

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

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**FORM 8-K**

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**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 21, 2022**

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**OPTINOSE, INC.**

(Exact Name of Registrant as Specified in its Charter)

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

**001-38241**  
(Commission File No.)

**42-1771610**  
(I.R.S. Employer Identification No.)

**1020 Stony Hill Road, Suite 300**  
**Yardley, Pennsylvania 19067**  
(Address of principal executive offices and zip code)

**(267) 364-3500**  
(Registrant's telephone number, including area code)  
(Former name or former address, if changed from last report)

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

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

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

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

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 | OPTN              | Nasdaq Global Select Market               |

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

On November 21, 2022, OptiNose, Inc. (the “Company”) entered into an underwriting agreement (the “Underwriting Agreement”) with Piper Sandler & Co., as representative of the underwriters listed therein (the “Underwriters”), in connection with a previously announced public offering (the “Offering”) of (i) 26,320,000 shares (the “Common Shares”) of the Company’s common stock, \$0.001 par value per share (“Common Stock”), at a public offering price of \$1.89 per Common Share and (ii) accompanying warrants to purchase 26,320,000 shares of Common Stock (the “Base Warrants”) at a public offering price of \$0.01 per Warrant, in each case, less underwriting discounts and commissions.

In addition, the Company granted the Underwriters an option for a period of 30 days to purchase up to an additional 3,948,000 shares of Common Stock and/or warrants to purchase 3,948,000 shares of Common Stock (the “Option Warrants” and, together with the Base Warrants, the “Warrants”), each at the applicable public offering price, less underwriting discounts and commissions. The Underwriters exercised the option to purchase the Option Warrants on November 22, 2022.

The transactions contemplated by the Underwriting Agreement, including the exercise of the option to purchase the Option Warrants, closed on November 23, 2022.

The net proceeds from the Offering are expected to be approximately \$47.0 million after deducting underwriting discounts and commissions and before offering expenses. The Company intends to use the proceeds from the Offering for working capital and general corporate purposes, including the commercialization of XHANCE, and the pursuit of a follow-on indication for XHANCE for the treatment of chronic sinusitis.

The Common Shares and the Base Warrants were issued separately but could only be purchased together in the Offering. The Offering was made pursuant to a prospectus supplement dated November 21, 2022 and an accompanying prospectus dated August 31, 2021, pursuant to a Registration Statement (No. 333-258707) on Form S-3, which was filed by the Company with the Securities and Exchange Commission (the “SEC”) on August 11, 2021 and declared effective by the SEC on August 31, 2021.

Each Warrant has an exercise price of \$2.565 per share of Common Stock (subject to appropriate adjustment in the event of certain stock dividends and distributions, stock splits, stock combinations, reclassifications or similar events affecting the Common Stock) and is exercisable until the expiration date, which is the fifth anniversary of the date of issuance (i.e., November 23, 2027). After such date, any unexercised Warrants will expire and have no further value. If the Company issues or sells, or is deemed pursuant to the terms of the Warrants to have issued or sold, any shares of Common Stock (excluding certain issuances defined in the Warrants as excluded issuances) for a price per share less than the exercise price of the Warrants in effect immediately prior to such issuance or sale or deemed issuance or sale (such event, a “dilutive issuance”), then immediately after such dilutive issuance the exercise price then in effect of the Warrants shall be reduced to the price of the shares of Common Stock issued in the dilutive issuance.

A holder of Warrants will not have the right to exercise any portion of a Warrant if the holder (together with its affiliates) would beneficially own in excess of 4.99% (or on election of such holder, prior to the issuance of any Warrants, 9.99%) of the number of shares of Common Stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the Warrants; provided, however, such holder may increase or decrease such percentage to any other percentage not in excess of 19.99%, provided that any increase in such percentage shall not be effective until 61 days after such notice is delivered to the Company.

There is currently no trading market for the Warrants and a trading market is not expected to develop. The Company does not intend to list the Warrants on any securities exchange or nationally recognized trading system.

In the event of a fundamental transaction, as defined in the Warrants, a holder of Warrants will be entitled to receive upon exercise of such Warrants the kind and amount of securities, cash or other property that such holder would have received had it exercised such Warrants immediately prior to such fundamental transaction. In addition, in certain circumstances, upon a fundamental transaction, a holder of Warrants will have the right to require the Company to repurchase such Warrants for cash at the Black Scholes Value (as defined in the Warrants).

The Underwriting Agreement contains customary representations, warranties and covenants by the Company, customary conditions to closing, indemnification obligations of the Company and the Underwriters, including for liabilities under the Securities Act of 1933, as amended, other obligations of the parties and termination provisions. The representations, warranties, and covenants contained in the Underwriting Agreement were made only for

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purposes of such agreement and as of specific dates, were solely for the benefit of the parties to such agreement, and may be subject to limitations agreed upon by the contracting parties.

On November 23, 2022, the Company also entered into a warrant agency agreement with the Company's registrar and transfer agent, Broadridge Corporate Issuer Solutions, Inc. ("Broadridge"), which will act as warrant agent for the Company, setting forth certain terms and conditions with respect to Broadridge's service as warrant agent for the Warrants (the "Warrant Agency Agreement").

The foregoing summaries of the Underwriting Agreement, the form of Warrant and the Warrant Agency Agreement do not purport to be complete and are subject to, and qualified in their entirety by, reference to the full text of the documents, which are attached as Exhibits 1.1, 4.1 and 4.2, respectively, to this Current Report on Form 8-K and are incorporated herein by reference.

Hogan Lovells US LLP, counsel to the Company, delivered an opinion as to legality of the issuance and sale of the securities in the Offering, a copy of which is attached hereto as Exhibit 5.1 and is incorporated herein by reference.

#### **Item 8.01 Other Events.**

Upon the closing of the Offering, the Company had 109,840,471 shares of Common Stock outstanding.

The Company issued press releases announcing the launch and pricing of the Offering on November 21, 2022. Copies of these press releases are attached hereto as Exhibits 99.1 and 99.2, respectively, and are each incorporated herein by reference.

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**Item 9.01 Financial Statements and Exhibits.**

(d) Exhibits

| <u>Exhibit No.</u> |                                                                                                                                                  |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.1                | <a href="#">Underwriting Agreement, dated November 21, 2022, by and between OptiNose, Inc. and Piper Sandler &amp; Co.</a>                       |
| 4.1                | <a href="#">Form of Warrant</a>                                                                                                                  |
| 4.2                | <a href="#">Warrant Agency Agreement, dated November 23, 2022, by and between OptiNose, Inc. and Broadridge Corporate Issuer Solutions, Inc.</a> |
| 5.1                | <a href="#">Opinion of Hogan Lovells US LLP</a>                                                                                                  |
| 23.1               | Consent of Hogan Lovells US LLP (contained in Exhibit 5.1)                                                                                       |
| 99.1               | <a href="#">Press Release issued by OptiNose, Inc., dated November 21, 2022</a>                                                                  |
| 99.2               | <a href="#">Press Release issued by OptiNose, Inc., dated November 21, 2022</a>                                                                  |
| 104                | Cover Page Interactive Data File (embedded within the Inline XBRL document)                                                                      |

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**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.

**OptiNose, Inc.**

By: /s/ Michael F. Marino

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Michael F. Marino  
Chief Legal Officer

Date: November 23, 2022

**26,320,000 Shares of Common Stock  
and  
Warrants to Purchase 26,320,000 Shares of Common Stock**

**OptiNose, Inc.**

**UNDERWRITING AGREEMENT**

November 21, 2022

PIPER SANDLER & CO.

As Representative of the  
Underwriters named in Schedule I hereto  
U.S. Bancorp Center  
800 Nicollet Mall  
Minneapolis, Minnesota 55402

Ladies and Gentlemen:

OptiNose, Inc., a Delaware corporation (the “**Company**”), proposes to sell to the Underwriters named in Schedule I hereto (the “**Underwriters**”) an aggregate of (i) 26,320,000 shares (the “**Firm Shares**”) of Common Stock, \$0.001 par value per share (the “**Common Stock**”), of the Company and (ii) 26,320,000 common stock warrants to purchase 26,320,000 shares of Common Stock (the “**Common Warrants**”) and, together with the Firm Shares, the “**Firm Securities**”). The amount and form of the Firm Securities to be purchased by each Underwriter is set forth on Schedule I hereto. The Company has also granted to the Underwriters an option to purchase up to 3,948,000 additional shares of Common Stock (the “**Option Shares**”) and/or 3,948,000 additional Common Warrants to purchase up to 3,948,000 shares of Common Stock (the “**Option Warrants**”) and, together with the Option Shares, the “**Option Securities**”) and together with the Firm Securities, the “**Securities**”), each on the terms and for the purposes set forth in Section 3 hereof. The Firm Shares and, if and to the extent such option is exercised, the Option Shares are collectively called the “**Shares**”; the Common Warrants and, if and to the extent such option is exercised, the Option Warrants are collectively referred to herein as the “**Warrants**”; the shares of Common Stock issuable upon exercise of the Common Warrants and the Option Warrants are collectively referred to herein as the “**Warrant Shares**”. The Firm Shares and the Common Warrants shall be sold together as a fixed combination, each consisting of (i) one Firm Share and (ii) one Common Warrant to purchase one whole share of Common Stock. The Shares and the Warrants shall be issued separately and shall be immediately transferable separately upon issuance. The terms of the Warrants are set forth in the form of Common Warrant attached hereto as Exhibit B.

The Company hereby confirms its agreement with respect to the sale of the Securities to the Underwriters, for whom Piper Sandler & Co. is acting as representative (the “**Representative**” or “**you**”).

1. **Registration Statement and Prospectus.** The Company has prepared and filed with the Securities and Exchange Commission (the “**Commission**”) a registration statement on Form S-3 (File No. 333-258707) under the Securities Act of 1933, as amended (the “**Securities Act**” or “**Act**”), and the rules and regulations (the “**Rules and Regulations**”) of the Commission thereunder, and such amendments to such registration statement as may have been required as of the date of this underwriting agreement (this “**Agreement**”). Such registration statement has been declared effective by the Commission. Each part of such registration statement, including the

amendments, exhibits and any schedules thereto, the documents incorporated by reference therein pursuant to Item 12 of Form S-3 under the Securities Act and the documents and information otherwise deemed to be a part thereof or included therein by Rule 430B under the Securities Act (the “**Rule 430B Information**”) or otherwise pursuant to the Rules and Regulations, as of the time such registration statement became effective, is herein called the “**Registration Statement**.” Any registration statement filed by the Company pursuant to Rule 462(b) under the Securities Act is called the “**Rule 462(b) Registration Statement**” and, from and after the date and time of filing of the Rule 462(b) Registration Statement, the term “Registration Statement” shall include the Rule 462(b) Registration Statement.

