

**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 28, 2022

Alaunos Therapeutics, Inc.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction
of incorporation)

001-33038
(Commission
File Number)

84-1475642
(IRS Employer
Identification No.)

8030 El Rio Street
Houston, TX 77054
(Address of principal executive offices, including zip code)

(346) 355-4099
(Registrant's telephone number, including area code)

Not applicable
(Former name or former address, if changed since last report)

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

- 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	TCRT	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 29, 2022, Alaunos Therapeutics, Inc. (the “Company”) entered into an underwriting agreement (the “Underwriting Agreement”) with Cantor Fitzgerald & Co. (the “Underwriter”), as the sole underwriter, relating to the issuance and sale in an underwritten offering (the “Offering”) of 24,228,719 shares (the “Firm Shares”) of the Company’s common stock, par value \$0.001 per share, to the Underwriter at a price of \$0.6191 per share. Under the terms of the Underwriting Agreement, the Company granted the Underwriter an option, exercisable for 30 days, to purchase up to an additional 3,634,307 shares of common stock (the “Option Shares” and, together with the Firm Shares, the “Shares”) at the same price per share as the Firm Shares. All of the Shares sold in the Offering were sold by the Company. The net proceeds to the Company from the Offering, excluding any exercise by the Underwriter of its option to purchase any of the Option Shares, are expected to be approximately \$14.6 million after deducting underwriting discounts and commissions and estimated offering expenses payable by the Company.

The Shares were offered pursuant to a registration statement on Form S-3 (File No. 333-266841), which was declared effective by the Securities and Exchange Commission (the “SEC”) on September 7, 2022, as supplemented by a prospectus supplement, dated November 29, 2022, filed with the SEC pursuant to Rule 424(b) under the Securities Act of 1933, as amended (the “Securities Act”).

The Underwriting Agreement contains customary representations, warranties and agreements by the Company, customary conditions to closing, indemnification obligations of the Company and the Underwriter, including for liabilities under the Securities Act, and other obligations of the parties and termination provisions. The representations, warranties and covenants contained in the Underwriting Agreement were made only for purposes of such agreement and as of specific dates and were solely for the benefit of the parties to such agreement. The Offering is expected to close on or about December 1, 2022, subject to customary conditions.

The foregoing summary of the Underwriting Agreement does not purport to be complete and is subject to, and qualified in its entirety by, reference to the full text of the Underwriting Agreement, which is filed herewith as Exhibit 1.1 and incorporated herein by reference.

The legal opinion of Covington & Burling LLP relating to the legality of the issuance and sale of the Shares in the Offering is attached as Exhibit 5.1 to this Current Report on Form 8-K.

Item 8.01. Other Events.

The Company issued press releases announcing the launch and pricing of the Offering on November 28, 2022 and November 29, 2022, respectively. Copies of the press releases are attached hereto as Exhibit 99.1 and Exhibit 99.2, and each are incorporated by reference into this Item 8.01.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits.

Exhibit No.	Description of Exhibit
1.1	Underwriting Agreement, dated as of November 29, 2022, by and between Alaunos Therapeutics, Inc. and Cantor Fitzgerald & Co.
5.1	Opinion of Covington & Burling LLP
23.1	Consent of Covington & Burling LLP (included in Exhibit 5.1)
99.1	Alaunos Therapeutics, Inc. Press Release, dated November 28, 2022
99.2	Alaunos Therapeutics, Inc. Press Release, dated November 29, 2022
104	Cover Page Interactive Data File (embedded with Inline XBRL document)

SIGNATURES

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

Alaunos Therapeutics, Inc.

Date. November 30, 2022

By: /s/ Melinda Lackey
Name: Melinda Lackey
Title: Senior Vice President, Legal

Alaunos Therapeutics, Inc.
24,228,719 Shares of Common Stock
(par value \$0.001 per share)

Underwriting Agreement

November 29, 2022

Cantor Fitzgerald & Co.
499 Park Avenue
New York, NY 10022

Ladies and Gentlemen:

Alaunos Therapeutics, Inc., a Delaware corporation (the “**Company**”), proposes to issue and sell to Cantor Fitzgerald & Co. (“**Cantor**” or the “**Underwriter**”) an aggregate of 24,228,719 shares (the “**Shares**”) of its common stock, par value \$0.001 per share (“**Common Stock**”). The 24,228,719 Shares to be sold by the Company are called the “**Firm Shares**.” In addition, the Company has granted to the Underwriter an option to purchase up to an additional 3,634,307 Shares as provided in Section 2. The additional 3,634,307 Shares to be sold by the Company pursuant to such option are called the “**Option Shares**.” The Firm Shares and, if and to the extent such option is exercised, the Option Shares, are collectively called the “**Offered Shares**.”

The Company has prepared and filed with the Securities and Exchange Commission (the “**Commission**”) a shelf registration statement on Form S-3, File No. 333-266841, including a base prospectus (the “**Base Prospectus**”) to be used in connection with the public offering and sale of the Offered Shares. Such registration statement, as amended, including the financial statements, exhibits and schedules thereto, in the form in which it became effective under the Securities Act of 1933, and the rules and regulations promulgated thereunder (collectively, the “**Securities Act**”), including all documents incorporated or deemed to be incorporated by reference therein and any information deemed to be a part thereof at the time of effectiveness pursuant to Rule 430A or 430B under the Securities Act, is called the “**Registration Statement**.” Any registration statement filed by the Company pursuant to Rule 462(b) under the Securities Act in connection with the offer and sale of the Offered Shares is called the “**Rule 462(b) Registration Statement**,” and from and after the date and time of filing of any such Rule 462(b) Registration Statement the term “**Registration Statement**” shall include the Rule 462(b) Registration Statement. The preliminary prospectus supplement dated November 28, 2022 describing the Offered Shares and the offering thereof (the “**Preliminary Prospectus Supplement**”), together with the Base Prospectus, is called the “**Preliminary Prospectus**,” and the Preliminary Prospectus and any other prospectus supplement to the Base Prospectus in preliminary form that describes the Offered Shares and the offering thereof and is used prior to the filing of the Prospectus (as defined below), together with the Base Prospectus, is called a “**preliminary prospectus**.” As used herein, the term “**Prospectus**” shall mean the final prospectus supplement to the Base Prospectus that describes the Offered Shares and the offering thereof (the “**Final Prospectus Supplement**”), together with the Base Prospectus, in the form first used by the Underwriter to confirm sales of the Offered Shares or in the form first made available to the Underwriter by the Company to meet requests of purchasers pursuant to Rule 173 under the Securities Act.

As used herein, “**Applicable Time**” is 8:30 a.m., New York City time, on November 29, 2022. As used herein, “**free writing prospectus**” has the meaning set forth in Rule 405 under the Securities Act, and “**Time of Sale Prospectus**” means the Preliminary Prospectus, as amended or supplemented immediately prior to the Applicable Time, together with the free writing prospectuses, if any, identified on Schedule B hereto and the pricing information set forth on Schedule C hereto. As used herein, “**Road Show**” means a “road show” (as defined in Rule 433 under the Securities Act) relating to the offering of the Offered Shares contemplated hereby that is a “written communication” (as defined in Rule 405 under the Securities Act). As used herein, “**Marketing Materials**” means any materials or information provided to investors by, or with the approval of, the Company in connection with the marketing of the offering of the Offered Shares, including any Road Show or investor presentations made to investors by the Company (whether in person or electronically).

All references in this Agreement to financial statements and schedules and other information which are “contained,” “included” or “stated” in, or “part of” the Registration Statement, the Rule 462(b) Registration Statement, the Preliminary Prospectus, any preliminary prospectus, the Base Prospectus, the Time of Sale Prospectus or the Prospectus, and all other references of like import, shall be deemed to mean and include all such financial statements and schedules and other information which is or is deemed to be incorporated by reference in the Registration Statement, the Rule 462(b) Registration Statement, the Preliminary Prospectus, any preliminary prospectus, the Base Prospectus, the Time of Sale Prospectus or the Prospectus, as the case may be.

All references in this Agreement to amendments or supplements to the Registration Statement, the Preliminary Prospectus, any preliminary prospectus, the Base Prospectus, the Time of Sale Prospectus or the Prospectus shall be deemed to mean and include the filing of any document under the Securities Exchange Act of 1934, and the rules and regulations promulgated thereunder (collectively, the “**Exchange Act**”) that is or is deemed to be incorporated by reference in the Registration Statement, the Preliminary Prospectus, any preliminary prospectus, the Base Prospectus, or the Prospectus, as the case may be.

All references in this Agreement to (i) the Registration Statement, the Preliminary Prospectus, any preliminary prospectus, the Base Prospectus or the Prospectus, any amendments or supplements to any of the foregoing, or any free writing prospectus, shall include any copy thereof filed with the Commission pursuant to its Electronic Data Gathering, Analysis and Retrieval System (“**EDGAR**”) and (ii) the Prospectus shall be deemed to include any “electronic Prospectus” provided for use in connection with the offering of the Offered Shares as contemplated by Section 3(n).

The Company hereby confirms its agreements with the Underwriter as follows:

1. **Representations and Warranties of the Company.** The Company represents and warrants to the Underwriter as of the date of this Agreement, the Applicable Time, the First Closing Date (as defined below) and each Option Closing Date (as defined below), if any, as follows:

(a) **Compliance with Registration Requirements.** The Registration Statement has become effective under the Securities Act. The Company has complied, to the Commission’s satisfaction, with all requests of the Commission for additional or supplemental information, if

any. No stop order suspending the effectiveness of the Registration Statement is in effect and, to the knowledge of the Company, no proceedings for such purpose have been instituted or are pending or are contemplated or threatened by the Commission. At the time the Company's Annual Report on Form 10-K for the year ended December 31, 2021 was filed with the Commission, or, if later, at the time the Registration Statement was originally filed with the Commission, the Company met the then-applicable requirements for use of Form S-3 under the Securities Act. The documents incorporated or deemed to be incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus, at the time they were or hereafter are filed with the Commission, or became effective under the Exchange Act, as the case may be, complied or will comply, as the case may be, in all material respects with the requirements of the Exchange Act.

(b) Disclosure. Each preliminary prospectus and the Prospectus when filed complied in all material respects with the Securities Act. Each of the Registration Statement and any post-effective amendment thereto, at the time it became or becomes effective, complied or will comply, as the case may be, in all material respects with the Securities Act and did not or will not, as the case may be, contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading. As of the Applicable Time, the Time of Sale Prospectus did not, and at the time of each sale of the Offered Shares and at the First Closing Date, the Time of Sale Prospectus, as then amended or supplemented by the Company, if applicable, will not, contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading. The Prospectus, as then amended or supplemented, as of its date, did not and, as of the First Closing Date and any Option Closing Date, will not contain any untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading. The representations and warranties set forth in the three immediately preceding sentences do not apply to statements in or omissions from the Registration Statement or any post-effective amendment thereto, or the Prospectus or the Time of Sale Prospectus, or any amendments or supplements thereto, made in reliance upon and in conformity with Underwriter Information (as defined below). There are no contracts or other documents required to be described in the Time of Sale Prospectus or the Prospectus or to be filed as an exhibit to the Registration Statement which have not been described or filed as required. The statements made in the Registration Statement, Time of Sale Prospectus and Prospectus, insofar as they purport to constitute summaries of the terms of the contracts and other documents described and filed, constitute accurate summaries of the terms of such contracts and documents in all material respects. Except as disclosed in the Registration Statement, Time of Sale Prospectus and Prospectus, the Company has no knowledge that any other party to any such contract or other document has any intention not to render full performance as contemplated by the terms thereof.

(c) Free Writing Prospectuses; Road Show. As of the determination date referenced in Rule 164(h) under the Securities Act, the Company was not, and the Company currently is not, an "ineligible issuer" in connection with the offering of the Offered Shares pursuant to Rules 164, 405 and 433 under the Securities Act. Each free writing prospectus that the Company is required to file pursuant to Rule 433(d) under the Securities Act has been, or will be, filed with the Commission in accordance with the requirements of the Securities Act. Each free writing prospectus that the Company has filed, or is required to file, pursuant to Rule 433(d)

under the Securities Act or that was prepared by or on behalf of or used or referred to by the Company complies or will comply in all material respects with the requirements of Rule 433 under the Securities Act, including timely filing with the Commission or retention where required and legending, and each such free writing prospectus, as of its issue date and at all subsequent times through the completion of the public offer and sale of the Offered Shares did not, does not and will not include any information that conflicted, conflicts or will conflict with the information contained in the Registration Statement, the Prospectus or any preliminary prospectus and not superseded or modified. Except for the free writing prospectuses, if any, identified in Schedule B, and electronic road shows, if any, furnished to the Underwriter before first use, the Company has not prepared, used or referred to, and will not, without the Underwriter's prior written consent, prepare, use or refer to, any free writing prospectus. Each Road Show, when considered together with the Time of Sale Prospectus, does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

(d) Market Capitalization. At the later of the time the Registration Statement was originally declared effective, and the time the Company's most recent Annual Report on Form 10-K was filed with the Commission, the Company met the then applicable requirements for the use of Form S-3 under the Securities Act, including General Instruction I.B.1 of Form S-3. The Company is not a shell company (as defined in Rule 405 under the Securities Act) and has not been a shell company for at least 12 calendar months previously and if it has been a shell company at any time previously, has filed current Form 10 information (as defined in Instruction I.B.6 of Form S-3) with the Commission at least 12 calendar months previously reflecting its status as an entity that is not a shell company.

