM US LLP, or other independent accountants reasonably satisfactory to the Agent, to furnish to the Agent a letter, dated the date of effectiveness of such amendment or the date of filing of such supplement or other document with the Commission, as the case may be, in form reasonably satisfactory to the Agent and its counsel, of the same tenor as the letter referred to in Section 6(d) hereof, but modified as necessary to relate to the Registration Statement and the Prospectus, as amended and supplemented, or to the document incorporated by reference into the Prospectus, to the date of such letter; provided that the requirement to provide a comfort letter from Gumbiner Savett Inc. shall terminate upon the Company's filing of its annual report on Form 10-K for the year ended December 31, 2019. As used in this paragraph, to the extent there shall be an Applicable Time on or following the date referred to in clause (i) or (ii) above, promptly shall be deemed to be on or prior to the next succeeding Applicable Time.

(m) The Company consents to the Agent trading in the Company's Common Stock for the Agent's own account and for the account of its clients at the same time as sales of Shares occur pursuant to this Agreement or any Terms Agreement, provided that, at all times, the Agent is in compliance with Regulation M under the 1934 Act with respect to the Common Stock and provided that in no event shall the Agent trade the Common Stock for its or its affiliates' proprietary accounts.

(n) [Reserved].

(o) The Company will cooperate timely with any reasonable due diligence review conducted by the Agent or its counsel from time to time in connection with the transactions contemplated hereby or in any Terms Agreement, including, without limitation, and upon reasonable notice, providing information and making available documents and appropriate corporate officers, during regular business hours and at the Company's principal offices, as the Agent may reasonably request.

(p) During each period commencing on the date on which the Company has given an instruction pursuant to Section 2(b) and ending on the close of business of the Settlement Date of the last Shares sold pursuant to such instruction, the Company will not, without giving the Agent at least three business days' prior written notice of a proposed sale or other transaction (which notice shall not be required to specify the nature of such proposed transaction), (A) offer, pledge, announce the intention to sell, sell, contract to sell, sell any option or contract to

purchase, purchase any option or contract to sell, grant any option, right or warrant for the sale of, lend or otherwise transfer or dispose of, directly or indirectly, any shares of Common Stock or securities convertible into or exchangeable or exercisable for or repayable with Common Stock, or file any registration statement under the 1933 Act with respect to any of the foregoing (other than a shelf registration statement under Rule 415 under the 1933 Act, a registration statement on Form S-8 or post-effective amendment to the Registration Statement) or (B) enter into any swap or other agreement or any transaction that transfers in whole or in part, directly or indirectly, any of the economic consequence of ownership of the Common Stock, or any securities convertible into or exchangeable or exercisable for or repayable with Common Stock, whether any such swap or transaction described in clause (A) or (B) above is to be settled by delivery of Common Stock or such other securities, in cash or otherwise. The foregoing sentence shall not apply to (w) the Shares to be offered and sold through the Agent pursuant to this Agreement or any Terms Agreement, (x) equity incentive awards approved by the board of directors of the Company or the compensation committee thereof or the issuance of Common Stock upon exercise thereof, (y) Shares or securities convertible into or exchangeable for Shares as consideration for mergers, acquisitions, other business combinations, joint ventures or strategic alliances occurring after the date of this Agreement which are not used for capital raising purposes and (z) Shares issuable upon exercise or conversion of warrants, options or other derivative securities either in existence prior to the date of this Agreement or issued thereafter in compliance with this Section 3(p).

(q) If immediately prior to the third anniversary (the “Renewal Deadline”) of the initial effective date of the Registration Statement, any of the Shares remain unsold, the Company will, prior to the Renewal Deadline file, if it has not already done so and is eligible to do so, an “automatic shelf registration statement” (as defined in Rule 405 under the 1933 Act) relating to the Shares, in a form reasonably satisfactory to the Agent. If the Company is not eligible to file an automatic shelf registration statement, the Company will, prior to the Renewal Deadline, if it has not already done so, file a new shelf registration statement relating to the Shares, in a form reasonably satisfactory to the Agent, and will use its commercially reasonable efforts to cause such registration statement to be declared effective within 60 days after the Renewal Deadline. The Company will use commercially reasonable efforts to take all other action necessary or appropriate to permit the issuance and sale of the Shares to continue as contemplated in the expired registration statement relating to the Shares. References herein to the Registration Statement shall include such new automatic shelf registration statement or such new shelf registration statement, as the case may be.