The prospectus in the form in which it has most recently been filed with the Commission on or prior to the date of this Agreement is herein called the “**Base Prospectus**.” Each preliminary prospectus supplement to the Base Prospectus (including the Base Prospectus as so supplemented) that describes the Securities and the offering thereof, that omitted the Rule 430B Information and that was used prior to the filing of the final prospectus supplement referred to in the following sentence is herein called a “**Preliminary Prospectus**.” Promptly after execution and delivery of this Agreement, the Company will prepare and file with the Commission a final prospectus supplement to the Base Prospectus relating to the Securities and the offering thereof in accordance with the provisions of Rule 430B and Rule 424(b) of the Rules and Regulations. Such final prospectus supplement (including the Base Prospectus as so supplemented), in the form filed with the Commission pursuant to Rule 424(b) is herein called the “**Prospectus**.” “**Time of Sale Prospectus**” means the Preliminary Prospectus dated November 21, 2022, any free writing prospectus set forth on Schedule II and the information on Schedule III, all considered together. Any reference herein to the Base Prospectus, any Preliminary Prospectus or the Prospectus shall be deemed to refer to include the documents incorporated by reference therein pursuant to Item 12 of Form S-3 under the Securities Act as of the date of such prospectus. As used herein, the “**Applicable Time**” is 8:00 a.m. (New York City time) on November 21, 2022. As used herein, “**Section 5(d) Written Communication**” means each written communication (within the meaning of Rule 405 under the Securities Act) that is made in reliance on Section 5(d) of the Securities Act by the Company or any person authorized to act on behalf of the Company to one or more potential investors that are qualified institutional buyers (“**QIBs**”) and/or institutions that are accredited investors (“**IAIs**”), as such terms are respectively defined in Rule 144A and Rule 501(a) under the Securities Act, to determine whether such investors might have an interest in the offering of the Securities; “**Section 5(d) Oral Communication**” means each oral communication, if any, made in reliance on Section 5(d) of the Securities Act by the Company or any person authorized to act on behalf of the Company made to one or more QIBs and/or one or more IAIs to determine whether such investors might have an interest in the offering of the Securities; “**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 Securities, including any roadshow or investor presentations made to investors by the Company (whether in person or electronically); and “**Permitted Section 5(d) Communication**” means the Section 5(d) Written Communication(s) and Marketing Materials listed on Schedule V attached hereto.

Each preliminary prospectus and the Prospectus when filed complied in all material respects with the Securities Act and, if filed by electronic transmission pursuant to EDGAR, was identical (except as may be permitted by Regulation S-T under the Securities Act) to the copy thereof delivered to the Underwriters for use in connection with the offer and sale of the Securities. Each of the Registration Statement and any post-effective amendment thereto, at the time it became or becomes effective, complied and will comply in all material respects with the Securities Act and did not and will not contain any untrue statement of a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein not misleading. As of the Applicable Time, the Time of Sale Prospectus (including any preliminary prospectus wrapper) did not, and at the First Closing Date (as defined in Section 3) and at the

Second Closing Date, as then amended or supplemented by the Company, will not, contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in light of the circumstances under which they were made, not misleading. The Prospectus (including any Prospectus wrapper), as of its date, did not, and at the First Closing Date and at the Second 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 written information relating to any Underwriter furnished to the Company in writing by the Representative expressly for use therein, it being understood and agreed that the only such information consists of the information described in Section 6(e) 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.

For purposes of this Agreement, all references to the Registration Statement, the Rule 462(b) Registration Statement, the Base Prospectus, any Preliminary Prospectus, the Prospectus or any amendment or supplement to any of the foregoing shall be deemed to include the copy filed with the Commission pursuant to its Electronic Data Gathering, Analysis and Retrieval System or any successor system thereto (“**EDGAR**”). All references in this Agreement to financial statements and schedules and other information which is “described,” “contained,” “included” or “stated” in the Registration Statement, the Base Prospectus, any Preliminary Prospectus or the Prospectus (or other references of like import) shall be deemed to mean and include all such financial statements and schedules and other information which is incorporated by reference in or otherwise deemed by the Rules and Regulations to be a part of or included in the Registration Statement, the Base Prospectus, any Preliminary Prospectus or the Prospectus, as the case may be; and all references in this Agreement to amendments or supplements to the Registration Statement, the Base Prospectus, any Preliminary Prospectus or the Prospectus shall be deemed to mean and include the subsequent filing of any document under the Securities Exchange Act of 1934, as amended (the “**Exchange Act**”) and which is deemed to be incorporated therein by reference therein or otherwise deemed by the Rules and Regulations to be a part thereof.

## 2. ***Representations and Warranties.***

The Company hereby represents, warrants and covenants to each Underwriter, as of the date of this Agreement, as of the First Closing Date (as hereinafter defined) and as of the Second Closing Date (as defined in Section 3), if any, as follows:

(i) ***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 no proceedings for such purpose have been instituted or are pending or, to the knowledge of the Company, 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 (the “**Annual Report**”) 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 and will comply in all material respects with the requirements of the Exchange Act.

(ii) Free Writing Prospectuses; Road Show. As of the determination date referenced in Rule 164(h) under the Securities Act, the Company was not, is not or will not be (as applicable) an “ineligible issuer” in connection with the offering of the Securities 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 Securities 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. The representations and warranties set forth in the immediately preceding sentence do not apply to statements made in reliance upon and in conformity with information relating to any Underwriters furnished to the Company in writing by the Representative expressly for use therein, it being understood and agreed that the only such information consists of the information described in Section 6(e) below. Except for the free writing prospectuses, if any, identified in Schedule II, and electronic road shows, if any, furnished to the Representative before first use, the Company has not prepared, used or referred to, and will not, without the Representative’s prior written consent, which consent shall not be unreasonably withheld, prepare, use or refer to, any free writing prospectus. Each Road Show, when considered together with the Time of Sale Prospectus, did not, as of the Applicable Time, contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in light of the circumstances under which they were made, not misleading.

(iii) Distribution of Offering Material by the Company. Prior to the later of (i) the expiration or termination of the option granted to the Underwriters in Section 2, and (ii) the completion of the Underwriters’ distribution of the Securities, the Company has not distributed and will not distribute any offering material in connection with the offering and sale of the Securities other than the Registration Statement, the Time of Sale Prospectus, the Prospectus, the free writing prospectuses, if any, identified on Schedule II hereto or any free writing prospectus reviewed and consented to by the Representative, which consent shall not be unreasonably withheld, and any Permitted Section 5(d) Communications.

(iv) The Underwriting Agreement and the Warrant Agent Agreement. This Agreement has been duly authorized, executed and delivered by the Company. The warrant agency agreement governing the Warrants (the “**Warrant Agent Agreement**”), to be dated as of the Closing Date and entered into by and between the Company and Broadridge Corporate Issuer Solutions, Inc. (the “**Warrant Agent**”) has been duly authorized by the Company and, when executed and delivered by the Company, will be a valid and binding agreement of the Company, enforceable against the Company in accordance with its terms, except as the enforcement thereof may be limited by bankruptcy, insolvency, reorganization, moratorium or other similar laws relating to or affecting the rights and remedies of creditors or by general equitable principles.

(v) Authorization of the Securities. The Shares to be issued by the Company in connection with the transactions contemplated by this Agreement have been duly authorized for issuance and sale pursuant to this Agreement and, when issued and delivered by the Company against payment therefor pursuant to this Agreement, will be validly issued, fully paid and nonassessable, and the issuance and sale of such Shares is not subject to any preemptive rights,

rights of first refusal or other similar rights to subscribe for or purchase such Shares. The Warrants have been duly authorized by the Company and, when executed and delivered by the Company, will be valid and binding agreements of the Company, enforceable against the Company in accordance with their terms, except as the enforcement thereof may be limited by bankruptcy, insolvency, reorganization, moratorium or other similar laws relating to or affecting the rights and remedies of creditors or by general equitable principles. The Warrant Shares have been duly authorized and validly reserved for issuance upon exercise of the Warrants in a number sufficient to meet the current exercise requirements. The Warrant Shares, when issued and delivered upon exercise of the Common Warrants and the Option Warrants, as applicable, and in accordance therewith, will be validly issued, fully paid and nonassessable, and the issuance of the Warrant Shares is not subject to any preemptive rights, rights of first refusal or other similar rights to subscribe for or purchase the Warrant Shares. The Securities, when issued, will conform to the description thereof set forth in or incorporated into the Registration Statement, the Time of Sale Prospectus and the Prospectus.

(vi) *No Applicable Registration or Other Similar Rights*. There are no persons with registration or other similar rights to have any equity or debt securities registered for sale under the Registration Statement or included in the offering contemplated by this Agreement, except for such rights as have been duly satisfied or waived.

(vii) *No Material Adverse Effect*. Except as otherwise disclosed or incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus, subsequent to the respective dates as of which information is given in the Registration Statement, the Time of Sale Prospectus and the Prospectus: (i) there has been no Material Adverse Effect (as defined below) or any development that would reasonably be expected to result in a Material Adverse Effect; (ii) the Company and its subsidiaries, considered as one entity, have not incurred any material liability or obligation, indirect, direct or contingent, including without limitation any losses or interference with their business from fire, explosion, flood, earthquakes, accident or other calamity, whether or not covered by insurance, or from any strike, labor dispute or court or governmental action, order or decree, that are material, individually or in the aggregate, to the Company and its subsidiaries, considered as one entity, and have not entered into any transactions not in the ordinary course of business; and (iii) there has not been any material decrease in the capital stock or any material increase in any short-term or long-term indebtedness of the Company or its subsidiaries and there has been no dividend or distribution of any kind declared, paid or made by the Company or any repurchase or redemption by the Company or any of its subsidiaries of any class of capital stock.

(viii) *Independent Accountants*. To the knowledge of the Company, Ernst & Young LLP, which has expressed its opinion with respect to the financial statements (which term as used in this Agreement includes the related notes thereto) filed with the Commission as a part of the Registration Statement, the Time of Sale Prospectus and the Prospectus, is (i) an independent registered public accounting firm as required by the Securities Act, the Exchange Act and the rules of the Public Company Accounting Oversight Board (“*PCAOB*”), (ii) in compliance with the applicable requirements relating to the qualification of accountants under Rule 2-01 of Regulation S-X under the Securities Act and (iii) a registered public accounting firm as defined by the PCAOB whose registration has not been suspended or revoked and who has not requested such registration to be withdrawn.