(e) Accuracy of Certain Summaries and Statements. The statements set forth or incorporated by reference, as applicable, in the Registration Statement, Time of Sale Prospectus and Prospectus under the captions "Description of Capital Stock," and in the Company's most recent Annual Report on Form 10-K under the captions "Legal Proceedings" and "Certain Relationships and Related Transactions, and Director Independence", insofar as they purport to summarize the provisions of the laws and documents referred to therein, are accurate summaries in all material respects.

(f) Distribution of Offering Material By the Company. Prior to the later of (i) the expiration or termination of the option granted to the Underwriter in Section 2 and (ii) the completion of the Underwriter's distribution of the Offered Shares, the Company has not distributed and will not distribute any offering material in connection with the offering and sale of the Offered Shares other than the Registration Statement, the Time of Sale Prospectus, the Prospectus or any free writing prospectus reviewed and consented to by the Underwriter, and the free writing prospectuses, if any, identified on Schedule B hereto.

(g) Financial Information. The historical financial statements (including the related notes and supporting schedules) included or incorporated by reference in the Registration Statement, Time of Sale Prospectus and Prospectus comply as to form in all material respects with the requirements of Regulation S-X under the Securities Act ("**Regulation S-X**") and present fairly in all material respects the financial condition, results of operations and cash flows of the entities purported to be shown thereby at the dates and for the periods indicated and have been prepared in conformity with generally accepted accounting principles in the United States applied on a

consistent basis throughout the periods involved. There are no financial statements (historical or pro forma) that are required to be included in the Registration Statement, Time of Sale Prospectus or Prospectus that are not so included as required. The interactive data in eXtensible Business Reporting Language (“XBRL”) included or incorporated by reference in the Registration Statement, Time of Sale Prospectus and Prospectus fairly present the information called for in all material respects and have been prepared in accordance with the Commission’s rules and guidelines applicable thereto.

(h) Conformity with EDGAR Filing. The Time of Sale Prospectus and Prospectus delivered to the Underwriter for use in connection with the sale of the Offered Shares pursuant to this Agreement is or will be, as the case may be, identical to the versions of the Time of Sale Prospectus and Prospectus created to be transmitted to the Commission for filing via EDGAR, except to the extent permitted by Regulation S-T.

(i) Organization and Good Standing. The Company has no “significant subsidiaries” as defined in Rule 405 under the Securities Act. The Company does not own or control, directly or indirectly, any corporation, association or other entity other than the subsidiaries listed in Exhibit 21.1 to the Company’s most recent Annual Report on Form 10-K. The Company has been duly organized and is validly existing and in good standing under the laws of the State of Delaware. The Company is duly licensed or qualified as a foreign entity for transaction of business and in good standing under the laws of each other jurisdiction in which its ownership or lease of property or the conduct of its business requires such license or qualification, and has all corporate power and authority necessary to own or hold its properties and to conduct its business as described in the Registration Statement, Time of Sale Prospectus and Prospectus, except where the failure to be so qualified or in good standing or have such power or authority would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect. “**Material Adverse Effect**” shall mean any material adverse effect, or any development involving a prospective material adverse change or effect, on (i) the business, earnings, assets, liabilities, prospects, condition (financial or otherwise), operations, general affairs, management, financial position, stockholders’ equity or results of operations of the Company, or (ii) the ability of the Company to perform its obligations under this Agreement, including the issuance and sale of the Shares, or to consummate the transactions contemplated in the Registration Statement, Time of Sale Prospectus and Prospectus.

(j) No Violation or Default. Except as disclosed in the Registration Statement, Time of Sale Prospectus and Prospectus, the Company is not (i) in violation of its certificate of incorporation or bylaws, as currently in effect, (ii) in default, and no event has occurred that, with notice or lapse of time or both, would constitute such a default, in the due performance or observance of any term, covenant, condition or other obligation contained in any indenture, mortgage, deed of trust, loan agreement, license or other agreement or instrument to which it is a party or by which it is bound or to which any of its properties or assets is subject, or (iii) in violation of any statute or any order, rule or regulation of any court or governmental agency or body having jurisdiction over it or its property or assets or has failed to obtain any license, permit, certificate, franchise or other governmental authorization or permit necessary to the ownership of its property or to the conduct of its business, except in the case of clauses (ii) and (iii), to the extent any such conflict, breach, violation or default would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

(k) Exceptions. Except as would not, in the aggregate, reasonably be expected to have a Material Adverse Effect, since the date of the latest audited financial statements included in the Registration Statement, Time of Sale Prospectus and Prospectus, and, except as disclosed in the Registration Statement, Time of Sale Prospectus and Prospectus, the Company has not (i) sustained any loss or interference with its business from fire, explosion, flood or other calamity, whether or not covered by insurance, or from any labor dispute or court or governmental action, order or decree, (ii) issued or granted any securities (other than pursuant to inducement awards under the Nasdaq Global Select Market (“**Nasdaq**”) listing rules (the “**Exchange Rules**”), employee benefit plans, qualified stock option plans or other equity compensation plans or arrangements disclosed in the Registration Statement, Time of Sale Prospectus and Prospectus (collectively, the “**Specified Equity Plans**”), upon the exercise of outstanding options or warrants or pursuant to that certain Equity Distribution Agreement, by and between the Company and Piper Sandler & Co., dated as of August 12, 2022 (the “**Equity Distribution Agreement**”), (iii) incurred any material liability or obligation, direct or contingent, other than liabilities and obligations that were incurred in the ordinary course of business, (iv) entered into any material transaction not in the ordinary course of business, or (v) declared or paid any dividend on its share capital; and since such date, except as disclosed in the Registration Statement, Time of Sale Prospectus and Prospectus, there has not been any change in the share capital, long-term debt, net current assets or short-term debt of the Company or any adverse change, or any development involving a prospective adverse change, in or affecting the condition (financial or otherwise), results of operations, stockholders’ equity, properties, management, business or prospects of the Company.

(l) Capitalization. The Company has an authorized capitalization as set forth in each of the Registration Statement, Time of Sale Prospectus and Prospectus (other than for subsequent issuances, if any, pursuant to a Specified Equity Plan or the Equity Distribution Agreement or upon the exercise of outstanding options or warrants), and all of the issued shares of the Company have been duly authorized and validly issued, are fully paid and non-assessable, conform in all material respects to the description thereof contained in the Registration Statement, Time of Sale Prospectus and Prospectus and were not issued in violation of any preemptive right, resale right, right of first refusal or similar right. All of the Company’s options, warrants and other rights to purchase or exchange any securities for shares of the Company’s capital stock have been duly authorized and validly issued, and conform in all material respects to the description thereof contained in the Registration Statement, Time of Sale Prospectus and Prospectus.

(m) Authority to Enter into this Agreement. The Company has all requisite corporate power and authority to execute, deliver and perform its obligations under this Agreement. This Agreement has been duly and validly authorized, executed and delivered by the Company.

(n) Due Authorization, Valid Issuance and Non-Assessibility of Offered Shares. The Offered Shares to be issued and sold by the Company hereunder have been duly authorized and, upon payment and delivery in accordance with this Agreement, will be validly issued, fully paid and non-assessable, will conform in all material respects to the description thereof contained in the Registration Statement, Time of Sale Prospectus and Prospectus, will be issued in compliance with federal and state securities laws and will be free of statutory and contractual preemptive rights, rights of first refusal and similar rights.

(o) No Consent or Approval Required. No consent, approval, authorization or order of, or filing, registration or qualification with, any court or governmental agency or body having jurisdiction over the Company or any of its properties or assets is required for the issue and sale of the Offered Shares, the execution, delivery and performance of this Agreement by the Company, the consummation of the transactions contemplated hereby or the application of the proceeds from the sale of the Shares as described under “Use of Proceeds” in the Registration Statement, Time of Sale Prospectus or Prospectus, except for (i) the registration of the Offered Shares under the Securities Act; (ii) such consents, approvals, authorizations, orders, filings, registrations or qualifications as may be required under the Exchange Act, and applicable state or foreign securities laws and/or the bylaws and rules of the Financial Industry Regulatory Authority (“**FINRA**”) in connection with the sale of the Shares by the Agent; and (iii) the inclusion of the Shares on Nasdaq.

(p) Registration Rights. Except as disclosed in the Registration Statement, Time of Sale Prospectus and Prospectus, there are no contracts, agreements or understandings between the Company and any person granting such person the right to require the Company to file a registration statement under the Securities Act with respect to any securities of the Company owned or to be owned by such person. There are no contracts, agreements or understandings to require the Company to include any such securities in the securities proposed to be offered pursuant to this Agreement.

(q) Auditor Independence. RSM US LLP, who have certified certain financial statements of the Company, whose report appears in the Registration Statement, Time of Sale Prospectus and Prospectus, are independent public accountants as required by the Securities Act and the Public Accounting Oversight Board.

(r) No Immunity. Neither the Company, nor any of its owned properties or assets, has any immunity from the jurisdiction of any court or from any legal process (whether through service or notice, attachment to prior judgment, attachment in aid of execution or otherwise) under the laws of any jurisdiction in which it is organized, headquartered or doing business.

(s) Absence of Settlement Agreements or Undertakings. Except as disclosed in the Registration Statement, Time of Sale Prospectus and Prospectus, the Company is not a party to any corporate integrity agreements, monitoring agreements, consent decrees, settlement orders, or similar agreements with or imposed by any governmental authority.

(t) Absence of Legal or Governmental Proceedings. Except as disclosed in the Registration Statement, Time of Sale Prospectus and Prospectus, there are no legal or governmental proceedings pending to which the Company is a party or of which any property or assets of the Company is the subject that, if determined adversely to the Company, would, in the aggregate, reasonably be expected to have a Material Adverse Effect; and to the Company’s knowledge, no such proceedings are threatened or contemplated by governmental authorities or others.

(u) Intellectual Property. The Company owns, possesses, has rights to or can acquire on reasonable terms, all Intellectual Property (as defined below) necessary for the conduct of the Company’s business as now conducted or as proposed to be conducted, as described in the

Registration Statement, Time of Sale Prospectus and Prospectus, except where the failure to own, possess, have rights to or such ability to acquire would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect. Furthermore, except as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect, (A) to the knowledge of the Company, there is no infringement, misappropriation or violation by third parties of any such Intellectual Property; (B) 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, and the Company is unaware of any facts which would form a reasonable basis for any such claim; (C) the Intellectual Property owned by the Company and, to the knowledge of the Company, the Intellectual Property licensed to the Company, has not been adjudged by a court of competent jurisdiction invalid or unenforceable, in whole or in part, and there is no pending or, to the knowledge of the Company, threatened action, suit, proceeding or claim by others challenging the validity or scope of any such Intellectual Property, and the Company is unaware of any facts which would form a reasonable basis for any such claim; (D) there is no pending or, to the knowledge of the Company, threatened action, suit, proceeding or claim by others that the Company infringes, misappropriates or otherwise violates any Intellectual Property or other proprietary rights of others, the Company has not received any written notice of such claim and the Company is unaware of any other fact which would form a reasonable basis for any such claim; (E) to the Company's knowledge, no employee of the Company is in or has ever been in violation of any term of any employment contract, patent disclosure agreement, invention assignment agreement, non-competition agreement, non-solicitation agreement, nondisclosure agreement or any restrictive covenant to or with a former employer where the basis of such violation relates to such employee's employment with the Company or actions undertaken by the employee while employed with the Company; (F) there is no prior art or public or commercial activity of which the Company is aware that may render any patent included in the Intellectual Property invalid or that would preclude the issuance of any patent on any patent application included in the Intellectual Property, which has not been disclosed to the U.S. Patent and Trademark Office or the relevant foreign patent authority, as the case may be; and (G) to the Company's knowledge, the issued patents included in the Intellectual Property are valid and enforceable and the Company is unaware of any facts that would preclude the issuance of a valid and enforceable patent on any pending patent application included in the Intellectual Property; (H) the Company has taken steps reasonably designed to secure the interests of the Company in the Intellectual Property purported to be owned by the Company from all employees, consultants, agents or contractors that developed (in whole or in part) such Intellectual Property; (I) no government funding, facilities or resources of a university, college, other educational institution or research center was used in the development of any Intellectual Property that is owned or purported to be owned by the Company that would confer upon any governmental agency or body, university, college, other educational institution or research center any claim or right in or to any such Intellectual Property; and (J) to the Company's knowledge, none of the technology employed by the Company has been obtained or is being used by the Company in violation of the rights of any entity. "**Intellectual Property**" shall mean all patents, patent applications, trade and service marks, trade and service mark registrations, trade names, copyrights, licenses, inventions, trade secrets, domain names, technology, know-how and other intellectual property in the United States and foreign jurisdictions.