Section 4. Free Writing Prospectus.

(a) (i) The Company represents and agrees that without the prior consent of the Agent (which consent may not be unreasonably withheld, delayed or conditioned), it has not made and will not make any offer relating to the Shares that would constitute a “free writing prospectus” as defined in Rule 405 under the 1933 Act; and

(ii) the Agent represents and agrees that, without the prior consent of the Company (which consent may not be unreasonably withheld, delayed or conditioned), it has not made and will not make any offer relating to the Shares that would constitute a free writing prospectus required to be filed with the Commission.

(b) The Company has complied and will comply with the requirements of Rule 433 under the 1933 Act applicable to any Issuer Free Writing Prospectus (including any free writing prospectus identified in Section 4(a) hereof), including timely filing with the Commission or retention where required and legending.

Section 5. Payment and Reimbursement of Expenses. The Company covenants and agrees with the Agent that the Company will pay or cause to be paid the following: (i) the fees, disbursements and expenses of the Company’s counsel and accountants in connection with the registration of the Shares under the 1933 Act and all other expenses in connection with the preparation, printing and filing of the Registration Statement, the Base Prospectus, Prospectus Supplement, any Issuer Free Writing Prospectus and the Prospectus and amendments and supplements thereto and the mailing and delivering of copies thereof to the Agent; (ii) the cost of printing or producing this Agreement or any Terms Agreement, any Blue Sky and Legal Investment Memoranda, closing documents (including any compilations thereof) and any other documents in connection with the offering, purchase, sale and delivery of the Shares; (iii) all expenses in connection with the qualification of the Shares for offering and sale under state securities laws as provided in Section 3(b) hereof, including the reasonable fees and disbursements

of counsel for the Agent in connection with such qualification and in connection with the Blue Sky and Legal Investment Surveys; (iv) any filing fees incident to, and the reasonable fees and disbursements of counsel for the Agent in connection with, any required review by FINRA of the terms of the sale of the Shares; (v) all fees and expenses in connection with listing or quoting the Shares on the Nasdaq Capital Market; (vi) the cost of preparing the Shares; (vii) the costs and charges of any transfer agent or registrar or any dividend distribution agent; (viii) the reasonable fees and disbursements of counsel to the Agent in an aggregate amount not to exceed \$50,000 (which amount shall include all fees and disbursements of such counsel described in clauses (iii) and (iv) above); and (ix) all other costs and expenses incident to the performance of its obligations hereunder which are not otherwise specifically provided for in this Section 5. It is understood, however, that, except as provided in this Section 5 and Section 7 hereof, the Agent will pay all of its own costs and expenses, including the fees of its counsel, transfer taxes on resale of any of the Shares by it, and any advertising expenses connected with any offers it may make.

Section 6. Conditions of Agent's Obligation. The obligations of the Agent hereunder shall be subject, in its discretion, to the condition that all representations and warranties and other statements of the Company herein or in certificates of any officer of the Company delivered pursuant to the provisions hereof are true and correct as of the time of the execution of this Agreement, the date of any executed Terms Agreement and as of each Registration Statement Amendment Date, Company Periodic Report Date, Applicable Time and Settlement Date, to the condition that the Company shall have performed all of its obligations hereunder theretofore to be performed, and the following additional conditions:

(a) The Prospectus Supplement shall have been filed with the Commission pursuant to Rule 424(b) under the 1933 Act on or prior to the date hereof and in accordance with Section 3(a) hereof, any other material required to be filed by the Company pursuant to Rule 433(d) under the 1933 Act shall have been filed with the Commission within the applicable time periods prescribed for such filings by Rule 433; no stop order suspending the effectiveness of the Registration Statement or any part thereof shall have been issued and no proceeding for that purpose shall have been initiated or threatened by the Commission and no notice of objection of the Commission to the use of the form of the Registration Statement or any post-effective amendment thereto pursuant to Rule 401(g)(2) under the 1933 Act shall have been received; no stop order suspending or preventing the use of the Prospectus or any Issuer Free Writing Prospectus shall have been initiated or threatened by the Commission; and all requests for additional information on the part of the Commission shall have been complied with to the reasonable satisfaction of the Agent.