(ix) *Financial Statements*. The financial statements filed with the Commission as a part of, or incorporated by reference into, the Registration Statement, the Time of Sale Prospectus and the Prospectus present fairly, in all material respects, the consolidated financial position of the Company and its subsidiaries as of the dates indicated and the results of their operations, changes in stockholders’ equity and cash flows for the periods specified. Such financial statements have been prepared in conformity with generally accepted accounting

principles as applied in the United States on a consistent basis throughout the periods involved, except as may be expressly stated in the related notes thereto. No other financial statements or supporting schedules are required to be included in the Registration Statement, the Time of Sale Prospectus or the Prospectus. The interactive data in eXtensible Business Reporting Language incorporated by reference into the Registration Statement fairly presents the information called for in all material respects and has been prepared in accordance with the Commission's rules and guidelines applicable thereto. All disclosures contained or incorporated by reference in the Registration Statement, any preliminary prospectus or the Prospectus and any free writing prospectus, that constitute non-GAAP financial measures (as defined by the rules and regulations under the Securities Act and the Exchange Act) comply, in all material respects, with Regulation G under the Exchange Act and Item 10 of Regulation S-K under the Securities Act, as applicable. To the Company's knowledge, no person who has been suspended or barred from being associated with a registered public accounting firm, or who has failed to comply with any sanction pursuant to Rule 5300 promulgated by the PCAOB, has participated in or otherwise aided the preparation of, or audited, the financial statements, supporting schedules or other financial data filed with the Commission as a part of the Registration Statement, the Time of Sale Prospectus and the Prospectus.

(x) Company's Accounting System. The Company and each of its subsidiaries make and keep books and records that are accurate in all material respects and maintain a system of internal accounting controls designed to, and which the Company believes is 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 financial statements in conformity with generally accepted accounting principles as applied in the United States and to maintain accountability for assets; (iii) access to assets is permitted only in accordance with management's general or specific authorization; (iv) the recorded accountability for assets is compared with existing assets at reasonable intervals and appropriate action is taken with respect to any differences; and (v) the interactive data in eXtensible Business Reporting Language included or incorporated by reference into the Registration Statement, the Time of Sale Prospectus and the Prospectus fairly presents the information called for in all material respects and is prepared in accordance with the Commission's rules and guidelines applicable thereto.

(xi) Disclosure Controls and Procedures; Deficiencies in or Changes to Internal Control Over Financial Reporting. The Company has established and maintains disclosure controls and procedures (as defined in Rules 13a-15 and 15d-15 under the Exchange Act), which (i) are designed to ensure that material information relating to the Company, including its consolidated subsidiaries, is made known to the Company's principal executive officer and its principal financial officer by others within those entities, particularly during the periods in which the periodic reports required under the Exchange Act are being prepared; (ii) have been evaluated by management of the Company for effectiveness as of the end of the Company's most recent fiscal quarter; and (iii) are effective in all material respects to perform the functions for which they were established. Since the end of the Company's most recent audited fiscal year, there have been no significant deficiencies or material weakness in the Company's internal control over financial reporting (whether or not remediated) and there has been no change in the Company's internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting. The Company is not aware of any change in its internal control over financial reporting that has occurred during its most recent fiscal quarter that has materially affected, or is reasonably likely to materially affect, the Company's internal control over financial reporting.

(xii) Incorporation and Good Standing of the Company. The Company has been duly incorporated and is validly existing as a corporation in good standing under the laws of the State of Delaware and has the corporate power and authority to own, lease and operate its properties

and to conduct its business as described or incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus and to enter into and perform its obligations under this Agreement. The Company is duly qualified as a foreign corporation to transact business and is in good standing in the Commonwealth of Pennsylvania and each other jurisdiction in which such qualification is required, whether by reason of the ownership or leasing of property or the conduct of business, except where the failure to be so qualified or in good standing would not reasonably be expected, individually or in the aggregate, to have a material adverse effect on the condition (financial or other), earnings, business, properties, operations, assets, liabilities or prospects of the Company and its subsidiaries, considered as one entity (a “*Material Adverse Effect*”).

(xiii) *Subsidiaries.* Each of the Company’s “subsidiaries” (for purposes of this Agreement, as defined in Rule 405 under the Securities Act) has been duly incorporated or organized and is validly existing as a corporation or other entity in good standing under the laws of the jurisdiction of its incorporation or organization and has the power and authority (corporate or other) to own, lease and operate its properties and to conduct its business as described or incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus. Each of the Company’s subsidiaries is duly qualified as a foreign corporation, partnership or limited liability company, as applicable, to transact business and is in good standing in each jurisdiction in which such qualification is required, whether by reason of the ownership or leasing of property or the conduct of business, except where the failure to be so qualified or to be in good standing would not reasonably be expected, individually or in the aggregate, to result in a Material Adverse Effect. All of the issued and outstanding capital stock or other equity or ownership interests of each of the Company’s subsidiaries have been duly authorized and validly issued, are fully paid and nonassessable and are owned by the Company, directly or through subsidiaries, free and clear of any security interest, mortgage, pledge, lien, encumbrance or adverse claim. None of the outstanding capital stock in any subsidiary was issued in violation of preemptive or similar rights of any securityholder of such subsidiary. The Company does not own or control, directly or indirectly, any corporation, association or other entity other than the subsidiaries listed in Exhibit 21 to the Annual Report. OptiNose UK Ltd. is not a “significant subsidiary” (as defined in Rule 405 under the Securities Act).

(xiv) *Capitalization and Other Capital Stock Matters.* The authorized, issued and outstanding capital stock of the Company is as set forth in the Company’s latest financial statements, audited or unaudited, as applicable, incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus (other than for subsequent issuances, if any, pursuant to employee benefit plans, or upon the exercise of outstanding options or warrants, in each case, as described or incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus). The Common Stock (including the Securities and Warrant Shares, when issued pursuant to the terms of this Agreement) conforms in all material respects to the description thereof contained in the Time of Sale Prospectus. All of the issued and outstanding Common Stock has been duly authorized and validly issued, are fully paid and nonassessable and have been issued in compliance with all applicable federal and state securities laws. None of the outstanding Common Stock was issued in violation of any preemptive rights, rights of first refusal or other similar rights to subscribe for or purchase securities of the Company. There are no authorized or outstanding options, warrants, preemptive rights, rights of first refusal or other rights to purchase, or equity or debt securities convertible into or exchangeable or exercisable for, any capital stock of the Company or any of its subsidiaries other than those described or incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus. The descriptions of the Company’s stock option, stock bonus and other stock plans or arrangements, and the options or other rights granted thereunder, set forth or incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus accurately and fairly present, in all material respects, the information required to be shown with respect to such plans, arrangements, options and rights.

(xv) Stock Exchange Listing. The Common Stock is registered pursuant to Section 12(b) of the Exchange Act and is listed on the Nasdaq Global Select Market (“*Nasdaq*”), and the Company has taken no action designed to, or likely to have the effect of, terminating the registration of the Common Stock under the Exchange Act or delisting the Common Stock from Nasdaq, nor has the Company received any notification that the Commission or Nasdaq is contemplating terminating such registration or listing. To the Company’s knowledge, it is in compliance with all applicable listing requirements of Nasdaq.

(xvi) Non-Contravention of Existing Instruments; No Further Authorizations or Approvals Required. Neither the Company nor any of its subsidiaries is in violation of its charter or bylaws, or similar organizational documents, as applicable, or is in default (or, with the giving of notice or lapse of time, would be in default) (“*Default*”) under any indenture, loan, credit agreement, note, lease, license agreement, contract, franchise or other instrument (including, without limitation, any pledge agreement, security agreement, mortgage or other instrument or agreement evidencing, guaranteeing, securing or relating to indebtedness) to which the Company or any of its subsidiaries is a party or by which it or any of them may be bound, or to which any of their respective properties or assets are subject (each, an “*Existing Instrument*”), except for such Defaults in Existing Instruments as would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect. The Company’s execution, delivery and performance of this Agreement and the Warrant Agent Agreement and the consummation of the transactions contemplated hereby and thereby, and by the Registration Statement, the Time of Sale Prospectus and the Prospectus and the issuance and sale of the Securities (including the use of proceeds from the sale of the Securities as described in the Registration Statement, the Time of Sale Prospectus and the Prospectus under the caption “Use of Proceeds”) (i) have been duly authorized by all necessary corporate action and will not result in any violation of the provisions of the charter or bylaws, partnership agreement or operating agreement or similar organizational documents, as applicable, of the Company or any subsidiary, (ii) will not conflict with or constitute a breach of, or Default or a Debt Repayment Triggering Event (as defined below) under, or result in the creation or imposition of any lien, charge or encumbrance upon any property or assets of the Company or any of its subsidiaries pursuant to, or require the consent of any other party to, any Existing Instrument and (iii) will not result in any violation of any law, administrative regulation or administrative or court decree applicable to the Company or any of its subsidiaries, except, in the case of clauses (ii) and (iii) above, as would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect. No consent, approval, authorization or other order of, or registration or filing with, any court or other governmental or regulatory authority or agency, is required for the Company’s execution, delivery and performance of this Agreement and the Warrant Agent Agreement and consummation of the transactions contemplated hereby and thereby, and by the Registration Statement, the Time of Sale Prospectus and the Prospectus, except such as have been obtained or made by the Company and are in full force and effect under the Securities Act and such as may be required under applicable state securities or blue sky laws or the Financial Industry Regulatory Authority, Inc. (“*FINRA*”). As used herein, a “Debt Repayment Triggering Event” means any event or condition which gives, or with the giving of notice or lapse of time would give, the holder of any note, debenture or other evidence of indebtedness (or any person acting on such holder’s behalf) the right to require the repurchase, redemption or repayment of all or a portion of such indebtedness by the Company or any of its subsidiaries.

(xvii) Compliance with Laws. The Company and its subsidiaries have been and are in compliance with all applicable laws, rules and regulations, except where failure to be so in compliance would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect.

(xviii) *No Material Actions or Proceedings*. There is no action, suit, proceeding, inquiry or investigation brought by or before any governmental entity now pending or, to the knowledge of the Company, threatened, against or affecting the Company or any of its subsidiaries, which would reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect or materially and adversely affect the consummation of the transactions contemplated by this Agreement or the performance by the Company of its obligations hereunder; and the aggregate of all pending legal or governmental proceedings to which the Company or any such subsidiary is a party or of which any of their respective properties or assets is the subject, including ordinary routine litigation incidental to the business, if determined adversely to the Company, would not reasonably be expected to have a Material Adverse Effect. No material labor dispute with the employees of the Company or any of its subsidiaries, or with the employees of any principal supplier, manufacturer, or contractor of the Company, exists or, to the knowledge of the Company, is threatened or imminent.