(v) Clinical Trials. The studies, tests and preclinical and clinical trials conducted by or on behalf of, or sponsored by, the Company, or in which the Company has

participated, that are described in the Registration Statement, Time of Sale Prospectus or Prospectus, or the results of which are referred to in the Registration Statement, Time of Sale Prospectus or Prospectus, were and, if still pending, are, to the Company's knowledge, being conducted in all material respects in accordance with protocols, procedures and controls pursuant to, where applicable, accepted professional and scientific standards for products or product candidates comparable to those being developed by the Company and all applicable statutes, rules and regulations of the U.S. Food and Drug Administration (the "FDA"), the European Medicines Agency (the "EMA"), Health Canada and other comparable regulatory agencies outside of the U.S. to which they are subject; the descriptions of the results of such studies, tests and trials contained in the Registration Statement, Time of Sale Prospectus or Prospectus do not contain any misstatement of a material fact or omit a material fact necessary to make such statements not misleading, except where the failure to be in such accordance would not reasonably be expected to have a Material Adverse Effect; the Company has no knowledge of any studies, tests or trials not described in the Registration Statement, Time of Sale Prospectus or Prospectus the results of which the Company believes reasonably call into question in any material respect the results of the studies, tests and trials described in the Registration Statement, Time of Sale Prospectus or Prospectus, when viewed in the context in which such results are described and the clinical state of development; and the Company has not received any notices or other correspondence from the FDA, EMA, Health Canada or any other foreign, state or local governmental body exercising comparable authority or any Institutional Review Board or comparable authority requiring or threatening the termination, suspension or material modification of any studies, tests or preclinical or clinical trials conducted by or on behalf of, or sponsored by, the Company or in which the Company has participated, and, to the Company's knowledge, there are no reasonable grounds for the same. Except as disclosed in the Registration Statement, Time of Sale Prospectus and Prospectus, there has not been any violation of law or regulation by the Company in its respective product development efforts, submissions or reports to any regulatory authority that could reasonably be expected to require investigation, corrective action or enforcement action.

(w) Absence of Stabilization or Manipulation. The Company has not taken, directly or indirectly, any action designed to or that has constituted or that could reasonably be expected to cause or result in the stabilization or manipulation of the price of any security of the Company in connection with the offering of the Offered Shares.

(x) No Integration. The Company has not sold or issued any securities that would be integrated with the offering of the Offered Shares contemplated by this Agreement pursuant to the Securities Act or the interpretations thereof by the Commission.

(y) No Other Brokers. The Company is not a party to any contract, agreement or understanding with any person (other than this Agreement) that would give rise to a valid claim against it or the Underwriter for a brokerage commission, finder's fee or like payment in connection with the offering and sale of the Offered Shares, except for such contracts, agreements or understandings as have been waived.

(z) No Legal, Accounting or Tax Advice. The Company has not relied upon the Underwriter or legal counsel for the Underwriter for any legal, tax or accounting advice in connection with the offering and sale of the Offered Shares.

(aa) Taxes. The Company has filed all federal, state, local and foreign tax returns required to be filed through the date hereof, subject to permitted extensions, and has paid all taxes due (except where the failure to so file or pay would not, in the aggregate, reasonably be expected to have a Material Adverse Effect, and except as currently being contested in good faith and for which reserves have been created), and no tax deficiency has been determined adversely to the Company, nor does the Company have any knowledge of any tax deficiencies that have been, or would reasonably be expected to be, asserted against the Company that would, in the aggregate, reasonably be expected to have a Material Adverse Effect.

(bb) Valid Title. The Company has good and marketable title in fee simple to all real property and good and marketable title to all personal property owned by it, that is material to the business of the Company, in each case free and clear of all liens, encumbrances and defects, except such liens, encumbrances and defects as do not materially affect the value of such property and do not materially interfere with the use made and proposed to be made of such property by the Company. All assets held under lease by the Company, that are material to the business of the Company, are held by it under valid, subsisting and enforceable leases, with such exceptions as do not materially interfere with the use made and proposed to be made of such assets by the Company.

(cc) Environmental Laws. Except as disclosed in the Registration Statement, Time of Sale Prospectus and Prospectus, the Company (i) is, and at all times prior hereto was, in compliance with all applicable laws, regulations, ordinances, rules, orders, judgments, decrees, permits or other legal requirements of any governmental authority, including without limitation any international, foreign, national, state, provincial, regional, or local authority, relating to pollution, the protection of human health or safety, the environment, or natural resources, or to use, handling, storage, manufacturing, transportation, treatment, discharge, disposal or release of hazardous or toxic substances or wastes, pollutants or contaminants (“**Environmental Laws**”), which compliance includes, without limitation, obtaining, maintaining and complying with all permits and authorizations and approvals required by Environmental Laws to conduct its business, except for such non-compliance as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect, and (ii) has not received notice of any actual or alleged violation of Environmental Laws, or of any actual or potential liability for or other obligation concerning the presence, disposal or release of hazardous or toxic substances or wastes, pollutants or contaminants and has no knowledge of any event or condition that would reasonably be expected to result in any such notice. Except as described in the Registration Statement, Time of Sale Prospectus and Prospectus, (x) there are no proceedings that are pending or, to the Company’s knowledge, threatened, against the Company under Environmental Laws in which a governmental authority is also a party, other than such proceedings regarding which it is reasonably believed no monetary sanctions of \$100,000 or more will be imposed, (y) the Company is not aware of any issues regarding compliance with Environmental Laws or liabilities or other obligations under Environmental Laws or concerning hazardous or toxic substances or wastes, pollutants or contaminants, that would reasonably be expected to have a Material Adverse Effect, and (z) the Company does not anticipate material capital expenditures relating to Environmental Laws.

(dd) Disclosure Controls. The Company maintains an effective system of “disclosure controls and procedures” (as defined in Rule 13a-15(e) of the Exchange Act) that complies with the requirements of the Exchange Act and that has been designed to ensure that information required to be disclosed by the Company in reports that it files or submits under the

Exchange Act is recorded, processed, summarized and reported within the time periods specified in the Commission's rules and forms, including controls and procedures designed to ensure that such information is accumulated and communicated to the Company's management as appropriate to allow timely decisions regarding required disclosure. The Company has carried out evaluations of the effectiveness of its disclosure controls and procedures as required by Rule 13a-15 of the Exchange Act.

(ee) Internal Controls. The Company maintains a system of "internal control over financial reporting" (as defined in Rule 13a-15(f) of the Exchange Act) sufficient to provide reasonable assurances regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles in the United States, including, but not limited to, internal accounting controls sufficient to provide reasonable assurance that (i) transactions are executed in accordance with management's general or specific authorization, (ii) transactions are recorded as necessary to permit preparation of the Company's financial statements in conformity with generally accepted accounting principles in the United States and to maintain accountability for its assets, (iii) access to the Company's assets is permitted only in accordance with management's general or specific authorization, (iv) the recorded accountability for the Company's assets is compared with existing assets at reasonable intervals and appropriate action is taken with respect to any differences, and (v) the interactive data in XBRL included or incorporated by reference in the Registration Statement, Time of Sale Prospectus and Prospectus fairly present the information called for in all material respects and are prepared in accordance with the Commission's rules and guidelines applicable thereto. Except as disclosed in the Registration Statement, Time of Sale Prospectus or Prospectus, as of the date of the most recent balance sheet of the Company audited by RSM US LLP, there were no "significant deficiencies" or "material weaknesses" (each as defined by the Public Company Accounting Oversight Board) in the Company's internal controls over financial reporting, or any fraud, whether or not material, that involves management or other employees of the Company who have a significant role in the Company's internal controls; and since the end of the latest audited fiscal year, there has been no change in the Company's internal control over financial reporting (whether or not remediated) that has materially and adversely affected, or is reasonably likely to materially and adversely affect, the Company's internal control over financial reporting. The Company's board of directors has, subject to the exceptions, cure periods and the phase in periods specified in the Exchange Rules, validly appointed an audit committee to oversee internal accounting controls whose composition satisfies the applicable requirements of the Exchange Rules and the Company's board of directors and/or the audit committee has adopted a charter that satisfies the requirements of the Exchange Rules.

(ff) Sarbanes-Oxley Compliance. There is and has been no failure on the part of the Company or, to the knowledge of the Company, 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 that are applicable to the Company or its directors or officers in their capacities as directors or officers of the Company.

(gg) Critical Accounting Policies. The section entitled "Critical Accounting Policies and Significant Estimates" incorporated by reference in the Registration Statement, Time of Sale Prospectus and Prospectus accurately describes in all material respects (i) the accounting

policies that the Company believes are the most important in the portrayal of the Company's financial condition and results of operations and that require management's most difficult, subjective or complex judgments ("**Critical Accounting Policies**"); (ii) the judgments and uncertainties affecting the application of Critical Accounting Policies; and (iii) the likelihood that materially different amounts would be reported under different conditions or using different assumptions, and an explanation thereof.

(hh) No Labor Dispute. No labor disturbance by or dispute with the employees of the Company exists or, to the knowledge of the Company, is imminent that would reasonably be expected to have a Material Adverse Effect.

(ii) Compliance with Labor Laws. The Company is not in violation of and has not received notice of any violation with respect to any federal or state law relating to discrimination in the hiring, promotion or pay of employees, nor any applicable federal or state wage and hour laws, nor any state law precluding the denial of credit due to the neighborhood in which a property is situated, the violation of any of which would reasonably be expected to have a Material Adverse Effect.

(jj) Not an Investment Company. The Company is not, nor, after giving effect to the offer and sale of the Shares and the application of the proceeds therefrom as described under "Use of Proceeds" in the Registration Statement, Time of Sale Prospectus and Prospectus, will be, (i) an "investment company" or a company "controlled" by an "investment company" within the meaning of the Investment Company Act of 1940, as amended (the "**Investment Company Act**"), and the rules and regulations of the Commission thereunder, or (ii) a "business development company" (as defined in Section 2(a)(48) of the Investment Company Act).

(kk) Anti-Money Laundering Compliance. The operations of the Company are and have been conducted at all times in compliance with applicable financial record keeping and reporting requirements of the Currency and Foreign Transactions Reporting Act of 1970, as amended, the money laundering Laws of all jurisdictions to which the Company is subject, the rules and regulations thereunder and any applicable related or similar rules, regulations or guidelines, issued, administered or enforced by any Governmental Authority (collectively, the "**Money Laundering Laws**"); and no action, suit or proceeding by or before any Governmental Authority involving the Company with respect to the Money Laundering Laws is pending or, to the knowledge of the Company, threatened.

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

(mm) ERISA Compliance. Except as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect, (i) each "employee benefit plan" (within

the meaning of Section 3(3) of the Employee Retirement Security Act of 1974, as amended (“ERISA”)) for which the Company or any member of its “Controlled Group” (defined as any organization which is a member of a controlled group of corporations within the meaning of Section 414 of the Internal Revenue Code of 1986, as amended (the “Code”)) would have any liability (each a “Plan”) has been maintained in compliance in all material respects with its terms and with the requirements of all applicable statutes, rules and regulations including ERISA and the Code; (ii) no prohibited transaction, within the meaning of Section 406 of ERISA or Section 4975 of the Code, has occurred with respect to any Plan excluding transactions effected pursuant to a statutory or administrative exemption; (iii) with respect to each Plan subject to Title IV of ERISA (A) no “reportable event” (within the meaning of Section 4043(c) of ERISA) has occurred or is reasonably expected to occur that would result in a material loss to the Company, (B) no “accumulated funding deficiency” (within the meaning of Section 302 of ERISA or Section 412 of the Code), whether or not waived, has occurred or is reasonably expected to occur, (C) the fair market value of the assets under each Plan that is required to be funded exceeds the present value of all benefits accrued under such Plan (determined based on those assumptions used to fund such Plan), and (D) neither the Company or any member of its Controlled Group has incurred, or reasonably expects to incur, any liability under Title IV of ERISA (other than contributions to the Plan or premiums to the Pension Benefit Guaranty Corporation in the ordinary course and without default) in respect of a Plan (including a “multiemployer plan”, within the meaning of Section 4001(c)(3) of ERISA); and (iv) each Plan that is intended to be qualified under Section 401(a) of the Code is so qualified and nothing has occurred, to the Company’s knowledge, whether by action or by failure to act, which would cause the loss of such qualification.

(nn) Forward-Looking Statements. Each financial or operational projection or other “forward-looking statement” (as defined by Section 27A of the Securities Act or Section 21E of the Exchange Act) contained in the Registration Statement, the Time of Sale Prospectus or the Prospectus (i) was so included by the Company in good faith and with reasonable basis after due consideration by the Company of the underlying assumptions, estimates and other applicable facts and circumstances and (ii) is accompanied by meaningful cautionary statements identifying those factors that could cause actual results to differ materially from those in such forward-looking statement. No such statement was made with the knowledge of an executive officer or director of the Company that it was false or misleading.

(oo) Reserved.

(pp) Insurance. The Company maintains insurance from nationally recognized insurers in such amounts and covering such risks as is commercially reasonable in accordance with customary practices for companies engaged in similar businesses and similar industries for the conduct of its business and the value of its properties. All policies of insurance of the Company are in full force and effect; the Company is in compliance with the terms of such policies in all material respects; and the Company has not received notice from any insurer or agent of such insurer that capital improvements or other expenditures are required or necessary to be made in order to continue such insurance; there are no material 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; and the Company does not have any reason to believe that it will not be able to renew its existing insurance coverage as and when such coverage expires or to obtain similar coverage from similar insurers as may be necessary to continue its business at a cost that would not reasonably be expected to have a Material Adverse Effect.