(b) On every date specified in Section 3(k) hereof and on such other dates as reasonably requested by Agent, Goodwin Procter LLP, counsel for the Agent, shall have furnished to the Agent such written opinion or opinions, dated as of such date, with respect to such matters as the Agent may reasonably request, and such counsel shall have received such papers and information as they may reasonably request to enable them to pass upon such matters.

(c) On every date specified in Section 3(k) hereof, K&L Gates LLP, counsel for the Company, shall have furnished to the Agent a written opinion or opinions, and a written negative assurance statement, each dated as of such date, in form and substance reasonably satisfactory to the Agent (it being understood and agreed that, other than the first such opinion furnished to the Agent, such opinions and statements shall consist of a customary written negative assurance statement only). Upon commencement of the offering of Shares under this Agreement and promptly after each Company Periodic Report Date that relates to the filing of an Annual Report on Form 10-K, Bozicevic, Field & Francis LLP, intellectual property counsel for the Company shall have furnished to the Agent a written opinion or opinions, dated as of such date, in form and substance reasonably satisfactory to the Agent (it being understood and agreed that, other than the first such opinion furnished to the Agent, such opinions shall consist of a customary written negative assurance statement only).

(d) At the dates specified in Section 3(l) hereof, the independent accountants of the Company who have certified the financial statements of the Company included or incorporated by reference in the Registration Statement and the Prospectus shall have furnished to the Agent a letter dated as of the date of delivery thereof and addressed to the Agent in form and substance reasonably satisfactory to the Agent and its counsel, containing statements and information of the type ordinarily included in accountants' "comfort letters" to underwriters with respect to the financial statements of the Company included or incorporated by reference in the Registration Statement and the Prospectus.

(e) Prior to commencement of the offering of Shares under this Agreement, the Agent shall have received a certificate, signed on behalf of the Company by its corporate Secretary, in form and substance satisfactory to the Agent and its counsel.

(f) On each date specified in Section 3(j) and on such other dates as reasonably requested by Agent, the Agent shall have received a certificate of two executive officers of the Company, one of whom shall be the Chief Financial Officer, Chief Accounting Officer, Treasurer, Principal Financial Officer or Executive Vice President in the area of capital markets and investments, dated as of the date thereof, to the effect that (A) there has been no Material Adverse Effect since the date as of which information is given in the Prospectus as then amended or supplemented, (B) the representations and warranties in Section 1 hereof are true and correct as of such date and (C) the Company has complied with all of the agreements entered into in connection with the transaction contemplated herein and satisfied all conditions on its part to be performed or satisfied.

(g) Since the date of the latest audited financial statements then included or incorporated by reference in the Prospectus, no Material Adverse Effect shall have occurred.

(h) The Company shall have complied with the provisions of Section 3(c) hereof with respect to the timely furnishing of prospectuses.

(i) On such dates as reasonably requested by the Agent, the Company shall have conducted due diligence sessions, in form and substance reasonably satisfactory to the Agent.

(j) All filings with the Commission required by Rule 424 under the 1933 Act to have been filed by each Applicable Time or related Settlement Date shall have been made within the applicable time period prescribed for such filing by Rule 424 (without reliance on Rule 424(b)(8)).

(k) The Shares shall have received approval for listing or quotation on the Nasdaq Capital Market prior to the first Settlement Date.

(l) Prior to any Settlement Date, the Company shall have furnished to the Agent such further information, documents or certificates as the Agent may reasonably request.

Section 7. Indemnification.

(a) The Company will indemnify and hold harmless the Agent against any losses, claims, damages or liabilities, joint or several, to which the Agent may become subject, under the 1933 Act or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon an untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, the Base Prospectus, the Prospectus Supplement or the Prospectus or any amendment or supplement thereto, any Issuer Free Writing Prospectus or any "issuer information" filed or required to be filed pursuant to Rule 433(d) under the 1933 Act, or arise out of or are based upon the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, and will reimburse the Agent for any legal or other expenses reasonably incurred by the Agent in connection with investigating or defending any such action or claim as such expenses are incurred; provided, however, that the Company shall not be liable in any such case to the extent that any such loss, claim, damage or liability arises out of or is based upon an untrue statement or alleged untrue statement or omission or alleged omission made in the Registration Statement, the Base Prospectus, the Prospectus Supplement or the Prospectus, or any amendment or supplement thereto, or any Issuer Free Writing Prospectus, in reliance upon and in strict conformity with written information furnished to the Company by the Agent expressly for use therein.