(xix) *Intellectual Property Rights*. The Company and its subsidiaries own, or have obtained valid and enforceable licenses for, the inventions, patent applications, patents, trademarks, trade names, service names, copyrights, trade secrets and other intellectual property described or incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus as being owned or licensed by them or which, to the Company's knowledge, are necessary for the conduct of their respective businesses as currently conducted or as currently proposed to be conducted in the Registration Statement, the Time of Sale Prospectus and the Prospectus (collectively, "**Intellectual Property**"). To the Company's knowledge: (i) there are no third parties who have rights to any Intellectual Property, except (A) for a security interest in favor of BPCR Limited Partnership, (B) the licenses of Intellectual Property to Inexia Limited and Currax Pharmaceuticals LLC disclosed or incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus, and (C) for customary reversionary rights of third-party licensors with respect to Intellectual Property that is disclosed or incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus as licensed to the Company or one or more of its subsidiaries, and the Company and its subsidiaries have taken all reasonable steps necessary to secure their interests in the Intellectual Property from their employees and contractors; (ii) there is no infringement by third parties of any Intellectual Property; (iii) the Company is not infringing the intellectual property rights of third parties; (iv) the Company is the sole owner of the Intellectual Property owned by it, except for a security interest in favor of BPCR Limited Partnership, and has the valid right to use the Intellectual Property; (v) there are no material defects in any of the patents or patent applications included in the Intellectual Property; (vi) the duties of candor and good faith required by the United States Patent and Trademark Office during the prosecution of the United States patents and patent applications included in the Intellectual Property have been complied with, and all such requirements in foreign offices having similar requirements applicable to the Company and its subsidiaries have been complied with; and (vii) no employee of the Company is in or has 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. There is no pending or, to the Company's knowledge, threatened action, suit, proceeding or claim by others, that would reasonably be expected to have a Material Adverse Effect on the Company: (A) challenging the Company's rights in or to any Intellectual Property; (B) challenging the validity, enforceability or scope of any Intellectual Property; or (C) asserting that the Company or any of its subsidiaries infringes or otherwise violates, or would, upon the commercialization of any product or service described or incorporated by reference in the Registration Statement, the Time of Sale Prospectus or the Prospectus as under development, infringe, misappropriate or violate, any patent, trademark, trade name, service name, copyright, trade secret or other proprietary rights of others. The Company and its subsidiaries have complied in all material respects with the terms of each agreement pursuant to which Intellectual Property has been licensed to the

Company or any subsidiary, and all such agreements are in full force and effect. The product candidates described or incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus as under development by the Company or any subsidiary fall within the scope of the claims of one or more patents or patent applications owned by, or exclusively licensed to, the Company or any subsidiary.

(xx) All Necessary Permits, etc. The Company and its subsidiaries possess such valid and current certificates, authorizations or permits required by state, federal or foreign regulatory agencies or bodies to conduct their respective businesses as currently conducted and as described or incorporated by reference in the Registration Statement, the Time of Sale Prospectus or the Prospectus (“**Permits**”). Neither the Company nor any of its subsidiaries is in violation of, or in default under, any of the Permits or has received any notice of proceedings relating to the revocation or modification of, or non-compliance with, any such Permit.

(xxi) Title to Properties. Neither the Company nor any Subsidiary owns any real property. The Company and its subsidiaries have good and marketable title to all of the personal property and other assets reflected as owned in the financial statements referred to in Section 2(ix) above (or elsewhere in the Registration Statement, the Time of Sale Prospectus or the Prospectus), in each case free and clear of any security interests, mortgages, liens, encumbrances, equities, adverse claims and other defects, except for a security interest in favor of BPCR Limited Partnership, and except as would not reasonably be expected, individually or in the aggregate, to materially affect the value of such property or materially interfere with the use thereof. The real property, improvements, equipment and personal property held under lease by the Company or any of its subsidiaries are held under valid and enforceable leases, with such exceptions as are not material and do not materially interfere with the use made or proposed to be made of such real property, improvements, equipment or personal property by the Company or such subsidiary.

(xxii) Tax Law Compliance. The Company and its subsidiaries have filed all necessary federal, state and foreign income and franchise tax returns or have properly requested extensions thereof and have paid all taxes required to be paid by any of them and, if due and payable, any related or similar assessment, fine or penalty levied against any of them except as may be being contested in good faith and by appropriate proceedings. The Company has made adequate charges, accruals and reserves in the applicable financial statements referred to in Section 2(ix) above in respect of all federal, state and foreign income and franchise taxes for all periods as to which the tax liability of the Company or any of its subsidiaries has not been finally determined.

(xxiii) Insurance. Each of the Company and its subsidiaries are insured by recognized, financially sound and reputable institutions with policies in such amounts and with such deductibles and covering such risks as the Company reasonably believes are generally deemed adequate and customary for their businesses including, but not limited to, policies covering real and personal property owned or leased by the Company and its subsidiaries against theft, damage, destruction, acts of vandalism and earthquakes and policies covering the Company and its subsidiaries for product liability claims and clinical trial liability claims. The Company has no reason to believe that it or any of its subsidiaries will not be able (i) to renew its existing insurance coverage as and when such policies expire or (ii) to obtain comparable coverage from similar institutions as may be necessary or appropriate to conduct its business as now conducted and at a cost that would not reasonably be expected to have a Material Adverse Effect. Neither the Company nor any of its subsidiaries has been denied any insurance coverage which it has sought or for which it has applied.

(xxiv) Compliance with Environmental Laws. Except as would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect: (i) neither the Company nor any of its subsidiaries is in violation of any federal, state, local or foreign statute,

law, rule, regulation, ordinance, code, policy or rule of common law or any judicial or administrative interpretation thereof, including any judicial or administrative order, consent, decree or judgment, relating to pollution or protection of human health, the environment (including, without limitation, ambient air, surface water, groundwater, land surface or subsurface strata) or wildlife, including, without limitation, laws and regulations relating to the release or threatened release of chemicals, pollutants, contaminants, wastes, toxic substances, hazardous substances, petroleum or petroleum products (collectively, “**Hazardous Materials**”) or to the manufacture, processing, distribution, use, treatment, storage, disposal, transport or handling of Hazardous Materials (collectively, “**Environmental Laws**”); (ii) the Company and its subsidiaries have all permits, authorizations and approvals required under any applicable Environmental Laws and are each in compliance in all material respects with their requirements; (iii) there are no pending or, to the knowledge of the Company, threatened administrative, regulatory or judicial actions, suits, demands, demand letters, claims, liens, notices of noncompliance or violation, investigation or proceedings relating to any Environmental Law against the Company or any of its subsidiaries; and (iv) there are no orders for clean-up or remediation, or an action, suit or proceeding pending or, to the knowledge of the Company threatened, by any private party or governmental body or agency, against or affecting the Company or any of its subsidiaries relating to Hazardous Materials or any Environmental Laws.

(xxv) ERISA Compliance. The Company and its subsidiaries and any “employee benefit plan” (as defined under the Employee Retirement Income Security Act of 1974, as amended, and the regulations and published interpretations thereunder (collectively, “**ERISA**”)) established or maintained by the Company, its subsidiaries or, to the knowledge of the Company, their “ERISA Affiliates” (as defined below) are in compliance in all material respects with ERISA. “ERISA Affiliate” means, with respect to the Company or any of its subsidiaries, any member of any group of organizations described in Sections 414(b), (c), (m) or (o) of the Internal Revenue Code of 1986, as amended, and the regulations and published interpretations thereunder (the “**Code**”) of which the Company or such subsidiary is a member. No “reportable event” (as defined under ERISA) has occurred or is reasonably expected to occur with respect to any “employee benefit plan” established or maintained by the Company, its subsidiaries or any of their ERISA Affiliates. No “employee benefit plan” established or maintained by the Company, its subsidiaries or any of their ERISA Affiliates, if such “employee benefit plan” were terminated, would have any “amount of unfunded benefit liabilities” (as defined under ERISA). Neither the Company, its subsidiaries nor any of their ERISA Affiliates has incurred or reasonably expects to incur any material liability under (i) Title IV of ERISA with respect to termination of, or withdrawal from, any “employee benefit plan” or (ii) Sections 412, 4971, 4975 or 4980B of the Code. Each employee benefit plan established or maintained by the Company, its subsidiaries or any of their ERISA Affiliates that is intended to be qualified under Section 401(a) of the Code is so qualified and nothing has occurred, whether by action or failure to act, which would reasonably be expected to cause the loss of such qualification.

(xxvi) Company Not an “Investment Company.” The Company is not, and will not be, either after receipt of payment for the Securities or after the application of the proceeds therefrom as described under “Use of Proceeds” in the Registration Statement, the Time of Sale Prospectus or the Prospectus, required to register as an “investment company” under the Investment Company Act of 1940, as amended (the “**Investment Company Act**”).

(xxvii) No Price Stabilization or Manipulation; Compliance with Regulation M. Neither the Company nor any of its subsidiaries has taken, directly or indirectly, any action designed to or that would reasonably be expected to cause or result in stabilization or manipulation of the price of the Common Stock or of any “reference security” (as defined in Rule 100 of Regulation M under the Exchange Act (“**Regulation M**”)) with respect to the Common Stock, whether to facilitate the sale or resale of the Securities or otherwise, and has taken no action which would directly or indirectly violate Regulation M.

(xxviii) Related-Party Transactions. There are no business relationships or related-party transactions involving the Company or any of its subsidiaries or any other person required under Item 404 of Regulation S-K to be described or incorporated by reference in the Registration Statement, the Time of Sale Prospectus or the Prospectus that have not been described as required.

(xxix) FINRA Matters. All of the information provided to the Underwriters or to counsel for the Underwriters by the Company, its counsel, its officers and directors and, to the knowledge of the Company, the holders of any securities (debt or equity) or options to acquire any securities of the Company in connection with the offering of the Securities is true, complete, correct and compliant with FINRA's rules and any letters, filings or other supplemental information provided to FINRA pursuant to FINRA Rules or NASD Conduct Rules is true, complete and correct.

(xxx) Parties to Lock-Up Agreements. The Company has furnished to the Underwriters a letter agreement in the form attached hereto as Exhibit A (the "Lock-up Agreement") from each individual listed on Schedule IV. If any additional persons shall become directors or officers (as defined in Rule 16a-1(f) under the Exchange Act) of the Company prior to the end of the Company Lock-up Period (as defined below), the Company shall cause each such person, prior to or contemporaneously with their appointment or election as a director or officer of the Company, to execute and deliver to the Representative a Lock-up Agreement; provided, however, that the Company shall not be required to cause any persons that become directors of the Company in connection with the offering of Securities contemplated by this Agreement to execute or deliver any Lock-up Agreement.

(xxxix) Statistical and Market-Related Data. All statistical, demographic and market-related data included or incorporated by reference in the Registration Statement, the Time of Sale Prospectus or the Prospectus are based on or derived from sources that the Company believes, after reasonable inquiry, to be reliable and accurate in all material respects. To the extent required, the Company has obtained the written consent to the use of such data from such sources.

(xxxix) No Unlawful Contributions or Other Payments. Neither the Company nor any of its subsidiaries nor, to the Company's knowledge, any employee or agent of the Company or any subsidiary, has made any contribution or other payment to any official of, or candidate for, any federal, state or foreign office in violation of any applicable law or of the character required to be disclosed in the Registration Statement, the Time of Sale Prospectus or the Prospectus.