(qq) No Improper Practices. (i) Neither the Company nor, to the Company's knowledge, any director, officer, employee, agent or affiliate of the Company nor any other person acting on behalf of the Company has, in the past five years, made any unlawful contributions to any candidate for any political office (or failed fully to disclose any contribution in violation of applicable Law) or made any contribution or other payment to any official of, or candidate for, any federal, state, municipal, or foreign office or other person charged with similar public or quasi-public duty in violation of any applicable Law or of the character required to be disclosed in the Prospectus; (ii) no relationship, direct or indirect, exists between or among the Company or any affiliate, on the one hand, and the directors, officers and stockholders of the Company, on the other hand, that is required by the Securities Act to be described in the Registration Statement, Time of Sale Prospectus and Prospectus that is not so described; (iii) except as described in the Registration Statement, Time of Sale Prospectus and Prospectus, there are no material outstanding loans or advances or material guarantees of indebtedness by the Company to or for the benefit of any of its officers or directors or any of the members of the families of any of them; and (iv) the Company has not offered, or caused any placement agent to offer, Common Stock to any person with the intent to influence unlawfully (A) a customer or supplier of the Company to alter the customer's or supplier's level or type of business with the Company or (B) a trade journalist or publication to write or publish favorable information about the Company or any of its products or services, and, (v) neither the Company nor, to the Company's knowledge, any director, officer, employee agent or affiliate of the Company nor any other person acting on behalf of the Company has (A) violated or is in violation of any applicable provision of the U.S. Foreign Corrupt Practices Act of 1977, or any other applicable anti-bribery or anti-corruption Law (collectively, "**Anti-Corruption Laws**"), (B) unlawfully promised, offered, provided, attempted to provide or authorized the provision of anything of value, directly or indirectly, to any person for the purpose of obtaining or retaining business, influencing any act or decision of the recipient or securing any improper advantage, or (C) made any payment of funds of the Company or received or retained any funds in violation of any Anti-Corruption Laws.

(rr) Non-Contravention. The issue and sale of the Offered Shares, the execution, delivery and performance of this Agreement by the Company, the consummation of the transactions contemplated hereby and the application of the proceeds from the sale of the Offered Shares as described under "Use of Proceeds" in the Registration Statement, Time of Sale Prospectus and Prospectus will not (i) conflict with or result in a breach or violation of any of the terms or provisions of, impose any lien, charge or encumbrance upon any property or assets of the Company, or constitute a default under, any indenture, mortgage, deed of trust, loan agreement, license, lease or other agreement or instrument to which the Company is a party or by which the Company is bound or to which any of the property or assets of the Company is subject; (ii) result in any violation of the provisions of the certificate of incorporation or bylaws of the Company, as currently in effect; or (iii) result in any violation of any statute or any judgment, order, decree, rule or regulation of any court or governmental agency or body having jurisdiction over the Company or any of its properties or assets, except, with respect to clauses (i) and (iii), for such conflicts, breaches, violations, liens, charges, encumbrances or defaults that would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect.

(ss) Sanctions.

(i) The Company represents that, neither the Company nor any director, officer or employee of the Company nor, to the Company's knowledge, any agent, affiliate or representative of the Company is a government, individual or entity (in this paragraph (ss), "**Person**") that is, or is owned or controlled by a Person that is:

(A) the subject of any sanctions administered or enforced by the U.S. Department of Treasury's Office of Foreign Assets Control ("**OFAC**"), the United Nations Security Council, the European Union, His Majesty's Treasury, or other relevant sanctions authorities, including designation on OFAC's Specially Designated Nationals and Blocked Persons List or OFAC's Foreign Sanctions Evaders List (as amended, collectively, "**Sanctions**"), nor

(B) located, organized or resident in a country or territory that is the subject of Sanctions that broadly prohibit dealings with that country or territory (including Cuba, Iran, North Korea, Sudan, Syria and the Crimea Region of the Ukraine) (the "**Sanctioned Countries**").

(ii) The Company represents and covenants that it will not, directly or indirectly, use the proceeds of the offering, or lend, contribute or otherwise make available such proceeds to any subsidiary, joint venture partner or other Person:

(A) to fund or facilitate any activities or business of or with any Person or in any country or territory that, at the time of such funding or facilitation, is the subject of Sanctions or is a Sanctioned Country; or

(B) in any other manner that will result in a violation of Sanctions by any Person (including any Person participating in the offering, whether as underwriter, advisor, investor or otherwise).

(iii) The Company represents and covenants that, except as detailed in the Registration Statement, Time of Sale Prospectus and Prospectus, for the past five years, it has not knowingly engaged in, and is not now knowingly engaging in any dealings or transactions with any Person, or in any country or territory, that at the time of the dealing or transaction is or was the subject of Sanctions or is or was a Sanctioned Country.

(tt) Health Care Authorizations. The Company has submitted and possesses, or qualifies for applicable exemptions to, such valid and current registrations, listings, approvals, clearances, licenses, certificates, authorizations or permits and supplements or amendments thereto issued or required by the appropriate state, federal or foreign regulatory agencies or bodies necessary to conduct its business as described in the Registration Statement, Time of Sale Prospectus and Prospectus ("**Permits**"), including, without limitation, all such Permits required by the FDA, the U.S. Department of Health and Human Services ("**HHS**"), the U.S. Centers for Medicare & Medicaid Services ("**CMS**"), the EMA, Health Canada or any other comparable state, federal or foreign agencies or bodies to which it is subject, except for such Permits, the lack of which would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect, and the Company has not received any written notice of proceedings relating to the revocation or modification of, or non-compliance with, any such Permit.

(uu) Compliance with Health Care Laws. The Company is in material compliance with all health care laws applicable to the Company, or any of its products or activities, including, but not limited to, any state, federal or foreign law, rule or regulation which imposes requirements on manufacturing, development, testing, labeling, advertising, marketing, promotion, distribution, reporting, kickbacks, patient or program charges, recordkeeping, claims process, documentation requirements, medical necessity, referrals, the hiring of employees or acquisition of services or supplies from those who have been excluded from government health care programs, quality, safety, privacy, security, licensure, accreditation or any other aspect of providing health care, clinical laboratory or diagnostics products or services (collectively, “**Health Care Laws**”). Since January 1, 2019, the Company has not received any notification, including notification of any pending or threatened claim, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from any governmental authority, including, without limitation, the FDA, the EMA, Health Canada, the U.S. Federal Trade Commission, the U.S. Drug Enforcement Administration, CMS, HHS’s Office of Inspector General, the U.S. Department of Justice and state Attorneys General or similar agencies of non-compliance by, or liability of, the Company under any Health Care Laws, except, with respect to any of the foregoing, such as would not, individually or in the aggregate, reasonably be expected to have a Material Adverse Effect. The statements with respect to Health Care Laws and the Company’s compliance therewith included in the Registration Statement, Time of Sale Prospectus and Prospectus fairly summarize in all material respects the matters therein described.

(vv) No Shutdowns or Prohibitions. The Company has not had any product, clinical laboratory or manufacturing site (whether Company-owned or that of a third party manufacturer for the Company’s products) subject to a governmental authority (including FDA) shutdown or import or export prohibition, nor received any FDA Form 483 or other governmental authority notice of adverse finding, “warning letters,” “untitled letters,” requests to make changes to the Company’s products, processes or operations, or similar correspondence or notice from the FDA or other governmental authority alleging or asserting material noncompliance with any applicable Health Care Laws. To the Company’s knowledge, neither the FDA nor any other governmental authority is considering such action.

(ww) Accuracy of Statistical and Market Data. The statistical and market-related data included in the Registration Statement, Time of Sale Prospectus and Prospectus are based on or derived from sources that the Company believes to be reliable in all material respects.

(xx) Exchange Act Registration and Listing of the Common Stock. The Common Stock is registered pursuant to Section 12(b) of the Exchange Act and listed on Nasdaq; the Company has taken no action designed to, or reasonably likely to have the effect of, terminating the registration of the Common Stock under the Exchange Act or delisting the Common Stock from Nasdaq, nor has the Company received any notification that the Commission or Nasdaq is contemplating terminating such registration or listing, except as disclosed in the Registration Statement, Time of Sale Prospectus and Prospectus.

(yy) Related-Party Disclosure. No relationship, direct or indirect, exists between or among the Company, on the one hand, and the directors, officers, stockholders, customers or suppliers of the Company, on the other hand, that is required to be described in the Registration Statement, Time of Sale Prospectus or Prospectus which is not so described.

(zz) [Reserved].

(aaa) [Reserved].

(bbb) No Taxes or Fees Due Upon Issuance. No stamp, issue, registration, documentary, transfer or other similar taxes and duties, including interest and penalties, are payable by the Underwriter on or in connection with the issuance and sale of the Offered Shares by the Company or the execution and delivery of this Agreement.

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

(ddd) Compliance with Data Privacy Laws. The Company is, and at all prior times was, in material compliance with all applicable state and federal data privacy and security laws and regulations, including without limitation HIPAA, and the Company has, since May 25, 2018, been and currently is in material compliance with, the European Union General Data Protection Regulation ("**GDPR**") (EU 2016/679) (collectively, the "**Privacy Laws**"). To promote compliance with the Privacy Laws, the Company has taken appropriate steps reasonably designed to ensure compliance in all material respects with such Privacy Laws. The Company has at all times made

all disclosures to users or customers required by applicable laws and regulatory rules or requirements, and none of such disclosures made have, to the knowledge of the Company, been inaccurate or in violation of any applicable laws and regulatory rules or requirements in any material respect. The Company (i) has not received notice of any actual or potential material liability under or relating to, or actual or potential material violation of, any of the Privacy Laws, and has no knowledge of any event or condition that would reasonably be expected to result in any such notice; (ii) is not currently conducting or paying for, in whole or in part, any investigation, remediation, or other corrective action pursuant to any Privacy Law; and (iii) is not a party to any order, decree, or agreement that imposes any obligation or liability under any Privacy Law.

Any certificate signed by any officer of the Company and delivered to the Underwriter or to counsel for the Underwriter in connection with the offering, or the purchase and sale, of the Offered Shares shall be deemed a representation and warranty by the Company to the Underwriter as to the matters covered thereby.

The Company has a reasonable basis for making each of the representations set forth in this Section 1. The Company acknowledges that the Underwriter and, for purposes of the opinions to be delivered pursuant to Section 6, counsel to the Company and counsel to the Underwriter, will rely upon the accuracy and truthfulness of the foregoing representations and hereby consents to such reliance.

2. Purchase, Sale and Delivery of the Offered Shares.

(a) The Firm Shares. Upon the terms herein set forth, the Company agrees to issue and sell to the Underwriter an aggregate of 24,228,719 Firm Shares. On the basis of the representations, warranties and agreements herein contained, and upon the terms but subject to the conditions herein set forth, the Underwriter agrees to purchase from the Company the number of Firm Shares set forth opposite its name on Schedule A. The purchase price per Firm Share to be paid by the Underwriter to the Company shall be \$0.6191 per share.

(b) The First Closing Date. Delivery of the Firm Shares to be purchased by the Underwriter and payment therefor shall be made at the offices of Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., 666 3rd Ave, New York, NY 10017 (or such other place as may be agreed to by the Company and the Underwriter) at or about 10:00 a.m. Eastern time, on December 1, 2022, or such other time and date not later than 4:00 p.m. Eastern time, on December 8, 2022, as the Underwriter shall designate by notice to the Company (the time and date of such closing are called the “**First Closing Date**”). The Company hereby acknowledges that circumstances under which the Underwriter may provide notice to postpone the First Closing Date as originally scheduled include, but are not limited to, any determination by the Company or the Underwriter to recirculate to the public copies of an amended or supplemented Prospectus.

(c) The Option Shares; Option Closing Date. In addition, on the basis of the representations, warranties and agreements herein contained, and upon the terms but subject to the conditions herein set forth, the Company hereby grants an option to the Underwriter to purchase up to an aggregate of 3,634,307 Option Shares from the Company at the purchase price per share to be paid by the Underwriter for the Firm Shares. The option granted hereunder may be exercised at any time and from time to time in whole or in part upon notice by the Underwriter to the Company, which notice may be given at any time within 30 days from the date of this Agreement.

Such notice shall set forth (i) the aggregate number of Option Shares as to which the Underwriter is exercising the option and (ii) the time and date at which the Option Shares will be delivered (which time and date may be simultaneous with, but not earlier than, the First Closing Date; and in the event that such time and date are simultaneous with the First Closing Date, the term “**First Closing Date**” shall refer to the time and date of delivery of the Firm Shares and such Option Shares). Any such time and date of delivery, if subsequent to the First Closing Date, is called an “**Option Closing Date**,” shall be determined by the Underwriter and shall not be earlier than three or later than five full Business Days after delivery of such notice of exercise. If any Option Shares are to be purchased, (a) the Underwriter agrees to purchase, and (b) the Company agrees to sell, the number of Option Shares set forth in the paragraph “Introductory” of this Agreement (subject to such adjustments to eliminate fractional shares as the Underwriter may reasonably determine). The Underwriter may cancel the option at any time prior to its expiration by giving written notice of such cancellation to the Company.

(d) [Reserved].

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

(f) Delivery of the Offered Shares. The Company shall deliver, or cause to be delivered to the Underwriter, through the facilities of The Depository Trust Company (“**DTC**”), the Firm Shares at the First Closing Date, against the irrevocable release of a wire transfer of immediately available funds for the amount of the purchase price therefor. The Company shall also deliver, or cause to be delivered to the Underwriter, through the facilities of DTC, the Option Shares the Underwriter has agreed to purchase at the First Closing Date or the applicable Option Closing Date, as the case may be, against the release of a wire transfer of immediately available funds for the amount of the purchase price therefor. Delivery of the Offered Shares shall be made by credit to the account(s) designated by the Underwriter through DTC’s full fast transfer or DWAC programs. Time shall be of the essence, and delivery at the time specified in this Agreement is a further condition to the obligations of the Underwriter.