(b) The Agent will indemnify and hold harmless the Company against any losses, claims, damages or liabilities to which the Company may become subject, under the 1933 Act or otherwise, insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon an untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, the Base Prospectus, the Prospectus Supplement or the Prospectus, or any amendment or supplement thereto, or any Issuer Free Writing

Prospectus, or arise out of or are based upon the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, in each case to the extent, but only to the extent, that such untrue statement or alleged untrue statement or omission or alleged omission was made in the Registration Statement, the Base Prospectus, the Prospectus Supplement or the Prospectus, or any such amendment or supplement thereto, or any Issuer Free Writing Prospectus, in reliance upon and in strict conformity with written information furnished to the Company by the Agent expressly for use therein; and will reimburse the Company for any legal or other expenses reasonably incurred by the Company in connection with investigating or defending any such action or claim as such expenses are incurred.

(c) Promptly after receipt by an indemnified party under subsection (a) or (b) above of notice of the commencement of any action, such indemnified party shall, if a claim in respect thereof is to be made against the indemnifying party under such subsection, notify the indemnifying party in writing of the commencement thereof; but the omission so to notify the indemnifying party shall not relieve it from any liability which it may have to any indemnified party otherwise than under such subsection except and then only to the extent such indemnifying party is materially prejudiced thereby. In case any such action shall be brought against any indemnified party and it shall notify the indemnifying party of the commencement thereof, the indemnifying party shall be entitled to participate therein and, to the extent that it shall wish, jointly with any other indemnifying party similarly notified, to assume the defense thereof, with counsel reasonably satisfactory to such indemnified party (who shall not, except with the consent of the indemnified party, be counsel to the indemnifying party), and, after notice from the indemnifying party to such indemnified party of its election so to assume the defense thereof, the indemnifying party shall not be liable to such indemnified party under this Section 7 for any legal expenses of other counsel or any other expenses, in each case subsequently incurred by such indemnified party, in connection with the defense thereof other than reasonable costs of investigation. No indemnifying party shall, without the written consent of the indemnified party, effect the settlement or compromise of, or consent to the entry of any judgment with respect to, any pending or threatened action or claim in respect of which indemnification or contribution may be sought hereunder (whether or not the indemnified party is an actual or potential party to such action or claim) unless such settlement, compromise or judgment (i) includes an unconditional release of the indemnified party from all liability arising out of such action or claim and (ii) does not include a statement as to or an admission of fault, culpability or a failure to act, by or on behalf of any indemnified party.

(d) If the indemnification provided for in this Section 7 is unavailable to hold harmless an indemnified party under subsection (a) or (b) above in respect of any losses, claims, damages or liabilities (or actions in respect thereof) referred to therein, then each indemnifying party shall contribute to the amount paid or payable by such indemnified party as a result of such losses, claims, damages or liabilities (or actions in respect thereof) in such proportion as is appropriate to reflect the relative benefits received by the Company on the one hand and the Agent on the other from the offering of the Shares to which such loss, claim, damage or liability (or action in respect thereof) relates. If, however, the allocation provided by the immediately preceding sentence is not permitted by applicable law, then each indemnifying party shall contribute to such amount paid or payable by such indemnified party in such proportion as is appropriate to reflect not only such relative benefits but also the relative fault of the Company on the one hand and the Agent on the other in connection with the statements or omissions which resulted in such losses, claims, damages or liabilities (or actions in respect thereof), as well as any other relevant equitable considerations. The relative benefits received by the Company on the one hand and the Agent on the other shall be deemed to be in the same proportion as the total net proceeds from the offering (before deducting expenses) received by the Company bear to the total commissions received by the Agent. The relative fault shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Company on the one hand or the Agent on the other and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission. The Company and the Agent agree that it would not be just and equitable if contribution pursuant to this subsection (d) were determined by pro rata allocation or by any other method of allocation which does not take account of the equitable considerations referred to above in this subsection (d). The amount paid or payable by an indemnified party as a result of the losses, claims, damages or liabilities (or actions in respect thereof) referred to above in this subsection (d) shall be deemed to include any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim. Notwithstanding the provisions of this subsection (d), the Agent shall not be required to contribute any amount in excess of the amount by which the total compensation received by the Agent with respect to sales of the Shares sold by it to the public exceeds the amount of any damages which the Agent has otherwise been required