(xxxix) Anti-Corruption Laws. None of the Company, any of its subsidiaries or any of their respective affiliates, directors or officers, employees or, to the Company's knowledge, any of the Company or its subsidiaries' respective agents, representatives or other persons associated with or acting on behalf of the Company or any of its subsidiaries or their respective affiliates has, in the course of its actions for, or on behalf of, the Company or any of its subsidiaries (i) used any corporate funds for any unlawful contribution, gift, entertainment or other unlawful expenses relating to political activity; (ii) made or taken an act in furtherance of an offer, promise or authorization of any direct or indirect unlawful payment or benefit to any domestic government official, "foreign official" (as defined in the U.S. Foreign Corrupt Practices Act of 1977, as amended, and the rules and regulations thereunder (collectively, the "FCPA")) or government employee, including of any government-owned or controlled entity or a public international organization, or any person acting in an official capacity for or on behalf of any of the foregoing, or any political party or party official or candidate for political office; (iii) violated or is in violation of any provision of the FCPA or any applicable law or regulation implementing the OECD Convention on Combating Bribery of Foreign Public Officials in International Business

Transactions, or committed an offence under the Bribery Act of 2010 of the United Kingdom, or any other applicable non-U.S. anti-bribery or anti-corruption laws; or (iv) made, offered, agreed, requested or taken an act in furtherance of any unlawful or improper bribe, rebate, payoff, influence payment, kickback or other unlawful payment or benefit; and the Company and its subsidiaries and, to the Company's knowledge, its affiliates have conducted their respective businesses in compliance with applicable anti-bribery and anti-corruption laws and have instituted and maintain and continue to maintain policies and procedures designed to ensure, and which are reasonably expected to continue to ensure, continued compliance with such laws and with the representation and warranty contained herein.

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

(xxxv) Sanctions Laws. Neither the Company nor its subsidiaries, or any of their respective directors, officers or employees or, to the knowledge of the Company, any agent, affiliate or other person associated with or acting on behalf of the Company or its subsidiaries is currently subject to or the target of any U.S. sanctions administered by the U.S. Government (including, without limitation, the Office of Foreign Assets Control of the U.S. Department of the Treasury or the U.S. Department of State and including, without limitation, the designation as a "specially designated national" or "blocked person"), the United Nations Security Council, the European Union, His Majesty's Treasury or other relevant sanctions authority (collectively, "**Sanctions**"), nor is the Company or its subsidiaries located, organized or resident in a country or territory that is subject to or the target of Sanctions, including, without limitation, Cuba, Iran, North Korea, Syria, and the Crimea, Donetsk People's Republic, and Luhansk People's Republic regions in Ukraine (each, a "**Sanctioned Country**"); and the Company and its subsidiaries will not directly or indirectly use the proceeds of this offering, or lend, contribute or otherwise make available such proceeds to any joint venture partner or other person or entity, for the purpose of (i) financing or facilitating the activities of or business with any person that currently is subject to or the target of any Sanctions, (ii) financing or facilitating any activities of or business in any Sanctioned Country or (iii) financing or using such proceeds in any other manner that will result in a violation by any person (including any person participating in the transaction whether as underwriter, advisor, investor or otherwise) of Sanctions. For the past five years, each of the Company and its subsidiaries has not engaged in, is not now engaged in, and will not engage in, any dealings or transactions with any person that at the time of the dealing or transaction is or was subject to or the target of Sanctions or with any Sanctioned Country.

(xxxvi) Brokers. Except pursuant to this Agreement, there is no broker, finder or other party that is entitled to receive from the Company or its subsidiaries any brokerage or finder's fee or other fee or commission as a result of any transactions contemplated by this Agreement.

(xxxvii) 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 or incorporated by reference 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.

(xxxviii) No Outstanding Loans or Other Extensions of Credit. The Company does not have any outstanding extension of credit, in the form of a personal loan, to or for any director or executive officer (or equivalent thereof) of the Company except for such extensions of credit as are expressly permitted by Section 13(k) of the Exchange Act.

(xxxix) Emerging Growth Company Status. The Company is an “emerging growth company,” as defined in Section 2(a) of the Securities Act (an “**Emerging Growth Company**”) until December 31, 2022.

(xl) Communications. The Company (i) has not alone engaged in communications with potential investors in reliance on Section 5(d) of the Securities Act other than Permitted Section 5(d) Communications with the consent of the Representative with entities that are QIBs or IAs and (ii) has not authorized anyone other than the Representative to engage in such communications; the Company reconfirms that the Representative has been authorized to act on its behalf in undertaking Marketing Materials, Section 5(d) Oral Communications and Section 5(d) Written Communications; as of the Applicable Time, each Permitted Section 5(d) Communication, when considered together with the Time of Sale Prospectus, did not, as of the Applicable Time, 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 under which they were made, not misleading; and each Permitted Section 5(d) Communication, if any, does not, as of the date hereof, conflict with the information contained or incorporated by reference in the Registration Statement, the Preliminary Prospectus and the Prospectus.

(xli) Clinical Data and Regulatory Compliance. The preclinical tests and clinical trials, and other studies (collectively, “studies”) that are described in, or the results of which are referred to in, the Registration Statement, the Time of Sale Prospectus or the Prospectus were and, if still pending, are being conducted in all material respects in accordance with the protocols, procedures and controls designed and approved for such studies and with standard medical and scientific research procedures; each description of the results of such studies is accurate and complete in all material respects and fairly presents the data derived from such studies, and the Company and its subsidiaries have no knowledge of any other studies the results of which are inconsistent with, or otherwise call into question, the results described or referred to or incorporated by reference in the Registration Statement, the Time of Sale Prospectus or the Prospectus; the Company and its subsidiaries have made all such filings and obtained all such approvals as may be required by the Food and Drug Administration of the U.S. Department of Health and Human Services or any committee thereof or from any other U.S. or foreign government or drug or medical device regulatory agency, or health care facility Institutional Review Board (collectively, the “**Regulatory Agencies**”), except where such failure or non-compliance would not reasonably be expected, individually or in the aggregate, to result in a Material Adverse Effect; neither the Company nor any of its subsidiaries has received any notice of, or correspondence from, any Regulatory Agency requiring the termination, suspension or modification of any clinical trials that are described or referred to or incorporated by reference in the Registration Statement, the Time of Sale Prospectus or the Prospectus; and the Company and its subsidiaries have each operated and currently are in compliance in all material respects with all applicable rules, regulations and policies of the Regulatory Agencies.

(xlii) Compliance with Health Care Laws. The Company and its subsidiaries are, and at all times have been, in compliance with all Health Care Laws, except where failure to be so in compliance would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect. For purposes of this Agreement, “Health Care Laws” means: (i) the

Federal Food, Drug, and Cosmetic Act (21 U.S.C. Section 301 et seq.) and the regulations promulgated thereunder; (ii) all applicable federal, state, local and foreign health care related fraud and abuse laws, including, without limitation, the U.S. Anti-Kickback Statute (42 U.S.C. Section 1320a-7b(b)), the Civil Monetary Penalties Laws (42 U.S.C. Section 1320a-7a), the U.S. Civil False Claims Act (31 U.S.C. Section 3729 et seq.), all applicable federal, state, local and foreign criminal laws relating to health care fraud and abuse, including but not limited to 18 U.S.C. Sections 286 and 287, and the health care fraud criminal provisions under the U.S. Health Insurance Portability and Accountability Act of 1996 (“**HIPAA**”) (42 U.S.C. Section 1320d et seq.), the exclusion laws (42 U.S.C. Section 1320a-7), the statutes, regulations and directives of applicable government funded or sponsored healthcare programs, and the regulations promulgated pursuant to such statutes; (iii) the Physician Payments Sunshine Act (42 U.S.C. Section 1320-7h); (iv) HIPAA, as amended by the Health Information Technology for Economic and Clinical Health Act (42 U.S.C. Section 17921 et seq.), and the data privacy and security regulations promulgated thereunder; (v) the Patient Protection and Affordable Care Act of 2010 (Pub. Law 111-148), as amended by the Health Care and Education Affordability Reconciliation Act of 2010 (Pub. Law 111-152), the regulations promulgated thereunder; (vi) the U.S. Controlled Substances Act (21 U.S.C. Section 801 et seq.); (vii) quality, safety and accreditation requirements under applicable federal, state, local or foreign laws or regulatory bodies, including, but not limited to, all laws applicable to ownership, testing, development, manufacture, packaging, processing, use, distribution, marketing, advertising, labeling, promotion, sale, offer for sale, storage, import, export or disposal of any product manufactured or distributed by the Company; and (viii) all other local, state, federal, national, supranational and foreign laws, relating to the regulation of the Company or its subsidiaries. Neither the Company nor its subsidiaries have received written notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from any court or arbitrator or governmental or regulatory authority or third party alleging that any product operation or activity is in violation of any Health Care Laws nor, to the Company’s knowledge, is any such claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action threatened. Except as would not reasonably be expected, individually or in the aggregate, to result in a Material Adverse Effect, the Company and its subsidiaries have filed, maintained or submitted all material reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Health Care Laws, and all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were complete and accurate on the date filed in all material respects (or were corrected or supplemented by a subsequent submission). Neither the Company nor its subsidiaries are a party to any corporate integrity agreements, monitoring agreements, consent decrees, settlement orders, or similar agreements with or imposed by any governmental or regulatory authority. Additionally, neither the Company, its subsidiaries nor any of their respective employees, officers or directors has been excluded, suspended or debarred from participation in any U.S. federal health care program or human clinical research or, to the knowledge of the Company, is subject to a governmental inquiry, investigation, proceeding, or other similar action that would reasonably be expected to result in debarment, suspension, or exclusion.

(xl) *Compliance with Data Privacy Laws*. To the Company’s knowledge, the Company and its subsidiaries are, and at all prior times were, in material compliance with all applicable state and federal data privacy and security laws and regulations (collectively, the “**Privacy Laws**”), except where failure to be so in compliance would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect. Except where failure to do so would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect, the Company and its subsidiaries have in place, comply with, and take commercially reasonable steps reasonably designed to comply in all material respects with their policies and procedures relating to data privacy and security and the collection, storage, use, disclosure, handling, and analysis of Personal Data (as defined below) (the “**Policies**”). Except where failure to do so

would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect, the Company and its subsidiaries have at all times made all disclosures to users or customers required by the Privacy Laws, and none of such disclosures made or contained in any Policy have, to the knowledge of the Company, been materially inaccurate or in violation of any Privacy Laws in any material respect. Except as would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect, the Company further certifies that neither it nor any subsidiary: (i) has received written notice of any actual or potential liability under or relating to, or actual or potential violation of, any of the Privacy Laws, (ii) is currently conducting or paying for, in whole or in part, any investigation, remediation, or other corrective action pursuant to any Privacy Law; or (iii) is a party to any order, decree, or agreement from or with a governmental or regulatory authority or agency that imposes any obligation or liability under any Privacy Law.