3. Additional Covenants of the Company.

The Company further covenants and agrees with the Underwriter as follows:

(a) Delivery of Registration Statement, Time of Sale Prospectus and Prospectus. The Company shall furnish to the Underwriter in New York City, without charge, prior to 10:00 a.m., New York City time, on the second Business Day succeeding the date of this Agreement and during the period when a prospectus relating to the Offered Shares is required by the Securities Act to be delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule) in connection with sales of the Offered Shares, as many copies of the Time of Sale Prospectus, the Prospectus and any supplements and amendments thereto or to the Registration Statement as the Underwriter may reasonably request.

(b) Underwriter’s Review of Proposed Amendments and Supplements. During the period when a prospectus relating to the Offered Shares is required by the Securities Act to be delivered (whether physically or through compliance with Rule 172 under the Securities Act or

any similar rule), the Company (i) will furnish to the Underwriter for review, a reasonable period of time prior to the proposed time of filing of any proposed amendment or supplement to the Registration Statement, a copy of each such amendment or supplement and (ii) will not amend or supplement the Registration Statement without the Underwriter's prior written consent. Prior to amending or supplementing any preliminary prospectus, the Time of Sale Prospectus or the Prospectus, the Company shall furnish to the Underwriter for review, a reasonable amount of time prior to the time of filing or use of the proposed amendment or supplement, a copy of each such proposed amendment or supplement. The Company shall not file or use any such proposed amendment or supplement without the Underwriter's prior written consent. The Company shall file with the Commission within the applicable period specified in Rule 424(b) under the Securities Act any prospectus, with respect to the offering contemplated hereby, required to be filed pursuant to such Rule.

(c) Free Writing Prospectuses. The Company shall furnish to the Underwriter for review, a reasonable amount of time prior to the proposed time of filing or use thereof, a copy of each proposed free writing prospectus or any amendment or supplement thereto prepared by or on behalf of, used by, or referred to by the Company, and the Company shall not file, use or refer to any proposed free writing prospectus or any amendment or supplement thereto without the Underwriter's prior written consent. The Company shall furnish to the Underwriter, without charge, as many copies of any free writing prospectus prepared by or on behalf of, used by or referred to by the Company as the Underwriter may reasonably request. If at any time when a prospectus is required by the Securities Act to be delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule) in connection with sales of the Offered Shares (but in any event if at any time through and including the First Closing Date) there occurred or occurs an event or development as a result of which any free writing prospectus prepared by or on behalf of, used by, or referred to by the Company conflicted or would conflict with the information contained in the Registration Statement or included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances prevailing at such time, not misleading, the Company shall promptly amend or supplement such free writing prospectus to eliminate or correct such conflict so that the statements in such free writing prospectus as so amended or supplemented will not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances prevailing at such time, not misleading, as the case may be; provided, however, that prior to amending or supplementing any such free writing prospectus, the Company shall furnish to the Underwriter for review, a reasonable amount of time prior to the proposed time of filing or use thereof, a copy of such proposed amended or supplemented free writing prospectus, and the Company shall not file, use or refer to any such amended or supplemented free writing prospectus without the Underwriter's prior written consent.

(d) Filing of Underwriter Free Writing Prospectuses. The Company shall not take any action that would result in the Underwriter or the Company being required to file with the Commission pursuant to Rule 433(d) under the Securities Act a free writing prospectus prepared by or on behalf of the Underwriter that the Underwriter otherwise would not have been required to file thereunder.

(e) Amendments and Supplements to Time of Sale Prospectus. If the Time of Sale Prospectus is being used to solicit offers to buy the Offered Shares at a time when the Prospectus is not yet available to prospective purchasers, and any event shall occur or condition exist as a result of which it is necessary to amend or supplement the Time of Sale Prospectus so that the Time of Sale Prospectus does not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances when delivered to a prospective purchaser, not misleading, or if any event shall occur or condition exist as a result of which the Time of Sale Prospectus conflicts with the information contained in the Registration Statement, or if, in the opinion of counsel for the Underwriter, it is necessary to amend or supplement the Time of Sale Prospectus to comply with applicable Law, the Company shall (subject to Section 3(a) and Section 3(b)) promptly prepare, file with the Commission and furnish, at its own expense, to the Underwriter and to any dealer upon request, either amendments or supplements to the Time of Sale Prospectus so that the statements in the Time of Sale Prospectus as so amended or supplemented will not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances when delivered to a prospective purchaser, not misleading or so that the Time of Sale Prospectus, as amended or supplemented, will no longer conflict with the information contained in the Registration Statement, or so that the Time of Sale Prospectus, as amended or supplemented, will comply with applicable Law.

(f) Certain Notifications and Required Actions. After the date of this Agreement, the Company shall promptly advise the Underwriter in writing of: (i) the receipt of any comments of, or requests for additional or supplemental information from, the Commission; (ii) the time and date of any filing of any post-effective amendment to the Registration Statement or any amendment or supplement to any preliminary prospectus, the Time of Sale Prospectus, any free writing prospectus or the Prospectus; (iii) the time and date that any post-effective amendment to the Registration Statement becomes effective; and (iv) the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto or any amendment or supplement to any preliminary prospectus, the Time of Sale Prospectus or the Prospectus or of any order preventing or suspending the use of any preliminary prospectus, the Time of Sale Prospectus, any free writing prospectus or the Prospectus, or of any proceedings to remove, suspend or terminate from listing or quotation the Shares from any securities exchange upon which they are listed for trading or included or designated for quotation, or of the threatening or initiation of any proceedings for any of such purposes. If the Commission shall enter any such stop order at any time, the Company will use its best efforts to obtain the lifting of such order at the earliest possible moment. Additionally, the Company agrees that it shall comply with all applicable provisions of Rule 424(b), Rule 433 and Rule 430B under the Securities Act and will use its reasonable efforts to confirm that any filings made by the Company under Rule 424(b) or Rule 433 were received in a timely manner by the Commission.

(g) Amendments and Supplements to the Prospectus and Other Securities Act Matters. If any event shall occur or condition exist as a result of which it is necessary to amend or supplement the Prospectus so that the Prospectus does not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances when the Prospectus is delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule) to a purchaser, not misleading, or if in the opinion of the Underwriter or counsel for the Underwriter it is otherwise necessary to amend

or supplement the Prospectus to comply with applicable Law, the Company agrees (subject to Section 3(a) and Section 3(b)) to promptly prepare, file with the Commission and furnish, at its own expense, to the Underwriter and to any dealer upon request, amendments or supplements to the Prospectus so that the statements in the Prospectus as so amended or supplemented will not include an untrue statement of a material fact or omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances when the Prospectus is delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule) to a purchaser, not misleading or so that the Prospectus, as amended or supplemented, will comply with applicable Law. Neither the Underwriter's consent to, nor delivery of, any such amendment or supplement shall constitute a waiver of any of the Company's obligations under Section 3(a) or Section 3(b).

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

(i) Use of Proceeds. The Company shall apply the net proceeds from the sale of the Offered Shares sold by it in the manner described under the caption "Use of Proceeds" in the Registration Statement, the Time of Sale Prospectus and the Prospectus.

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

(k) Earnings Statement. The Company will make generally available to its security holders and to the Underwriter as soon as practicable an earnings statement (which need not be audited) covering a period of at least twelve months beginning with the first fiscal quarter of the Company commencing after the date of this Agreement that will satisfy the provisions of Section 11(a) of the Securities Act and the rules and regulations of the Commission thereunder. For the avoidance of doubt, the Company's compliance with the reporting requirements of the Exchange Act shall be deemed to satisfy the requirements of the immediately preceding sentence.

(l) Continued Compliance with Securities Laws. The Company will comply with the Securities Act and the Exchange Act so as to permit the completion of the distribution of the Offered Shares as contemplated by this Agreement, the Registration Statement, the Time of Sale Prospectus and the Prospectus. Without limiting the generality of the foregoing, the Company will, during the period when a prospectus relating to the Offered Shares is required by the Securities Act to be delivered (whether physically or through compliance with Rule 172 under the Securities Act or any similar rule), file on a timely basis with the Commission and Nasdaq all reports and documents required to be filed under the Exchange Act.

(m) Listing. The Company will use its reasonable best efforts to list, subject to notice of issuance, the Offered Shares on Nasdaq.

(n) Company to Provide Copy of the Prospectus in Form that May be Downloaded from the Internet. If requested by the Underwriter, the Company shall cause to be prepared and delivered, at its expense, within one Business Day from the effective date of this Agreement, to the Underwriter, an “**electronic Prospectus**” to be used by the Underwriter in connection with the offering and sale of the Offered Shares. As used herein, the term “**electronic Prospectus**” means a form of Time of Sale Prospectus, and any amendment or supplement thereto, that meets each of the following conditions: (i) it shall be encoded in an electronic format, reasonably satisfactory to the Underwriter, that may be transmitted electronically by the Underwriter to offerees and purchasers of the Offered Shares; (ii) it shall disclose the same information as the paper Time of Sale Prospectus, except to the extent that graphic and image material cannot be disseminated electronically, in which case such graphic and image material shall be replaced in the electronic Prospectus with a fair and accurate narrative description or tabular representation of such material, as appropriate; and (iii) it shall be in or convertible into a paper format or an electronic format, reasonably satisfactory to the Underwriter, that will allow investors to store and have continuously ready access to the Time of Sale Prospectus at any future time, without charge to investors (other than any fee charged for subscription to the Internet as a whole and for on-line time). The Company hereby confirms that it has included or will include in the Prospectus filed pursuant to EDGAR or otherwise with the Commission and in the Registration Statement at the time it was declared effective an undertaking that, upon receipt of a request by an investor or his or her representative, the Company shall transmit or cause to be transmitted promptly, without charge, a paper copy of the Time of Sale Prospectus.

(o) Agreement Not to Offer or Sell Additional Shares. During the period commencing on and including the date hereof and continuing through and including the 90th day following the date of the Prospectus (such period, as extended as described below, being referred to herein as the “**Lock-up Period**”), the Company will not, without the prior written consent of the Underwriter (which consent may be withheld in its sole discretion), directly or indirectly: (i) sell, offer to sell, contract to sell or lend any shares of its Common Stock or Related Securities (as defined below); (ii) effect any short sale, or establish or increase any “put equivalent position” (as defined in Rule 16a-1(h) under the Exchange Act) or liquidate or decrease any “call equivalent position” (as defined in Rule 16a-1(b) under the Exchange Act) of any shares of Common Stock or Related Securities; (iii) pledge, hypothecate or grant any security interest in any shares of Common Stock or Related Securities; (iv) in any other way transfer or dispose of any shares of Common Stock or Related Securities; (v) enter into any swap, hedge or similar arrangement or agreement that transfers, in whole or in part, the economic risk of ownership of any shares of Common Stock or Related Securities, regardless of whether any such transaction is to be settled in securities, in cash or otherwise; (vi) announce the offering of any shares of Common Stock or Related Securities; (vii) file any registration statement under the Securities Act in respect of any shares of Common Stock or Related Securities (other than as contemplated by this Agreement with respect to the Offered Shares); or (viii) publicly announce the intention to do any of the foregoing; provided, however, that the Company may (A) effect the transactions contemplated hereby, (B)

issue (x) shares of Common Stock or Related Securities pursuant to any Related Security or any stock option, stock bonus or other stock plan or arrangement described in the Registration Statement, Time of Sale Prospectus and Prospectus, including, for the avoidance of doubt, the Specified Equity Plans or (y) the shares of Common Stock issuable upon the exercise or vesting of any such Related Security, (C) file a registration statement on Form S-8 or any successor form thereto, and (D) issue shares of Common Stock or Related Securities, or enter into an agreement to issue shares of Common Stock or Related Securities, in connection with any merger, joint venture, strategic alliances, commercial or other collaborative transaction or the acquisition or license of the business, property, technology or other assets of another individual or entity or the assumption of an employee benefit plan in connection with a merger or acquisition; provided that the aggregate number of shares of Common Stock or Related Securities that the Company may issue or agree to issue pursuant to this clause (D) shall not exceed 10% of the total outstanding share capital of the Company immediately following the issuances of such shares of Common Stock or Related Securities; and provided further that the recipients thereof provide to the Underwriter a signed Lock-Up Agreement (as defined below). For purposes of the foregoing, “**Related Securities**” shall mean any options or warrants or other rights to acquire shares of Common Stock or any securities exchangeable or exercisable for or convertible into shares of Common Stock, or to acquire other securities or rights ultimately exchangeable or exercisable for, or convertible into, shares of Common Stock. Notwithstanding anything herein to the contrary, the Company may, without the prior written consent of the Underwriter, issue shares of Common Stock pursuant to the Equity Distribution Agreement, following a period of 60 days after the date of the Prospectus.