to pay by reason of such untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the 1933 Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation.

(e) The obligations of the Company under this Section 7 shall be in addition to any liability which the Company may otherwise have and shall extend, upon the same terms and conditions, to the directors, officers, employees, attorneys and agents of the Agent and to each person, if any, who controls the Agent within the meaning of the 1933 Act and each broker dealer affiliate of the Agent; and the obligations of the Agent under this Section 7 shall be in addition to any liability which the Agent may otherwise have and shall extend, upon the same terms and conditions, to each director, officer, employee, attorney and agent of the Company and to each person, if any, who controls the Company within the meaning of the 1933 Act.

Section 8. Representations, Warranties and Agreements to Survive Delivery. The respective indemnities, agreements, representations, warranties and other statements of the Company and the Agent, as set forth in this Agreement or made by or on behalf of them, respectively, pursuant to this Agreement, shall remain in full force and effect, regardless of any investigation (or any statement as to the results thereof) made by or on behalf of the Agent or any controlling person of the Agent, or the Company, or any officer or director or controlling person of the Company, and shall survive delivery of and payment for the Shares.

Section 9. No Advisory or Fiduciary Relationship. The Company acknowledges and agrees that (i) the Agent is acting solely in the capacity of an arm's length contractual counterparty to the Company with respect to the offering of Shares contemplated hereby (including in connection with determining the terms of such offering) and (ii) the Agent has not assumed an advisory or fiduciary responsibility in favor of the Company with respect to the offering contemplated hereby or the process leading thereto (irrespective of whether the Agent has advised or is currently advising the Company on other matters) or any other obligation to the Company except the obligations expressly set forth in this Agreement and (iii) the Company has consulted its own legal and financial advisors to the extent it deemed appropriate. The Company agrees that it will not claim that the Agent has rendered advisory services of any nature or respect, or owe a fiduciary or similar duty to the Company, in connection with such transaction or the process leading thereto.

Section 10. Termination.

(a) The Company shall have the right, by giving written notice as hereinafter specified, to terminate this Agreement in its sole discretion at any time. Any such termination shall be without liability of any party to any other party, except that (i) with respect to any pending sale through the Agent for the Company, the obligations of the Company, including in respect of compensation of the Agent, shall remain in full force and effect notwithstanding such termination; and (ii) the provisions of Section 1, Section 5, Section 7, Section 8, Section 14 and Section 15 of this Agreement shall remain in full force and effect notwithstanding such termination.

(b) The Agent shall have the right, by giving written notice as hereinafter specified, to terminate this Agreement in its sole discretion at any time. Any such termination shall be without liability of any party to any other party except that (i) with respect to any pending sale through the Agent for the Company, the obligations of the Agent shall remain in full force and effect through completion of the sale notwithstanding such termination; and (ii) the provisions of Section 1, Section 5, Section 7, Section 8, Section 14 and Section 15 of this Agreement shall remain in full force and effect notwithstanding such termination.

(c) Unless earlier terminated pursuant to this Section 10, this Agreement shall automatically terminate upon the issuance and sale of all of the Shares by the Agent on the terms and subject to the conditions set forth herein except any termination pursuant to this clause (c) shall in all cases be deemed to provide that Section 1, Section 5, Section 7, Section 8, Section 14 and Section 15 of this Agreement shall remain in full force and effect.

(d) This Agreement shall remain in full force and effect until and unless terminated pursuant to Section 10(a), (b) or (c) above or otherwise by mutual agreement of the parties; provided that any such termination by mutual agreement or pursuant to this clause (c) shall in all cases be deemed to provide that Section 1, Section 5, Section 7, Section 8, Section 14 and Section 15 of this Agreement shall remain in full force and effect.