(xlv) *Cybersecurity*. Except where failure to do so would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect, to the Company's knowledge, the Company and its subsidiaries' 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 and its subsidiaries as currently conducted, free and clear of all material bugs, errors, defects, Trojan horses, time bombs, malware and other corruptants. Except where failure to do so would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect, the Company and its subsidiaries have implemented and maintained commercially reasonable physical, technical and administrative controls, policies, procedures, and safeguards to maintain and protect their material confidential information and the integrity, continuous operation, redundancy and security of all IT Systems and data, including "Personal Data," used in connection with their businesses. "Personal Data" means (i) a natural person's name, street address, telephone number, e-mail address, photograph, social security number or tax identification number, driver's license number, passport number, credit card number, bank information, or customer or account number; (ii) any information which would qualify as "personally identifying information" under the Federal Trade Commission Act, as amended; (iii) if applicable to the Company, "personal data" as defined by EU General Data Protection Regulation ("*GDPR*"); (iv) if applicable to the Company, any information which would qualify as "protected health information" under 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. Except as would not reasonably be expected, individually or in the aggregate, to have a Material Adverse Effect, to the Company's knowledge, there have been no breaches, violations, outages or unauthorized uses of or accesses to same, except for those that have been remedied without material cost or liability or the duty to notify any other person, nor any incidents under internal review or investigations relating to the same. The Company and its subsidiaries are presently in material compliance with all applicable laws or statutes and all judgments, orders, rules and regulations of any court or arbitrator or governmental or regulatory authority, internal policies and contractual obligations relating to the privacy and security of IT Systems and Personal Data and to the protection of such IT Systems and Personal Data from unauthorized use, access, misappropriation or modification, except where the failure to be in compliance would not reasonably be expected to have a Material Adverse Effect.

(xlv) *No Contract Terminations*. Neither the Company nor any of its subsidiaries has sent or received any communication regarding termination of, or intent not to renew, any of the contracts or agreements referred to or described in any preliminary prospectus, the Prospectus or any free writing prospectus, or referred to or described in, or filed as an exhibit to, the Registration Statement, and no such termination or non-renewal has been threatened by the Company or any of its subsidiaries or, to the Company's knowledge, any other party to any such

contract or agreement, which threat of termination or non-renewal has not been rescinded as of the date hereof.

(xlvi) Dividend Restrictions. No subsidiary of the Company is prohibited or restricted, directly or indirectly, from paying dividends to the Company, or from making any other distribution with respect to such subsidiary's equity securities or from repaying to the Company or any other subsidiary of the Company any amounts that may from time to time become due under any loans or advances to such subsidiary from the Company or from transferring any property or assets to the Company or to any other subsidiary, except, in each case, for such restrictions or prohibitions imposed under applicable laws or pursuant to the Company's note purchase agreement entered into with funds managed by Pharmakon Advisors, LP disclosed or incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus.

(xlvii) No Indebtedness. Except as otherwise disclosed or incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus, the Company and its subsidiaries have no outstanding indebtedness other than intercompany debt.

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

The Company has a reasonable basis for making each of the representations set forth in this Section 2. The Company acknowledges that the Underwriters and, for purposes of the opinions to be delivered pursuant to Section 5 hereof, counsel to the Company and counsel to the Underwriters, will rely upon the accuracy and truthfulness of the foregoing representations and hereby consents to such reliance.

### 3. ***Purchase, Sale and Delivery of the Securities.***

(a) Firm Shares and Common Warrants. On the basis of the representations, warranties and agreements herein contained, but subject to the terms and conditions herein set forth, the Company agrees to issue and sell the Firm Securities to the Underwriters, and each Underwriter agrees, severally and not jointly, to purchase from the Company the number of Firm Securities set forth opposite the name of such Underwriter in Schedule I hereto, each at a purchase price for one Share and one accompanying Common Warrant of \$1.7766 per Firm Share and \$0.0094 per accompanying Common Warrant, respectively. In making this Agreement, each Underwriter is contracting severally and not jointly; except as provided in paragraph (d) of this Section 3 and in Section 8 hereof, the agreement of each Underwriter is to purchase only the respective number of Firm Securities specified in Schedule I.

The Firm Securities will be delivered by the Company to you for the accounts of the Underwriters against payment of the purchase price therefor by wire transfer of same day funds payable to the order of the Company at the offices of Piper Sandler & Co., U.S. Bancorp Center, 800 Nicollet Mall, Minneapolis, Minnesota, or such other location as may be mutually acceptable, at 9:00 a.m. Central time on the second (or if the Firm Securities are priced, as contemplated by Rule 15c6-1(c) under the Exchange Act, after 4:30 p.m. Eastern time, the third) full business day following the date hereof, or at such other time and date as you and the Company determine pursuant to Rule 15c6-1(a) under the Exchange Act, such time and date of delivery being herein referred to as the "***First Closing Date***."

(b) Option Shares and Option Warrants. On the basis of the representations, warranties and agreements herein contained, but subject to the terms and conditions herein set forth, the Company hereby grants to the Underwriters an option to (i) purchase, severally and not

jointly, all or any portion of the Option Shares at the same purchase price per share as the Underwriters shall pay for the Firm Shares, (ii) purchase, severally and not jointly, all or any portion of the Option Warrants at the same purchase price per Warrant to be paid by the Underwriters for the Common Warrants, for use solely in covering any over-allotments made by the Underwriters in the sale and distribution of the Firm Securities. The option granted hereunder may be exercised in whole or in part at any time (but not more than once) within 30 days after the effective date of this Agreement upon notice (confirmed in writing) by the Representative to the Company setting forth the aggregate number of Option Shares and/or Option Warrants as to which the Underwriters are exercising the option, the names and denominations in which such Option Shares and/or Option Warrants are to be registered and the date and time, as determined by you, when the Option Shares and/or Option Warrants are to be delivered, such time and date being herein referred to as the "Second Closing" and "Second Closing Date," respectively; provided, however, that the Second Closing Date shall not be earlier than the First Closing Date nor earlier than the second business day after the date on which the option shall have been exercised. The number of Option Shares and/or Option Warrants to be purchased by each Underwriter shall be the same percentage of the total number of Option Shares and/or Option Warrants to be purchased by the Underwriters as the number of Firm Shares and/or Common Warrants to be purchased by such Underwriter is of the total number of Firm Shares and/or Common Warrants to be purchased by the Underwriters, as adjusted by the Representative in such manner as the Representative deems advisable to avoid fractional shares. No Option Shares or Option Warrants shall be sold and delivered unless the Firm Shares or Common Warrants, respectively, have previously been, or simultaneously are, sold and delivered.

The Option Shares and/or Option Warrants will be delivered by the Company to you for the accounts of the Underwriters against payment of the purchase price therefor by wire transfer of same day funds payable to the order of the Company at the offices of Piper Sandler & Co., U.S. Bancorp Center, 800 Nicollet Mall, Minneapolis, Minnesota, or such other location as may be mutually acceptable at 9:00 a.m., Central time, on the Second Closing Date.

(c) Delivery. If the Representative so elects, delivery of the Firm Securities or the Option Securities may be made by credit through full fast transfer to the accounts at DTC designated by the Representative. The Firm Securities or the Option Securities, as the case may be, shall be in such denominations and registered in such names as you have set forth in your notice of option exercise, or evidence of their issuance, will be made available for checking at a reasonable time preceding the First Closing Date or the Second Closing Date, as applicable, at the office of Piper Sandler & Co., 800 Nicollet Mall, Minneapolis, Minnesota, or such other location as may be mutually acceptable. In the event that the Firm Securities (and Option Securities, if elected by the Representative) are not delivered to the Representative by 2:30 p.m., New York City time, on the First Closing Date (and the Second Closing Date, if elected by the Representative), the Company will return payment of the full purchase price to the Representative's agent, Pershing LLC, via same day funds by 4:30 p.m., New York City time. The Company shall remain liable to Pershing LLC for the full amount of the purchase price and any costs associated with recovering the purchase price until the full amount has been received by Pershing LLC.

(1) Purchase by Representative on Behalf of Underwriters. It is understood that you, individually and not as Representative of the Underwriters, may (but shall not be obligated to) make payment to the Company, on behalf of any Underwriter, for the Securities to be purchased by such Underwriter. Any such payment by you shall not relieve any such Underwriter of any of its obligations hereunder. Nothing herein contained shall constitute any of the Underwriters an unincorporated association or partner with the Company.

4. ***Covenants of the Company.***

The Company covenants and agrees with the Underwriters as follows:

(i) ***Required Filings.*** During the period beginning on the date hereof and ending on the later of the Second Closing Date or such date, as in the opinion of counsel for the Underwriters, the Prospectus is no longer required by law to be delivered (assuming the absence of Rule 172 under the Securities Act), in connection with sales by an Underwriter or dealer (the “***Prospectus Delivery Period***”), prior to amending or supplementing the Registration Statement (including any Rule 462(b) Registration Statement), the Time of Sale Prospectus or the Prospectus, the Company shall furnish to the Representative for review a copy of each such proposed amendment or supplement, and the Company shall not file any such proposed amendment or supplement to which the Representative or counsel to the Underwriters reasonably object. Subject to this Section 4(i), immediately following execution of this Agreement, the Company will prepare the Prospectus containing the Rule 430B Information and other selling terms of the Securities, the plan of distribution thereof and such other information as may be required by the Securities Act or the Rules and Regulations or as the Representative and the Company may deem appropriate, and if requested by the Representative, an issuer free writing prospectus containing the selling terms of the Securities and such other information as the Company and the Representative may deem appropriate, and will file or transmit for filing with the Commission, in accordance with Rule 424(b) or Rule 433, as the case may be, copies of the Prospectus and each issuer free writing prospectus.

(ii) ***Notification of Certain Commission Actions.*** After the date of this Agreement and until completion of the Prospectus Delivery Period, the Company shall promptly advise the Representative in writing, which may be by email, of (A) the receipt of any comments of, or requests for additional or supplemental information from, the Commission relating to the Registration Statement, (B) 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, (C) the time and date that any post-effective amendment to the Registration Statement becomes effective, (D) the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto or of any order preventing or suspending its use or the use of any Preliminary Prospectus, the Time of Sale Prospectus, the Prospectus or any issuer free writing prospectus, or (E) any proceedings to remove, suspend or terminate from listing or quotation the Common Stock from any securities exchange upon which it is 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 as soon as reasonably practicable. Additionally, the Company agrees that it shall comply with the applicable provisions of Rules 424(b), 430A and 430B under the Securities Act and will use its reasonable efforts to confirm that any filings made by the Company under Rule 424(b), Rule 433 or Rule 462 were received in a timely manner by the Commission (without reliance on Rule 424(b)(8) or Rule 164(b)).