(p) Future Reports to the Underwriter. During the period of five years hereafter, the Company will furnish to the Underwriter, c/o Cantor Fitzgerald & Co., at 499 Park Avenue, New York, New York 10022, Attention: Equity Capital Markets, with copies to Cantor Fitzgerald & Co., 499 Park Avenue, New York, New York 10022, Attention: General Counsel: (i) as soon as practicable after the end of each fiscal year, copies of the Annual Report of the Company containing the balance sheet of the Company as of the close of such fiscal year and statements of income, stockholders’ equity and cash flows for the year then ended and the opinion thereon of the Company’s independent public or certified public accountants; (ii) as soon as practicable after the filing thereof, copies of each proxy statement, Annual Report on Form 10-K, Quarterly Report on Form 10-Q, Current Report on Form 8-K or other report filed by the Company with the Commission, FINRA or any securities exchange; and (iii) as soon as available, copies of any report or communication of the Company furnished or made available generally to holders of its capital stock; provided, however, that the requirements of this Section 3(p) shall be satisfied to the extent that such reports, statement, communications, financial statements or other documents are available on EDGAR.

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

(r) No Stabilization or Manipulation; Compliance with Regulation M. The Company will not take, and will ensure that no affiliate of the Company will take, directly or indirectly, without giving effect to activities by the Underwriter, any action designed to or that

might cause or result in stabilization or manipulation of the price of the Shares or any reference security with respect to the Shares, whether to facilitate the sale or resale of the Offered Shares or otherwise, and the Company will, and shall cause each of its affiliates to, comply with all applicable provisions of Regulation M.

(s) Lock-Up Agreements. During the Lock-up Period, the Company will, if instructed in writing by the Underwriter as a result of any potential breach of a Lock-up Agreement entered into by the Company's officers and directors pursuant to 6(i) hereof, direct the transfer agent to place stop transfer restrictions upon any shares of Common Stock or Related Securities that are the subject of such agreements, for the duration of the Lock-up Period. If any persons other than those listed on Exhibit B hereto shall become directors or executive officers of the Company prior to the end of the Company Lock-up Period, the Company shall cause each such person, prior to or contemporaneously with their appointment or election as a director or executive officer of the Company, to execute and deliver to the Underwriter a letter agreement substantially in the form attached hereto as Exhibit A (a "Lock-up Agreement").

(t) Company to Provide Interim Financial Statements. Prior to the First Closing Date and each applicable Option Closing Date, the Company will furnish the Underwriter, as soon as they have been prepared by or are available to the Company, a copy of any unaudited interim financial statements of the Company for any period subsequent to the period covered by the most recent financial statements appearing in the Registration Statement and the Prospectus. For the avoidance of doubt, the Company's compliance with the reporting requirements of the Exchange Act shall be deemed to satisfy the requirements of the immediately preceding sentence.

The Underwriter may, in its sole discretion, waive in writing the performance by the Company of any one or more of the foregoing covenants or extend the time for their performance.

4. Payment of Expenses. The Company agrees to pay all costs, fees and expenses incurred in connection with the performance of its obligations hereunder and in connection with the transactions contemplated hereby, including (i) all expenses incident to the issuance and delivery of the Offered Shares (including all printing and engraving costs), (ii) all fees and expenses of the registrar and transfer agent of the Shares, (iii) all necessary issue, transfer and other stamp taxes in connection with the issuance and sale of the Offered Shares to the Underwriter, (iv) all fees and expenses of the Company's counsel, independent public or certified public accountants and other advisors, (v) all costs and expenses incurred in connection with the preparation, printing, filing, shipping and distribution of the Registration Statement (including financial statements, exhibits, schedules, consents and certificates of experts), the Time of Sale Prospectus, the Prospectus, each free writing prospectus prepared by or on behalf of, used by, or referred to by the Company, and each preliminary prospectus, and all amendments and supplements thereto, and this Agreement, (vi) all filing fees, attorneys' fees and expenses incurred by the Company or the Underwriter in connection with qualifying or registering (or obtaining exemptions from the qualification or registration of) all or any part of the Offered Shares for offer and sale under the state securities or blue sky Laws or the provincial securities Laws of Canada, and, if requested by the Underwriter, preparing and printing a "Blue Sky Survey" or memorandum and a "Canadian wrapper", and any supplements thereto, advising the Underwriter of such qualifications, registrations and exemptions, in an amount not to exceed \$7,500, (vii) the fees and expenses of the Underwriter including the fees and expenses of the counsel to the Underwriter, payable upon the execution of this Agreement, in an amount not to exceed \$50,000, (viii) the costs

and expenses of the Company relating to investor presentations on any “road show” undertaken in connection with the offering of the Shares, including expenses associated with the preparation or dissemination of any electronic road show and, in each case with the prior written approval of the Company, expenses associated with the production of road show slides and graphics, fees and expenses of any consultants engaged in connection with the road show presentations and travel and lodging expenses of the Underwriter and any such consultants, (ix) the fees and expenses associated with listing the Offered Shares on Nasdaq, and (x) all other fees, costs and expenses of the nature referred to in Item 13 of Part II of the Registration Statement. Any such amount payable to the Underwriter may be deducted from the purchase price for the Offered Shares. Except as provided in this Section 4 or in Section 7, Section 9 or Section 10, the Underwriter shall pay its own expenses, including the fees and disbursements of its counsel.

5. Covenant of the Underwriter. The Underwriter covenants with the Company not to take any action that would result in the Company being required to file with the Commission pursuant to Rule 433(d) under the Securities Act a free writing prospectus prepared by or on behalf of the Underwriter that otherwise would not, but for such actions, be required to be filed by the Company under Rule 433(d).

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

(a) Comfort Letter. On the date hereof, the Underwriter shall have received from RSM US LLP, independent registered public accountants for the Company, a letter dated the date hereof addressed to the Underwriter, in form and substance satisfactory to the Underwriter, containing statements and information of the type ordinarily included in accountant’s “comfort letters” to underwriters, delivered according to Accounting Standard 6101 (or any successor thereto), with respect to the audited and unaudited financial statements and certain financial information contained in the Registration Statement, the Time of Sale Prospectus, and each free writing prospectus, if any.

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

(i) The Company shall have filed the Prospectus with the Commission (including the information required by Rule 430A under the Securities Act) in the manner and within the time period required by Rule 424(b) under the Securities Act; or the Company shall have filed a post-effective amendment to the Registration Statement containing the information required by such Rule 430A, and such post-effective amendment shall have become effective.

(ii) No stop order suspending the effectiveness of the Registration Statement or any post-effective amendment to the Registration Statement shall be in effect, and no proceedings for such purpose shall have been instituted or threatened by the Commission.

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

(c) No Material Adverse Effect or Ratings Agency Change. For the period from and after the date of this Agreement and through and including the First Closing Date and, with respect to any Option Shares purchased after the First Closing Date, each Option Closing Date, in the judgment of the Underwriter, there shall not have occurred any material adverse change in the authorized capital stock of the Company or any Material Adverse Effect or any development that would cause a Material Adverse Effect, or a downgrading in or withdrawal of the rating assigned to any of the Company's securities (other than asset backed securities) by any rating organization or a public announcement by any rating organization that it has under surveillance or review its rating of any of the Company's securities (other than asset backed securities), the effect of which, in the case of any such action by a rating organization described above, would cause a Material Adverse Effect.

(d) Opinion of Counsel for the Company. On each of the First Closing Date and each Option Closing Date, if any, the Underwriter shall have received the opinion (including negative assurance statement) of Covington & Burling LLP, counsel for the Company, dated as of such date, in form and substance reasonably satisfactory to the Underwriter.

(e) Opinion of Counsel for the Underwriters. On each of the First Closing Date and each Option Closing Date, if any, the Underwriter shall have received the opinion of Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., counsel for the Underwriter in connection with the offer and sale of the Offered Shares, in form and substance reasonably satisfactory to the Underwriter, dated as of such date.

(f) Officers' Certificate. On each of the First Closing Date and each Option Closing Date, if any, the Underwriter shall have received a certificate executed by the principal executive officer and principal accounting officer of the Company, dated as of such date, to the effect set forth in Section 6(b)(ii) and further to the effect that:

(i) for the period from and including the date of this Agreement through and including such date, there has not occurred any Material Adverse Effect;

(ii) the representations, warranties and covenants of the Company set forth in Section 1 are true and correct with the same force and effect as though expressly made on and as of such date; and

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

(g) Principal Accounting Officer's Certificate. On the date hereof and on each of the First Closing Date and each Option Closing Date, if any, the Underwriter shall have received a certificate executed by the principal accounting officer of the Company, dated as of such date, in the form and substance reasonably satisfactory to the Underwriter.

(h) Bring-down Comfort Letter. On each of the First Closing Date and each Option Closing Date, if any, the Underwriter shall have received from RSM US LLP, independent registered public accountants for the Company, a letter dated such date, in form and substance reasonably satisfactory to the Underwriter, which letter shall: (i) reaffirm the statements made in the letter furnished by them pursuant to Section 6(a), except that the specified date referred to therein for the carrying out of procedures shall be no more than three Business Days prior to the First Closing Date or the applicable Option Closing Date, as the case may be; and (ii) cover certain financial information contained in the Prospectus.

(i) Lock-Up Agreements. On or prior to the date hereof, the Company shall have furnished to the Underwriter a Lock-up Agreement from those directors and executive officers listed on Exhibit B hereto, and each such agreement shall be in full force and effect on each of the First Closing Date and each Option Closing Date.

(j) Rule 462(b) Registration Statement. In the event that a Rule 462(b) Registration Statement is filed in connection with the offering contemplated by this Agreement, such Rule 462(b) Registration Statement shall have been filed with the Commission on the date of this Agreement and shall have become effective automatically upon such filing.

(k) Nasdaq. The Company shall have submitted a listing of additional shares notification form to Nasdaq with respect to the Offered Shares.

(l) Additional Documents. On or before each of the First Closing Date and each Option Closing Date, if any, the Underwriter and counsel for the Underwriter shall have received such information, documents and opinions as they may reasonably request for the purposes of enabling them to pass upon the issuance and sale of the Offered Shares as contemplated herein, or in order to evidence the accuracy of any of the representations and warranties, or the satisfaction of any of the conditions or agreements, herein contained; and all proceedings taken by the Company in connection with the issuance and sale of the Offered Shares as contemplated herein and in connection with the other transactions contemplated by this Agreement shall be satisfactory in form and substance to the Underwriter and counsel for the Underwriter.

If any condition specified in this Section 6 is not satisfied when and as required to be satisfied, this Agreement may be terminated by the Underwriter by notice from the Underwriter to the Company at any time on or prior to the First Closing Date and, with respect to the Option Shares, at any time on or prior to the applicable Option Closing Date, which termination shall be without liability on the part of any party to any other party, except that Section 4, Section 7, Section 9 and Section 10 shall at all times be effective and shall survive such termination.

7. Reimbursement of Underwriter's Expenses. If this Agreement is terminated by the Underwriter pursuant to Section 6 or Section 12, or if the sale to the Underwriter of the Offered Shares on the First Closing Date is not consummated because of any refusal, inability or failure on the part of the Company to perform any agreement herein or to comply with any provision hereof, the Company agrees to reimburse the Underwriter, upon demand, for all out-of-pocket expenses that shall have been reasonably incurred by the Underwriter in connection with the proposed purchase and the offering and sale of the Offered Shares, including fees and disbursements of counsel, printing expenses, travel expenses, postage, facsimile and telephone charges.

8. Effectiveness of this Agreement. This Agreement shall become effective upon the execution and delivery hereof by the parties hereto.

9. Indemnification.

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

(i) against any and all loss, liability, claim, damage and expense whatsoever, as incurred, joint or several, arising out of or based upon any untrue statement or alleged untrue statement of a material fact contained in the Registration Statement (or any amendment thereto), or the omission or alleged omission therefrom of a material fact required to be stated therein or necessary to make the statements therein not misleading, or arising out of any untrue statement or alleged untrue statement of a material fact included in any preliminary prospectus, Time of Sale Prospectus, any free writing prospectus, any Marketing Material, or the Prospectus (or any amendment or supplement to the foregoing), or the omission or alleged omission therefrom of a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading;

(ii) against any and all loss, liability, claim, damage and expense whatsoever, as incurred, joint or several, to the extent of the aggregate amount paid in settlement of any litigation, or any investigation or proceeding by any Governmental Authority, commenced or threatened, or of any claim whatsoever based upon any such untrue statement or omission, or any such alleged untrue statement or omission; provided that (subject to Section 9(d)) any such settlement is effected with the written consent of the Company, which consent shall not unreasonably be delayed, conditioned or withheld; and

(iii) against any and all expense whatsoever, as incurred (including the fees and disbursements of counsel), documented and reasonably incurred in investigating, preparing or defending against any litigation, or any investigation or proceeding by any Governmental Authority, commenced or threatened, or any claim whatsoever based upon any such untrue statement or omission, or any such alleged untrue statement or omission (whether or not a party), to the extent that any such expense is not paid under (i) or (ii) above;

provided, however, that this indemnity agreement shall not apply to any loss, liability, claim, damage or expense to the extent arising out of any untrue statement or omission or alleged untrue statement or omission made solely in reliance upon and in conformity with the Underwriter Information.