(e) Any termination of this Agreement shall be effective on the date specified in such notice of termination; provided that such termination shall not be effective until the close of business on the date of receipt of such notice by the Agent or the Company, as the case may be. If such termination shall occur prior to the Settlement Date for any sale of Shares, such sale shall settle in accordance with the provisions of Section 2(g) hereof.

(f) In the case of any purchase by the Agent pursuant to a Terms Agreement, the Agent may terminate this Agreement, at any time at or prior to the Settlement Date of such purchase (i) if there has been, since the time of execution of this Agreement or since the respective dates as of which information is given in the Prospectus, any Material Adverse Effect, or (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 the Agent, impracticable or inadvisable to market the Shares or to enforce contracts for the sale of Shares, or (iii) if trading in any securities of the Company has been suspended or materially limited by the Commission or the Nasdaq Capital Market, or if trading generally on the NYSE American or the New York Stock Exchange or the Nasdaq Stock Market has been suspended or materially limited, or minimum or maximum prices for trading have been fixed, or maximum ranges for prices have been required, by any of said exchanges or by such system or by order of the Commission, FINRA or any other governmental authority, or (iv) a material disruption has occurred in commercial banking or securities settlement or clearance services in the United States, or (v) if a banking moratorium has been declared by either Federal or New York authorities.

Section 11. Notices. All statements, requests, notices and agreements hereunder shall be in writing, and if to Stifel shall be delivered or sent by mail, telex or facsimile transmission to:

Stifel, Nicolaus & Company, Incorporated
One South Street, 17th Floor
Baltimore, Maryland 21202
Attention: Syndicate Department

With a copy to:

Goodwin Procter LLP
Attention: Thomas Levato
Fax No: (646) 558-4140

and if to the Company to:

Cue Biopharma, Inc.
21 Erie Street
Cambridge, Massachusetts 02139
Attention: Chief Executive Officer

With a copy to:

K&L Gates LLP
Attention: Mark R. Busch
Fax No.: (704) 353-3694

Any such statements, requests, notices or agreements shall take effect upon receipt thereof.

Section 12. Parties. This Agreement shall be binding upon, and inure solely to the benefit of, the Agent and the Company and, to the extent provided in Sections 7 and 8 hereof, the officers, directors, employees, attorneys and agents of the Company and the Agent and each person who controls the Company or the Agent, and their respective heirs, executors, administrators, successors and assigns, and no other person shall acquire or have any right under or by virtue of this Agreement. No purchaser of Shares through the Agent shall be deemed a successor or assign by reason merely of such purchase.

Section 13. Time of the Essence. Time shall be of the essence of this Agreement. As used herein, the term “business day” shall mean any day when the Commission’s office in Washington, D.C. is open for business.

Section 14. Waiver of Jury Trial. The Company and the Agent hereby irrevocably waive, 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.

Section 15. Governing Law. THIS AGREEMENT SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK WITHOUT REFERENCE TO ITS PRINCIPLES OF CONFLICTS OF LAW.

Section 16. Counterparts. This Agreement and any Terms Agreement may be executed by any one or more of the parties hereto and thereto in any number of counterparts, each of which shall be deemed to be an original, but all such respective counterparts shall together constitute one and the same instrument. This Agreement and any Terms Agreement may be delivered by any party by facsimile or other electronic transmission.

Section 17. Severability. The invalidity or unenforceability of any Section, paragraph or provision of this Agreement shall not affect the validity or enforceability of any other Section, paragraph or provision hereof. If any Section, paragraph or provision of this Agreement is for any reason determined to be invalid or unenforceable, there shall be deemed to be made such minor changes (and only such minor changes) as are necessary to make it valid and enforceable.

CUE BIOPHARMA, INC.