(iii) ***Continued Compliance with Securities Laws.*** (A) During the Prospectus Delivery Period, the Company will comply as far as it is able with all requirements imposed upon it by the Securities Act, as now and hereafter amended, and by the Rules and Regulations, as from time to time in force, and by the Exchange Act so far as necessary to permit the continuance of sales of or dealings in the Securities as contemplated by the provisions hereof, the Time of Sale Prospectus and the Prospectus. If during such period any event occurs as a result of which the Prospectus (or if the Prospectus is not yet available to prospective purchasers, the Time of Sale Prospectus) would include an untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances then existing, not

misleading, or if during such period it is necessary or appropriate in the opinion of the Company or its counsel or the Representative or counsel to the Underwriters to amend the Registration Statement or supplement the Prospectus (or, if the Prospectus is not yet available to prospective purchasers, the Time of Sale Prospectus) to comply with the Securities Act or to file under the Exchange Act any document which would be deemed to be incorporated by reference in the Prospectus in order to comply with the Securities Act or the Exchange Act, the Company promptly will (x) notify you of such untrue statement or omission, (y) amend the Registration Statement or supplement the Prospectus (or, if the Prospectus is not yet available to prospective purchasers, the Time of Sale Prospectus) or file such document (at the expense of the Company) so as to correct such statement or omission or effect such compliance, and (z) notify you when any amendment to the Registration Statement is filed or becomes effective or when any supplement to the Prospectus (or, if the Prospectus is not yet available to prospective purchasers, the Time of Sale Prospectus) is filed.

(B) If at any time following issuance of an issuer free writing prospectus there occurred or occurs an event or development as a result of which such issuer free writing prospectus conflicted or would conflict with the information contained in the Registration Statement, the Preliminary Prospectus or the Prospectus or included or would include an untrue statement of a material fact or omitted or would omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances prevailing at that subsequent time, not misleading, the Company (x) has promptly notified or promptly will notify the Representative of such conflict, untrue statement or omission, (y) has promptly amended or will promptly amend or supplement, at its own expense, such issuer free writing prospectus to eliminate or correct such conflict, untrue statement or omission, and (z) has notified or promptly will notify you when such amendment or supplement was or is filed with the Commission to the extent required to be filed by the Rules and Regulations.

(C) If, immediately prior to the third anniversary of the initial effective date of the Registration Statement, any of the Securities to be purchased pursuant to this Agreement remain unsold by the Underwriters, the Company will prior to that third anniversary file, if it has not already done so, a new shelf registration statement relating to the Securities, in a form satisfactory to the Representative, will use its best efforts to cause such registration statement to be declared effective within 180 days after that third anniversary, and will take all other action necessary or appropriate to permit the public offering and sale of the Securities to continue as contemplated in the expired registration statement relating to the Securities. References herein to the Registration Statement shall include such new shelf registration statement.

(iv) Blue Sky Qualifications. The Company shall endeavor in good faith to take or cause to be taken all reasonably necessary action to qualify the Securities for sale under the securities laws of such jurisdictions as you reasonably designate and to continue such qualifications in effect so long as required for the distribution of the Securities, except that the Company shall not be required in connection therewith to qualify as a foreign corporation (where not otherwise required) or to execute a general consent to service of process in any jurisdiction (where not otherwise required).

(v) Provision of Documents. Upon written request prior to end of the Prospectus Delivery Period, the Company will furnish, at its own expense, to the Underwriters and counsel for the Underwriters copies of the Registration Statement (which will include all consents and exhibits filed therewith), and to the Underwriters and any dealer each Preliminary Prospectus, the Time of Sale Prospectus, the Prospectus, any issuer free writing prospectus, and all amendments and supplements to such documents, in each case as soon as available and in such quantities as you may from time to time reasonably request.

(vi) Rule 158. The Company will make generally available to its security holders and to the Representative as soon as practicable, but in no event later than 15 months after the end of the Company's current fiscal quarter, an earnings statement (which need not be audited) covering a twelve-month period that shall satisfy the provisions of Section 11(a) of the Securities Act and Rule 158 of the Rules and Regulations, which earnings statement shall be deemed to have been made generally available by the Company if the Company is in compliance with its reporting obligations pursuant to the Exchange Act, if such compliance satisfies the conditions of Rule 158, and if such earnings statement is made available on EDGAR.

(vii) Payment and Reimbursement of Expenses. The Company, whether or not the transactions contemplated hereunder are consummated or this Agreement is terminated, will pay or cause to be paid (A) all expenses (including transfer taxes allocated to the respective transferees and any applicable stamp taxes) incurred in connection with the delivery to the Underwriters of the Securities, (B) all expenses and fees (including, without limitation, fees and expenses of the Company's accountants and counsel but not including fees of the Underwriters' counsel or consultants) in connection with the preparation, printing, filing, delivery, and shipping of the Registration Statement (including the financial statements therein and all amendments, schedules, and exhibits thereto), the Securities, each Preliminary Prospectus, the Time of Sale Prospectus, the Prospectus, any issuer free writing prospectus and any amendment thereof or supplement thereto, and the printing, delivery, and shipping of this Agreement and other underwriting documents, (C) the fees and expenses of any transfer agent or registrar, (D) listing fees, if any, (E) the cost and expenses of the Company relating to investor presentations or any "roadshow" undertaken in connection with marketing of the Securities, and (F) all other costs and expenses of the Company incident to the performance of its obligations hereunder that are not otherwise specifically provided for herein. If this Agreement is terminated by the Representative pursuant to Section 9 hereof or if the sale of the Securities provided for herein is not consummated by reason of any failure, refusal or inability on the part of the Company to perform any agreement on its or their part to be performed, or because any other condition of the Underwriters' obligations hereunder required to be fulfilled by the Company is not fulfilled, the Company will reimburse the Underwriters for all out-of-pocket accountable disbursements (including but not limited to fees and disbursements of counsel, printing expenses, travel expenses, postage, facsimile and telephone charges) incurred by the Underwriters in connection with their investigation, preparing to market and marketing the Securities or in contemplation of performing their obligations hereunder.

(viii) Use of Proceeds. The Company will apply the net proceeds from the sale of the Securities to be sold by it hereunder for the purposes set forth in the Time of Sale Prospectus and in the Prospectus.

(ix) Company Lock Up. The Company will not, without the prior written consent of Piper Sandler & Co., from the date of execution of this Agreement and continuing to and including the date 90 days after the date of the Prospectus (the "**Lock-Up Period**"): (i) sell, offer to sell, contract to sell or lend any 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 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 Securities); or (viii) publicly announce the intention to do any of the foregoing; *provided, however*, that the Company may (A) effect the transactions contemplated hereby, including the issuance of any Warrant Shares; (B) issue shares of Common Stock, options to purchase common stock or restricted stock units, or issue shares of Common Stock upon exercise or settlement of outstanding warrants, options or restricted stock units, in each case, pursuant to any stock option, stock bonus, employee stock purchase or other stock plan or arrangement described or incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus; (C) issue shares of Common Stock pursuant to the exercise, conversion or exchange of convertible or exchangeable securities; (D) file a registration statement on Form S-8 to register shares of Common Stock issuable pursuant to the terms of a stock option, stock bonus, employee stock purchase or other stock incentive plan or arrangement described or incorporated by reference in the Registration Statement, the Time of Sale Prospectus and the Prospectus; (E) issue shares of Common Stock in connection with any joint venture, commercial or collaborative relationship or the acquisition or license by the Company of the securities, businesses, property or other assets of another person or entity; provided, however, that in the case of clause (E), such shares of Common Stock shall not in the aggregate exceed 5% of the Company's outstanding shares of Common Stock on a fully diluted basis after giving effect to the sale of the Securities contemplated by this Agreement; and (F) assist any party subject to a Lock-Up Agreement in the establishment of a trading plan by such party pursuant to Rule 10b5-1 under the Exchange Act for the transfer of shares of Common Stock, provided that such plan does not provide for the transfer of shares of Common Stock during the Lock-Up Period, and the establishment of such plan does not require or otherwise result in any public filings or other public announcement of such plan during such Lock-Up Period and such plan is otherwise permitted to be implemented during the Lock-up Period pursuant to the terms of the Lock-Up Agreement, if any, between such party and the Underwriters in connection with the offering of the Securities. 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.

(x) Director and Officer Lock-Ups. The Company has caused to be delivered to you prior to the date of this Agreement a Lock-Up Agreement, from each individual listed on Schedule IV. The Company will enforce the terms of each Lock-Up Agreement and issue stop-transfer instructions to the transfer agent for the Common Stock with respect to any transaction or contemplated transaction that would constitute a breach of or default under the applicable Lock-Up Agreement.

(xi) No Market Stabilization or Manipulation. The Company has not taken and will not take, directly or indirectly, any action designed to or which would reasonably be expected to cause or result in, or which has constituted, the stabilization or manipulation of the price of any security of the Company to facilitate the sale or resale of the Securities.

(xii) SEC Reports. During the Prospectus Delivery Period, the Company will file on a timely basis with the Commission such periodic and special reports as required by the Rules and Regulations.

(xiii) Internal Controls. The Company and its subsidiaries will maintain such controls and other procedures, including without limitation those required by Sections 302 and 906 of the Sarbanes-Oxley Act and the applicable regulations thereunder, that are designed to provide reasonable assurance that information required to be disclosed by the Company in the 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 without limitation, controls and procedures designed to provide reasonable assurance that information

required to be disclosed by the Company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the Company's management, including its principal executive officer and its principal financial officer, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure, to provide reasonable assurance that material information relating to Company, including its subsidiaries, is made known to them by others within those entities.

(xiv) Sarbanes-Oxley. The Company and its subsidiaries will comply in all material respects with all applicable provisions of the Sarbanes-Oxley Act.

(xv) Free Writing Prospectuses. The Company represents and agrees that, unless it obtains the prior written consent of the Representative, and each Underwriter severally represents and agrees that, unless it obtains the prior written consent of the Company and the Representative, it has not made and will not make any offer relating to the Securities that would constitute an issuer free writing prospectus or that would otherwise constitute a free writing prospectus required to be filed with the Commission; provided that the prior written consent of the parties hereto shall be deemed to have been given in respect of the free writing prospectuses included in Schedule II. Any such free writing prospectus consented to by the Company and the Representative is hereinafter referred to as a "**Permitted Free Writing Prospectus**." The Company represents that it has treated or agrees that it will treat each Permitted Free Writing Prospectus as an issuer free writing prospectus, and has complied and will comply with the requirements of Rules 164 and 433 of the Rules and Regulations applicable to any Permitted Free Writing Prospectus. The Company agrees not to take any action that would result in the Company being required to file with the Commission under Rule 433(d) a free writing prospectus prepared by or on behalf of the Company that otherwise would not be required to be filed by the Company thereunder, but for the action of the Company. Each Underwriter severally represents and agrees that, (A) unless it obtains the prior written consent of the Company and the Representative, it has not distributed, and will not distribute any Section 5(d) Written Communication other than those listed on Schedule V, and (B) any Permitted Section 5(d) Communication undertaken by it was with entities that are qualified institutional buyers with the meaning of Rule 144A under the Act or institutions that are accredited investors within the meaning of Rule 501 under the Act.

(xvi) Emerging Growth Company. The Company will promptly notify the Representative if the Company ceases to be an Emerging Growth Company at any time prior to the completion of the distribution of Securities within the meaning of the Act.