(b) Indemnification of the Company, its Directors and Officers. The Underwriter agrees to indemnify and hold harmless the Company, and its directors, each officer of the Company who signed the Registration Statement and each person, if any, who controls the Company within the meaning of Section 15 of the Securities Act or Section 20 of the Exchange

Act, against any and all loss, liability, claim, damage and expense described in the indemnity contained in Section 9(a), as incurred, but only with respect to untrue statements or omissions, or alleged untrue statements or omissions, made in the Registration Statement, any preliminary prospectus, the Time of Sale Prospectus, any free writing prospectus, or the Prospectus (or any amendment or supplement to the foregoing), in reliance upon and in conformity with information relating to the Underwriter and furnished to the Company in writing by the Underwriter expressly for use therein. The Company hereby acknowledges that the only information that the Underwriter has furnished to the Company expressly for use in the Registration Statement, any preliminary prospectus, the Time of Sale Prospectus, any free writing prospectus, or the Prospectus (or any amendment or supplement to the foregoing) are the statements set forth in the "Passive Market Making," "Other Activities and Relationships" and "Market Making, Stabilization and Other Transactions" subsections of the "Underwriting" section of the Time of Sale Prospectus and Prospectus (the "**Underwriter Information**").

(c) Notifications and Other Indemnification Procedures. Any party that proposes to assert the right to be indemnified under this Section 9 will, promptly after receipt of notice of commencement of any action against such party in respect of which a claim is to be made against an indemnifying party or parties under this Section 9, notify each such indemnifying party of the commencement of such action, enclosing a copy of all papers served, but the omission so to notify such indemnifying party will not relieve the indemnifying party from (i) any liability that it might have to any indemnified party otherwise than under this Section 9 and (ii) any liability that it may have to any indemnified party under the foregoing provision of this Section 9 unless, and only to the extent that, such omission results in the forfeiture of substantive rights or defenses by the indemnifying party. If any such action is brought against any indemnified party and it notifies the indemnifying party of its commencement, the indemnifying party will be entitled to participate in and, to the extent that it elects by delivering written notice to the indemnified party promptly after receiving notice of the commencement of the action from the indemnified party, jointly with any other indemnifying party similarly notified, to assume the defense of the action, with counsel reasonably satisfactory to the indemnified party, and after notice from the indemnifying party to the indemnified party of its election to assume the defense, the indemnifying party will not be liable to the indemnified party for any other legal expenses except as provided below and except for the reasonable costs of investigation subsequently incurred by the indemnified party in connection with the defense. The indemnified party will have the right to employ its own counsel in any such action, but the fees, expenses and other charges of such counsel will be at the expense of such indemnified party unless (1) the employment of counsel by the indemnified party has been authorized in writing by the indemnifying party, (2) the indemnified party has reasonably concluded (based on advice of counsel) that there may be legal defenses available to it or other indemnified parties that are different from or in addition to those available to the indemnifying party, (3) a conflict or potential conflict exists (based on advice of counsel to the indemnified party) between the indemnified party and the indemnifying party (in which case the indemnifying party will not have the right to direct the defense of such action on behalf of the indemnified party) or (4) the indemnifying party has not in fact employed counsel to assume the defense of such action or counsel reasonably satisfactory to the indemnified party, in each case, within a reasonable time after receiving notice of the commencement of the action; in each of which cases the reasonable fees, disbursements and other charges of counsel will be at the expense of the indemnifying party or parties. It is understood that the indemnifying party or parties shall not, in connection with any proceeding or related proceedings in the same jurisdiction, be liable for the reasonable fees,

disbursements and other charges of more than one separate firm admitted to practice in such jurisdiction (plus local counsel) at any one time for all such indemnified party or parties. All such fees, disbursements and other charges will be reimbursed by the indemnifying party promptly as they are incurred. An indemnifying party will not, in any event, be liable for any settlement of any action or claim effected without its written consent. No indemnifying party shall, without the prior written consent of each indemnified party, settle or compromise or consent to the entry of any judgment in any pending or threatened claim, action or proceeding relating to the matters contemplated by this Section 9 (whether or not any indemnified party is a party thereto), unless such settlement, compromise or consent (1) includes an express and unconditional release of each indemnified party, in form and substance reasonably satisfactory to such indemnified party, from all liability arising out of such litigation, investigation, proceeding or claim and (2) does not include a statement as to or an admission of fault, culpability or a failure to act by or on behalf of any indemnified party.

(d) Settlement Without Consent if Failure to Reimburse. If an indemnified party shall have requested an indemnifying party to reimburse the indemnified party for reasonable fees and expenses of counsel, such indemnifying party agrees that it shall be liable for any settlement of the nature contemplated by Section 9(a)(ii) effected without its written consent if (1) such settlement is entered into more than 45 days after receipt by such indemnifying party of the aforesaid request, (2) such indemnifying party shall have received notice of the terms of such settlement at least 30 days prior to such settlement being entered into and (3) such indemnifying party shall not have reimbursed such indemnified party in accordance with such request prior to the date of such settlement.

10. Contribution. In order to provide for just and equitable contribution in circumstances in which the indemnification provided for in the foregoing paragraphs of Section 9 is applicable in accordance with its terms but for any reason is held to be unavailable or insufficient from the Company or the Underwriter, the Company and the Underwriter will contribute to the total losses, claims, liabilities, expenses and damages (including any investigative, legal and other expenses reasonably incurred in connection with, and any amount paid in settlement of, any action, suit or proceeding or any claim asserted) to which any indemnified party may be subject in such proportion as shall be appropriate to reflect the relative benefits received by the Company on the one hand and the Underwriter on the other hand. The relative benefits received by the Company on the one hand and the Underwriter on the other hand shall be deemed to be in the same proportion as the total net proceeds from the sale of the Offered Shares (before deducting expenses) received by the Company bear to the total compensation received by the Underwriter (before deducting expenses) from the sale of Offered Shares on behalf of the Company. If, but only if, the allocation provided by the foregoing sentence is not permitted by applicable Law, the allocation of contribution shall be made in such proportion as is appropriate to reflect not only the relative benefits referred to in the foregoing sentence but also the relative fault of the Company, on the one hand, and the Underwriter, on the other hand, with respect to the statements or omission that resulted in such loss, claim, liability, expense or damage, or action in respect thereof, as well as any other relevant equitable considerations with respect to such offering. Such relative fault shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or omission or alleged omission to state a material fact relates to information supplied by the Company or the Underwriter, the intent of the parties and their relative knowledge, access to information and opportunity to correct or prevent such statement or omission. The

Company and the Underwriter agree that it would not be just and equitable if contributions pursuant to this Section 10 were to be determined by pro rata allocation or by any other method of allocation that does not take into account the equitable considerations referred to herein. The amount paid or payable by an indemnified party as a result of the loss, claim, liability, expense, or damage, or action in respect thereof, referred to above in this Section 10 shall be deemed to include, for the purpose of this Section 10, any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending any such action or claim to the extent consistent with Section 9(c). Notwithstanding the foregoing provisions of Section 9 and this Section 10, the Underwriter shall not be required to contribute any amount in excess of the commissions actually received by it under this Agreement and no person found guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) will be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. For purposes of this Section 10, any person who controls a party to this Agreement within the meaning of the Securities Act, any affiliates of the Underwriter and any officers, directors, partners, employees or agents of the Underwriter or their respective affiliates, will have the same rights to contribution as that party, and each director of the Company and each officer of the Company who signed the Registration Statement will have the same rights to contribution as the Company, subject in each case to the provisions hereof. Any party entitled to contribution, promptly after receipt of notice of commencement of any action against such party in respect of which a claim for contribution may be made under this Section 10, will notify any such party or parties from whom contribution may be sought, but the omission to so notify will not relieve that party or parties from whom contribution may be sought from any other obligation it or they may have under this Section 10 except to the extent that the failure to so notify such other party materially prejudiced the substantive rights or defenses of the party from whom contribution is sought. Except for a settlement entered into pursuant to the last sentence of Section 9(c), no party will be liable for contribution with respect to any action or claim settled without its written consent if such consent is required pursuant to Section 9(c).

11. [Reserved].

12. Termination of this Agreement. Prior to the purchase of the Firm Shares by the Underwriter on the First Closing Date, this Agreement may be terminated by the Underwriter by notice given to the Company if at any time: (i) trading or quotation in any of the Company's securities shall have been suspended or limited by the Commission or by Nasdaq, or trading in securities generally on either Nasdaq or the NYSE shall have been suspended or limited, or minimum or maximum prices shall have been generally established on any of such stock exchanges; (ii) a general banking moratorium shall have been declared by any of federal, New York, Delaware or Texas authorities; (iii) there shall have occurred any outbreak or escalation of national or international hostilities or any crisis or calamity, or any change in the United States or international financial markets, or any substantial change or development involving a prospective substantial change in United States' or international political, financial or economic conditions, as in the judgment of the Underwriter is material and adverse and makes it impracticable to market the Offered Shares in the manner and on the terms described in the Time of Sale Prospectus or the Prospectus or to enforce contracts for the sale of securities; (iv) in the judgment of the Underwriter there shall have occurred any change, or any development or event involving a prospective change, in the condition, financial or otherwise, or in the business, properties, earnings, results of operations or prospects of the Company, whether or not arising in the ordinary course of business;

or (v) the Company shall have sustained a loss by strike, fire, flood, earthquake, accident or other calamity of such character as in the judgment of the Underwriter may interfere materially with the conduct of the business and operations of the Company regardless of whether or not such loss shall have been insured. Any termination pursuant to this Section 12 shall be without liability on the part of (a) the Company to the Underwriter, except that the Company shall be obligated to reimburse the expenses of the Underwriter pursuant to Section 4 or Section 7 hereof or (b) the Underwriter to the Company; provided, however, that the provisions of Section 9 and Section 10 shall at all times be effective and shall survive such termination.

13. No Advisory or Fiduciary Relationship. The Company acknowledges and agrees that (a) the purchase and sale of the Offered Shares pursuant to this Agreement, including the determination of the public offering price of the Offered Shares and any related discounts and commissions, is an arm's-length commercial transaction between the Company, on the one hand, and the Underwriter, on the other hand, (b) in connection with the offering contemplated hereby and the process leading to such transaction, the Underwriter is and has been acting solely as a principal and is not the agent or fiduciary of the Company, or its stockholders, creditors or employees or any other party, (c) the Underwriter has not assumed and will not assume an advisory or fiduciary responsibility in favor of the Company with respect to the offering contemplated hereby or the process leading thereto (irrespective of whether the Underwriter has advised or is currently advising the Company on other matters) and the Underwriter has no obligation to the Company with respect to the offering contemplated hereby except the obligations expressly set forth in this Agreement, (d) the Underwriter and its affiliates may be engaged in a broad range of transactions that involve interests that differ from those of the Company, and (e) the Underwriter has not provided any legal, accounting, regulatory or tax advice with respect to the offering contemplated hereby and the Company has consulted its own legal, accounting, regulatory and tax advisors to the extent it deemed appropriate.

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

15. Notices. All communications hereunder shall be in writing and shall be mailed, hand delivered or telecopied and confirmed to the parties hereto as follows:

If to Cantor: Cantor Fitzgerald & Co.
499 Park Avenue
New York, NY 10022
Facsimile: [***]
Attention: General Counsel

with a copy (which shall not constitute notice) to: Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.
666 3rd Ave
New York, NY 10017
Attention: Michael Maline, Esq.

If to the Company: Alaunos Therapeutics, Inc.
8030 El Rio Street
Houston, TX 77054
Attention: Legal Counsel and [***]

with a copy (which shall not constitute notice) to: Covington & Burling LLP
620 Eighth Avenue
New York, NY 10018
Attention: Brian K. Rosenzweig

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

16. Electronic Notice. An electronic communication (“**Electronic Notice**”) shall be deemed written notice for purposes of this Section 16 if sent to the electronic mail address specified by the receiving party under separate cover. Electronic Notice shall be deemed received at the time the party sending Electronic Notice receives verification of receipt by the receiving party. Any party receiving Electronic Notice may request and shall be entitled to receive the notice on paper, in a nonelectronic form (“**Nonelectronic Notice**”) which shall be sent to the requesting party within ten (10) days of receipt of the written request for Nonelectronic Notice.

17. Successors and Assigns. This Agreement shall inure to the benefit of and be binding upon the Company and the Underwriter and their respective successors. References to any of the parties contained in this Agreement shall be deemed to include the successors and permitted assigns of such party. Nothing in this Agreement, express or implied, is intended to confer upon any party other than the parties hereto or their respective successors and permitted assigns any rights, remedies, obligations or liabilities under or by reason of this Agreement, except as expressly provided in this Agreement. Neither party may assign its rights or obligations under this Agreement without the prior written consent of the other party; provided, however, that the Underwriter may assign its rights and obligations hereunder to an affiliate thereof without obtaining the Company’s consent.

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

19. Entire Agreement; Amendment; Severability; Waiver. This Agreement (including all schedules and exhibits attached hereto issued pursuant hereto) constitutes the entire agreement and supersedes all other prior and contemporaneous agreements and undertakings, both written

and oral, among the parties hereto with regard to the subject matter hereof. Neither this Agreement nor any term hereof may be amended except pursuant to a written instrument executed by the Company and the Underwriter. In the event that any one or more of the provisions contained herein, or the application thereof in any circumstance, is held invalid, illegal or unenforceable as written by a court of competent jurisdiction, then such provision shall be given full force and effect to the fullest possible extent that it is valid, legal and enforceable, and the remainder of the terms and provisions herein shall be construed as if such invalid, illegal or unenforceable term or provision was not contained herein, but only to the extent that giving effect to such provision and the remainder of the terms and provisions hereof shall be in accordance with the intent of the parties as reflected in this Agreement. No implied waiver by a party shall arise in the absence of a waiver in writing signed by such party. No failure or delay in exercising any right, power, or privilege hereunder shall operate as a waiver thereof, nor shall any single or partial exercise thereof preclude any other or further exercise thereof or the exercise of any right, power, or privilege hereunder.