Common Stock
(\$0.001 par value per share)

TERMS AGREEMENT

STIFEL, NICOLAUS & COMPANY, INCORPORATED
One South Street, 17th Floor
Baltimore, MD 21202
Attn: Syndicate Department

Ladies and Gentlemen:

Cue Biopharma, Inc., a Delaware corporation (the “Company”), proposes, subject to the terms and conditions stated herein and in the At-the-Market Equity Offering Sales Agreement, dated November 25, 2019 (the “Sales Agreement”), between the Company and Stifel, Nicolaus & Company, Incorporated (the “Agent”), to issue and sell to the Agent the securities specified in the Schedule hereto (the “Purchased Securities”), and solely for the purpose of covering over-allotments, to grant to the Agent the option to purchase the additional securities specified in the Schedule hereto (the “Additional Securities”)*.

[The Agent shall have the right to purchase from the Company all or a portion of the Additional Securities as may be necessary to cover over-allotments made in connection with the offering of the Purchased Securities, at the same purchase price per share to be paid by the Agent to the Company for the Purchased Securities. This option may be exercised by the Agent at any time (but not more than once) on or before the thirtieth day following the date hereof, by written notice to the Company. Such notice shall set forth the aggregate number of shares of Additional Securities as to which the option is being exercised, and the date and time when the Additional Securities are to be delivered (such date and time being herein referred to as the “Option Closing Date”); provided, however, that the Option Closing Date shall not be earlier than the Time of Delivery (as set forth in the Schedule hereto) nor earlier than the second business day after the date on which the option shall have been exercised nor later than the fifth business day after the date on which the option shall have been exercised. Payment of the purchase price for the Additional Securities shall be made at the Option Closing Date in the same manner and at the same office as the payment for the Purchased Securities.]*

Each of the provisions of the Sales Agreement not specifically related to the solicitation by the Agent, as agent of the Company, of offers to purchase securities is incorporated herein by reference in its entirety, and shall be deemed to be part of this Terms Agreement to the same extent as if such provisions had been set forth in full herein. Each of the representations and warranties set forth therein shall be deemed to have been made at and as of the date of this Terms Agreement [and] [,] the Applicable Time [and any Option Closing Date]*, except that each representation and warranty in Section 1 of the Sales Agreement which makes reference to the Prospectus (as therein defined) shall be deemed to be a representation and warranty as of the date of the Sales Agreement in relation to the Prospectus, and also a representation and warranty as of the date of this Terms Agreement [and] [,] the Settlement Date [and any Option Closing Date]* in relation to the Prospectus as amended and supplemented to relate to the Purchased Securities.

An amendment to the Registration Statement (as defined in the Sales Agreement), or a supplement to the Prospectus, as the case may be, relating to the Purchased Securities [and the Additional Securities]*, in the form heretofore delivered to the Agent, is now proposed to be filed with the Securities and Exchange Commission.

Subject to the terms and conditions set forth herein and in the Sales Agreement which are incorporated herein by reference, the Company agrees to issue and sell to the Agent and the latter agrees to purchase from the Company the number of shares of the Purchased Securities at the time and place and at the purchase price set forth in the Schedule hereto.

If the foregoing is in accordance with your understanding of our agreement, please sign and return to the Company a counterpart hereof, whereupon this instrument, along with all counterparts, will become a binding agreement between the Agent and the Company in accordance with its terms.

Very truly yours,

CUE BIOPHARMA, INC.

By: _____
Name: _____
Title: _____

Accepted as of the date hereof:

STIFEL, NICOLAUS & COMPANY, INCORPORATED

By: _____
Name: _____
Title: _____

* Include only if the Agent has an over-allotment option.



K&L GATES LLP
 HEARST TOWER
 47TH FLOOR
 214 NORTH TRYON STREET
 CHARLOTTE, NC 28202
 T 704.331.7400 F 704.331.7598 klgates.com

November 25, 2019

Cue Biopharma, Inc.
 21 Erie Street
 Cambridge, MA 02139

Ladies and Gentlemen:

We have acted as counsel to Cue Biopharma, Inc., a Delaware corporation (the “Company”), in connection with the issuance and sale (the “Offering”) by the Company from time to time of up to 2,807,017 shares (the “Shares”) of common stock, par value \$0.001 per share, of the Company (“Common Stock”), pursuant to that certain At-the-Market Equity Offering Sales Agreement dated November 25, 2019 (the “Sales Agreement”) between the Company and Stifel, Nicolaus & Company, Incorporated. The Shares have been registered on a Registration Statement on Form S-3 (File No. 333-229140) (such registration statement, including documents incorporated by reference therein, the “Registration Statement”), initially filed by the Company with the Securities and Exchange Commission (the “Commission”) on January 4, 2019.

This opinion letter is being furnished in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act of 1933, as amended (the “Securities Act”).

The Company has requested our opinion as to the matters set forth below in connection with the Registration Statement. For the purposes of rendering that opinion, we have examined: (i) the Registration Statement, including the exhibits filed therewith; (ii) the Sales Agreement; (iii) the Company’s prospectus supplement, dated November 25, 2019, filed with the Commission pursuant to Rule 424(b) under the Securities Act (including the documents incorporated or deemed incorporated by reference therein) (the “Prospectus Supplement”); (iv) the Company’s Amended and Restated Certificate of Incorporation (the “Certificate of Incorporation”); (v) the Company’s Amended and Restated Bylaws; (vi) the Company’s stock ledger; and (vii) the corporate action of the Company that provides for the issuance of the Shares (the “Authorizing Resolutions”). We have also made such other investigation as we have deemed appropriate. We have examined and relied upon certificates of public officials and such other documents and instruments, and, as to certain matters of fact that are material to our opinion, we have also relied upon a certificate of an officer of the Company. We have considered such matters of law as we have deemed necessary to render the opinion contained herein.

For the purposes of this opinion letter, we have made assumptions that are customary in opinion letters of this kind, including the assumptions that each document submitted to us is accurate and complete, that each such document that is an original is authentic, that each such document that is a copy conforms to an authentic original, the conformity to the original or final

versions of the documents submitted to us as copies or drafts and that all signatures on each such document are genuine. We have further assumed the legal capacity of natural persons. We have not verified any of those assumptions.

In rendering our opinion below, we also have assumed that: (i) the Company will have sufficient authorized and unissued shares of Common Stock at the time of each issuance of Shares pursuant to the Sales Agreement to provide for such issuance, (ii) the issuance of all Shares will be duly noted in the Company's stock ledger upon issuance, (iii) the Sales Agreement constitutes the valid and binding agreement of the parties thereto, enforceable against the parties thereto in accordance with its terms, (iv) prior to the issuance of any of the Shares, the Pricer (as defined in the Authorizing Resolutions) will determine the price and certain other terms of issuance of such Shares in accordance with the Authorizing Resolutions and (v) the Offering will be conducted during the Offering Period (as defined in the Authorizing Resolutions) and the Pricing Committee (as defined in the Authorizing Resolutions) will approve any proposed modifications to the terms of the Offering as set forth in the Authorizing Resolutions. We have not verified any of those assumptions.

Our opinion set forth below is limited to the Delaware General Corporation Law (the "DGCL") and reported judicial decisions interpreting the DGCL.

Based upon and subject to the foregoing, it is our opinion that the Shares have been duly and validly authorized for issuance by the Company and, when issued and delivered by the Company and paid for pursuant to the Sales Agreement, will be validly issued, fully paid and nonassessable.

The opinion set forth above is subject to the following additional assumptions: (i) the effectiveness of the Registration Statement and any amendment thereto (including any post-effective amendment) under the Securities Act shall not have been terminated, suspended or rescinded, and (ii) all Shares offered pursuant to the Registration Statement will be issued and sold (a) in compliance with all applicable federal and state securities laws, rules and regulations and solely in the manner provided in the Registration Statement and the Prospectus and (b) only upon payment of the consideration fixed therefor in accordance with the Sales Agreement and there will not have occurred any change in law or fact affecting the validity of any of the opinions rendered herein with respect thereto. We assume no obligation to update or supplement our opinion to reflect any changes of law or fact that may occur.

We hereby consent to the filing of this opinion with the Commission as Exhibit 5.1 to the Company's Current Report on Form 8-K filed on November 26, 2019 and to the incorporation by reference of this opinion in the Registration Statement, and to the reference to our firm under the caption "Experts" in the Prospectus Supplement. In giving our consent we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules or regulations thereunder. This opinion is expressed as of the date hereof, and we disclaim any undertaking to advise of any subsequent changes in the facts stated or assumed herein or any subsequent changes in law.

Yours truly,
/s/ K&L Gates LLP
K&L Gates LLP