20. GOVERNING LAW AND TIME; WAIVER OF JURY TRIAL. THIS AGREEMENT SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK WITHOUT REGARD TO THE PRINCIPLES OF CONFLICTS OF LAWS. EACH PARTY HEREBY IRREVOCABLY WAIVES, TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW, ANY AND ALL RIGHT TO TRIAL BY JURY IN ANY LEGAL PROCEEDING ARISING OUT OF OR RELATING TO THIS AGREEMENT OR THE TRANSACTIONS CONTEMPLATED HEREBY.

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

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

23. Construction.

(a) the section and exhibit headings herein are for convenience only and shall not affect the construction hereof;

(b) words defined in the singular shall have a comparable meaning when used in the plural, and vice versa;

(c) the words “hereof,” “hereto,” “herein” and “hereunder” and words of similar import, when used in this Agreement, shall refer to this Agreement as a whole and not to any particular provision of this Agreement;

(d) wherever the word “include,” “includes” or “including” is used in this Agreement, it shall be deemed to be followed by the words “without limitation”;

(e) references herein to any gender shall include each other gender;

(f) references herein to any law, statute, ordinance, code, regulation, rule or other requirement of any Governmental Authority shall be deemed to refer to such law, statute, ordinance, code, regulation, rule or other requirement of any Governmental Authority as amended, reenacted, supplemented or superseded in whole or in part and in effect from time to time and also to all rules and regulations promulgated thereunder;

(g) if the last day for the giving of any notice or the performance of any act required or permitted under this Agreement is a day that is not a Business Day, then the time for the giving of such notice or the performance of such action shall be extended to the next succeeding Business Day;

(h) “**knowledge**” means, as it pertains to the Company, the actual knowledge of the officers and directors of the Company, together with the knowledge which they would have had if they had conducted a reasonable inquiry of the relevant persons into the relevant subject matter;

(i) “**Governmental Authority**” means (i) any federal, provincial, state, local, municipal, national or international government or governmental authority, regulatory or administrative agency, governmental commission, department, board, bureau, agency or instrumentality, court, tribunal, arbitrator or arbitral body (public or private); (ii) any self-regulatory organization; or (iii) any political subdivision of any of the foregoing;

(j) “**Law**” means any and all laws, including all federal, state, local, municipal, national or foreign statutes, codes, ordinances, guidelines, decrees, rules, regulations and by-laws and all judicial, arbitral, administrative, ministerial, departmental or regulatory judgments, orders, directives, decisions, rulings or awards or other requirements of any Governmental Authority, binding on or affecting the person referred to in the context in which the term is used and rules, regulations and policies of any stock exchange on which securities of the Company are listed for trading; and

(k) “**Business Day**” means any day on which Nasdaq and commercial banks in the City of New York are open for business.

24. General Provisions.

Each of the parties hereto acknowledges that it is a sophisticated business person who was adequately represented by counsel during negotiations regarding the provisions hereof, including the indemnification provisions of Section 9 and the contribution provisions of Section 10, and is fully informed regarding said provisions. Each of the parties hereto further acknowledges that the provisions of Section 9 and Section 10 hereof fairly allocate the risks in light of the ability of the parties to investigate the Company, its affairs and its business in order to assure that adequate disclosure has been made in the Registration Statement, any preliminary prospectus, the Time of Sale Prospectus, each free writing prospectus and the Prospectus (and any amendments and supplements to the foregoing), as contemplated by the Securities Act and the Exchange Act.

[Signature Page Follows]

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

Very Truly Yours,

ALANOS THERAPEUTICS, INC.

By: /s/ Kevin S. Boyle, Sr.

Name: Kevin S. Boyle, Sr.

Title: Chief Executive Officer

ACCEPTED as of the date first-above written:

CANTOR FITZGERALD & CO.

By: _____

Name:

Title:

SIGNATURE PAGE

ALANOS THERAPEUTICS, INC. – UNDERWRITING AGREEMENT

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

Very truly yours,

ALAUNOS THERAPEUTICS, INC.

By: _____

Name:

Title:

ACCEPTED as of the date first-above written:

CANTOR FITZGERALD & CO.

By: /s/ Sage Kelly _____

Name: Sage Kelly

Title:

SIGNATURE PAGE

ALAUNOS THERAPEUTICS, INC. – UNDERWRITING AGREEMENT

SCHEDULE A

SCHEDULE B

Free Writing Prospectuses Included in the Time of Sale Prospectus

SCHEDULE C

Pricing Information

Form of Lock-up Agreement

Parties to Lock-up Agreement

COVINGTON

BEIJING BRUSSELS DUBAI FRANKFURT JOHANNESBURG
LONDON LOS ANGELES NEW YORK PALO ALTO
SAN FRANCISCO SEOUL SHANGHAI WASHINGTON

Covington & Burling LLP
The New York Times Building
620 Eighth Avenue
New York, NY 10018-1405
T +1 212 841 1000

November 30, 2022

Alaunos Therapeutics, Inc.
8030 El Rio Street
Houston, Texas 77054

Ladies and Gentlemen:

We have acted as counsel to Alaunos Therapeutics, Inc., a Delaware corporation (the “*Company*”), in connection with the issuance and sale on the date hereof by the Company of 27,863,026 shares (the “*Shares*”) of the Company’s common stock, par value \$0.001 per share (the “*Common Stock*”), pursuant to the Underwriting Agreement, dated November 29, 2022 (the “*Underwriting Agreement*”), by and between the Company and Cantor Fitzgerald & Co. (the “*Underwriter*”). The offer and sale of the Shares are being registered under the Securities Act pursuant to the Company’s registration statement on Form S-3 (File No. 333-266841), which was filed with the Securities and Exchange Commission (the “*SEC*”) on August 12, 2022, as amended by Pre-Effective Amendment No. 1 thereto, filed with the SEC on August 31, 2022 (as so amended, the “*Registration Statement*”).

We have reviewed the Underwriting Agreement, the Registration Statement, and the prospectus, dated September 7, 2022, as supplemented by a prospectus supplement with respect to the offer and sale of the Shares, as filed with the Securities and Exchange Commission on November 30, 2022. We have also reviewed such corporate records, certificates and other documents, and such questions of law, as we have considered necessary or appropriate for the purposes of this opinion.

We have assumed that all signatures are genuine, that all documents submitted to us as originals are authentic and that all copies of documents submitted to us conform to the originals.

We have relied as to certain matters on information obtained from public officials, officers of the Company and other sources believed by us to be responsible.

Based upon the foregoing, we are of the opinion that the Shares have been duly authorized, and when issued and sold by the Company pursuant to the terms of the Underwriting Agreement and upon receipt by the Company of full payment therefor in accordance with the Underwriting Agreement, will be validly issued, fully paid and non-assessable.

We are members of the bar of the State of New York. We do not express any opinion herein on any laws other than the law of the State of New York, the Delaware General Corporation Law, applicable provisions of the Delaware Constitution and reported judicial decisions interpreting these laws.

COVINGTON

Alaunos Therapeutics, Inc.

November 30, 2022

Page 2

We hereby consent to the filing of this opinion as Exhibit 5.1 to the Company's Current Report on Form 8-K dated the date hereof related to the offering of the Shares. We also hereby consent to the reference to our firm under the heading "Legal Matters" in the prospectus supplement constituting part of the Registration Statement. In giving such 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.

Very truly yours,

/s/ Covington & Burling LLP



Alaunos Therapeutics Announces Proposed Public Offering of Common Stock

November 28, 2022

HOUSTON, Nov. 28, 2022 (GLOBE NEWSWIRE) — Alaunos Therapeutics, Inc. (“Alaunos” or the “Company”) (Nasdaq: TCRT), a clinical-stage oncology-focused cell therapy company, today announced that it has commenced an underwritten public offering of its common stock. In addition, Alaunos expects to grant to the underwriter a 30-day option to purchase up to an additional 15% of shares of the common stock sold in the public offering. All of the securities in the offering are to be sold by Alaunos. The offering is subject to market and other customary closing conditions, and there can be no assurance as to whether or when the offering may be completed, or as to the actual size or terms of the offering.

Alaunos intends to use the net proceeds from the proposed offering to fund the continued development of the product candidates in its pipeline, and for working capital, capital expenditures and general corporate purposes.

Cantor Fitzgerald & Co. is acting as the sole book-running manager for the offering.

A registration statement on Form S-3 (No. 333-266841) relating to these securities has been filed with the U.S. Securities and Exchange Commission (the “SEC”) and was declared effective on September 7, 2022. The offering will be made only by means of a prospectus supplement and accompanying prospectus. A preliminary prospectus supplement related to the offering has been filed with the SEC and is available free of charge by visiting EDGAR on the SEC’s website at www.sec.gov.

Copies of the preliminary prospectus supplement and the accompanying prospectus relating to the offering may be obtained free of charge from Cantor Fitzgerald & Co., Attention: Capital Markets, 499 Park Ave., 4th Floor, New York, New York 10022, or by e-mail at prospectus@cantor.com.

This press release shall not constitute an offer to sell or a solicitation of an offer to buy these securities, nor shall there be any sale of these securities in any state or jurisdiction in which such offer, solicitation or sale would be unlawful prior to registration or qualification under the securities laws of any such state or jurisdiction. Any offers, solicitations or offers to buy, or any sales of securities will be made in accordance with the registration requirements of the Securities Act of 1933, as amended.

About Alaunos Therapeutics

Alaunos is a clinical-stage oncology-focused cell therapy company, focused on developing T cell receptor (TCR) therapies based on its proprietary, non-viral *Sleeping Beauty* gene transfer technology and its TCR library targeting shared tumor-specific hotspot mutations in key oncogenic genes including *KRAS*, *TP53* and *EGFR*. The Company has a clinical and strategic collaboration with the National Cancer Institute.

Forward-Looking Statements Disclaimer

This press release contains forward-looking statements as defined in the Private Securities Litigation Reform Act of 1995, as amended. Forward-looking statements are statements that are not historical facts, and in some cases can be identified by terms such as “may,” “will,” “could,” “expects,” “plans,” “anticipates,” “believes” or other words or terms of similar meaning. These statements include, but are not limited to, statements regarding the completion of the proposed public offering and the use of proceeds, the Company’s business and strategic plans, the anticipated outcome of preclinical and clinical studies by the Company or its third-party collaborators, the Company’s manufacturing capabilities and the timing of the Company’s research and development programs, including the expected timeline for enrolling and dosing patients and the timing and forums for announcing data from the Company’s clinical trials. Although the management team of Alaunos believes that the expectations reflected in such forward-looking statements are reasonable, investors are cautioned that forward-looking information and statements are subject to various risks and uncertainties, many of which are difficult to predict and generally beyond the control of Alaunos, that could cause actual results and developments to differ materially from those expressed in, or implied or projected by, the forward-looking information and statements. These risks and uncertainties include, among other things, risks and uncertainties associated with the Company’s satisfaction of the customary closing conditions of the offering, changes in the Company’s operating plans that may impact its cash expenditures; the uncertainties inherent in research and development, future clinical data and analysis, including whether any of Alaunos’ product candidates will advance further in the preclinical research or clinical trial process, including receiving clearance from the U.S. Food and Drug Administration or equivalent foreign regulatory agencies to conduct clinical trials and whether and when, if at all, they will receive final approval from the U.S. Food and Drug Administration or equivalent foreign regulatory agencies and for which indication; the strength and enforceability of Alaunos’ intellectual property rights; and competition from other pharmaceutical and biotechnology companies as well as risk factors discussed or identified in the public filings with the SEC made by Alaunos, including those risks and uncertainties listed in the most recent periodic report filed by Alaunos with the SEC. Alaunos is providing this information as of the date of this press release, and Alaunos does not undertake any obligation to update or revise the information contained in this press release whether as a result of new information, future events, or any other reason.

Investor Relations Contact:

Alex Lobo
Stern Investor Relations
Alex.lobo@sternir.com



Alaunos Therapeutics Announces Pricing of Public Offering of Common Stock

November 29, 2022

HOUSTON, Nov. 29, 2022 (GLOBE NEWSWIRE) — Alaunos Therapeutics, Inc. (“Alaunos” or the “Company”) (Nasdaq: TCRT), a clinical-stage oncology-focused cell therapy company, today announced the pricing of its underwritten public offering of approximately 24,228,719 shares of its common stock for gross proceeds of approximately \$15.7 million, before deducting the underwriting discounts and commissions and other estimated offering expenses payable by Alaunos. All of the shares of common stock are being offered by Alaunos. The offering is expected to close on or about December 1, 2022, subject to customary closing conditions. In addition, Alaunos has granted to the underwriter a 30-day option to purchase up to 3,634,307 additional shares of its common stock.

Alaunos intends to use the net proceeds from the offering to fund the continued development of the product candidates in its pipeline, and for working capital, capital expenditures and general corporate purposes.

Cantor Fitzgerald & Co. is acting as the sole book-running manager for the offering.

The underwriter may offer the shares from time to time for sale in one or more transactions on the Nasdaq Global Select Market, in the over-the-counter market, through negotiated transactions or otherwise at market prices prevailing at the time of sale, at prices related to prevailing market prices or at negotiated prices.

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