5. **Conditions of Underwriters' Obligations**. The obligations of the Underwriters hereunder are subject to the accuracy, as of the date hereof and at each of the First Closing Date and, if applicable, the Second Closing Date (each, a "**Closing Date**") (as if made at such Closing Date), of and compliance with all representations, warranties and agreements of the Company contained herein, to the performance by the Company of its obligations hereunder and to the following additional conditions:

(a) Required Filings; Absence of Certain Commission Actions. If filing of the Prospectus, or any amendment or supplement thereto, or any issuer free writing prospectus, is required under the Securities Act or the Rules and Regulations, the Company shall have filed the Prospectus (or such amendment or supplement) or such issuer free writing prospectus with the Commission in the manner and within the time period so required (without reliance on Rule 424(b)(8) or Rule 164(b)); the Registration Statement shall remain effective; no stop order suspending the effectiveness of the Registration Statement or any part thereof, any Rule 462(b) Registration Statement, or any amendment thereof, nor suspending or preventing the use of the Time of Sale Prospectus, the Prospectus or any issuer free writing prospectus shall have been issued; no proceedings for the issuance of such an order shall have been initiated or threatened; any request of the Commission for additional information (to be included in the Registration

Statement, the Time of Sale Prospectus, the Prospectus, any issuer free writing prospectus or otherwise) shall have been complied with to your reasonable satisfaction.

(b) Continued Compliance with Securities Laws. No Underwriter shall have advised the Company that (i) the Registration Statement or any amendment thereof or supplement thereto contains an untrue statement of a material fact which, in your opinion, is material or omits to state a material fact which, in your opinion, is required to be stated therein or necessary to make the statements therein not misleading, or (ii) the Time of Sale Prospectus or the Prospectus, or any amendment thereof or supplement thereto, or any issuer free writing prospectus contains an untrue statement of fact which, in your opinion, is material, or omits to state a fact which, in your opinion, is material and is required to be stated therein, or necessary to make the statements therein, in light of the circumstances under which they are made, not misleading.

(c) Absence of Certain Events. Except as contemplated in the Time of Sale Prospectus and in the Prospectus, subsequent to the respective dates as of which information is given in the Time of Sale Prospectus, neither the Company nor any of its subsidiaries shall have incurred any material liabilities or obligations, direct or contingent, or entered into any material transactions, or declared or paid any dividends or made any distribution of any kind with respect to its capital stock; and there shall not have been any change in the capital stock (other than a change in the number of outstanding shares of Common Stock due to the issuance of shares upon the exercise of outstanding options or warrants or conversion of convertible securities), or any material change in the short-term or long-term debt of the Company (other than as a result of the conversion of convertible securities), or any issuance of options, warrants, convertible securities or other rights to purchase the capital stock of the Company or any of its subsidiaries, or any Material Adverse Effect or any development that would reasonably be expected to result in a Material Adverse Effect (whether or not arising in the ordinary course of business), or any loss by strike, fire, flood, earthquake, accident or other calamity, whether or not covered by insurance, incurred by the Company or any subsidiary, the effect of which, in any such case described above, in your judgment, makes it impractical or inadvisable to offer or deliver the Securities on the terms and in the manner contemplated in the Time of Sale Prospectus and in the Prospectus.

(d) No Downgrade. On or after the Time of Sale (i) no downgrading shall have occurred in the rating accorded any of the Company's securities by any "nationally recognized statistical organization," as that term is defined by the Commission for purposes of Rule 436(g)(2) under the Securities Act, and (ii) no such organization shall have publicly announced that it has under surveillance or review, with possible negative implications, its rating of any of the Company's securities.

(e) Opinion of Company Counsel. On each Closing Date, there shall have been furnished to you, as Representative of the Underwriters, the opinion and negative assurance letter of Hogan Lovells US LLP, outside counsel for the Company, dated such Closing Date, in form and substance satisfactory to the Representative.

(f) Opinion of Intellectual Property Counsel. On each Closing Date, there shall have been furnished to you, as Representative of the Underwriters, the opinion of Global Patent Group, LLC, intellectual property counsel for the Company, dated such Closing Date, in form and substance satisfactory to the Representative.

(g) Opinion of Underwriters' Counsel. On each Closing Date, there shall have been furnished to you, as Representative of the Underwriters, the opinion and negative assurance letter from Cooley LLP, counsel for the Underwriters, dated such Closing Date, in form and substance satisfactory to the Representative, and such counsel shall have received such papers and information as they request to enable them to pass upon such matters.

(h) Comfort Letter. On the date hereof, on the effective date of any post-effective amendment to the Registration Statement filed after the date hereof and on each Closing Date you, as Representative of the Underwriters, shall have received an accountant's "comfort" letter of Ernst & Young LLP, dated such date and addressed to you, in form and substance satisfactory to you.

(i) Officers' Certificate. On each Closing Date, there shall have been furnished to you, as Representative of the Underwriters, a certificate, dated such Closing Date and addressed to you, signed by the chief executive officer and by the chief financial officer of the Company, to the effect that:

(i) The representations and warranties of the Company in this Agreement are true and correct as if made at and as of such Closing Date, and the Company has complied with all the agreements and satisfied all the conditions on its part to be performed or satisfied at or prior to such Closing Date;

(ii) No stop order or other order suspending the effectiveness of the Registration Statement or any part thereof or any amendment thereof or the qualification of the Securities for offering or sale nor suspending or preventing the use of the Time of Sale Prospectus, the Prospectus or any issuer free writing prospectus, has been issued, and no proceeding for that purpose has been instituted or, to the best of their knowledge, is contemplated by the Commission or any state or regulatory body; and

(iii) Affirms the accuracy of the matters set forth in subsection (c) of this Section 5.

(a) Lock-Up Agreement. The Underwriters shall have received all of the Lock-Up Agreements referenced in Section 4 and the Lock-Up Agreements shall remain in full force and effect.

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

(c) Other Documents. The Company shall have furnished to you and counsel for the Underwriters such additional documents, certificates and evidence as you or they may have reasonably requested related to the issuance of the Securities.

(d) Exchange Listing. The Company shall have filed a listing of additional shares notification with Nasdaq with respect to all of the Securities and received notification from Nasdaq that such filing has been submitted.

(e) Warrant Agent Agreement. The Underwriters shall have received a copy, duly executed by the Company and the Warrant Agent, of the Warrant Agent Agreement. There shall exist no event or condition which would constitute a default or an event of default under the Warrant Agent Agreement.

(f) Registration Statement. The Company shall, at all times while any Warrants are outstanding, use its commercially reasonable best efforts to maintain a registration statement covering the issue and sale of the Warrant Shares upon exercise of the Warrants such that the Warrant Shares, when issued, will not be subject to resale and restrictions under the Act except to the extent that the Warrant Shares are owned by affiliates.

(g) Reserve. The Company shall, at all times while any Warrants are outstanding, reserve and keep available out of the aggregate of its authorized but unissued and otherwise unreserved Common Stock, solely for the purpose of enabling it to issue Warrant Shares upon exercise of such Warrants, the number of Warrant Shares that are initially issuable and deliverable upon the then-outstanding Warrants.

All such opinions, certificates, letters and other documents will be in compliance with the provisions hereof only if they are reasonably satisfactory in form and substance to you and counsel for the Underwriters. The Company will furnish you with such conformed copies of such opinions, certificates, letters and other documents as you shall reasonably request.

6. ***Indemnification and Contribution.***

(j) Indemnification by the Company. The Company agrees to indemnify and hold harmless each Underwriter, its affiliates, directors and officers and each person, if any, who controls such Underwriter within the meaning of Section 15 of the Act or Section 20 of the Exchange Act, from and against any losses, claims, damages or liabilities, joint or several, to which such Underwriter may become subject, under the Act or otherwise (including in settlement of any litigation if such settlement is effected with the written consent of the Company), insofar as such losses, claims, damages or liabilities (or actions in respect thereof) arise out of or are based upon: (i) an untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, including the 430A Information and any other information deemed to be a part of the Registration Statement at the time of effectiveness and at any subsequent time pursuant to the Rules and Regulations, if applicable, any Preliminary Prospectus, the Time of Sale Prospectus, the Prospectus, or any amendment or supplement thereto, any issuer free writing prospectus, any issuer information that the Company has filed or is required to file pursuant to Rule 433(d) of the Rules and Regulations, any roadshow materials, or any Permitted Section 5(d) Communication, (ii) the omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, or (iii) any investigation or proceeding by any governmental authority relating to or arising out of the matters described in the foregoing clauses (i) or (ii), whether commenced or threatened (whether or not any Underwriter is a target of or party to such investigation or proceeding), and will reimburse each Underwriter for any legal or other expenses reasonably incurred by it in connection with investigating or defending against such loss, claim, damage, liability or action as such expenses are incurred; *provided, however*, that the Company will not be liable in any such case to the extent that any such loss, claim, damage, liability or action arises out of or is based upon an untrue statement or alleged untrue statement or omission or alleged omission made in reliance upon and in conformity with written information furnished to the Company by you, or by any Underwriter through you, specifically for use in the preparation thereof; it being understood and agreed that the only information furnished by an Underwriter consists of the information described as such in Section 6(e).

(k) Indemnification by the Underwriters. Each Underwriter will, severally and not jointly, indemnify and hold harmless the Company, its affiliates, directors and officers and each person, if any, who controls the Company within the meaning of Section 15 of the Act and Section 20 of the Exchange Act, from and against any losses, claims, damages or liabilities to which the Company may become subject, under the Act or otherwise (including in settlement of any litigation, if such settlement is effected with the written consent of such Underwriter), insofar as such losses, claims, damages or liabilities (or actions in respect thereof) (i) arise out of or are based upon an untrue statement or alleged untrue statement of a material fact contained in the Registration Statement, any Preliminary Prospectus, the Time of Sale Prospectus, the Prospectus, or any amendment or supplement thereto, or any issuer free writing prospectus, or any issuer information that the Company has filed or is required to file pursuant to Rule 433(d) of the Rules and Regulations or any road show materials, or (ii) arise out of or are based upon the

omission or alleged omission to state therein a material fact required to be stated therein or necessary to make the statements therein not misleading, in each case to the extent, but only to the extent, that such untrue statement or alleged untrue statement or omission or alleged omission was made in reliance upon and in conformity with written information furnished to the Company by you, or by such Underwriter through you, specifically for use in the preparation thereof (it being understood and agreed that the only information furnished by an Underwriter consists of the information described as such in Section 6(e)), and will reimburse the Company for any legal or other expenses reasonably incurred by the Company in connection with investigating or defending against any such loss, claim, damage, liability or action as such expenses are incurred.

(l) Notice and Procedures. Promptly after receipt by an indemnified party under subsection (a) or (b) above of notice of the commencement of any action, such indemnified party shall, if a claim in respect thereof is to be made against the indemnifying party under such subsection, notify the indemnifying party in writing of the commencement thereof; but the omission so to notify the indemnifying party shall not relieve the indemnifying party from any liability that it may have to any indemnified party except to the extent such indemnifying party has been materially prejudiced by such failure (through the forfeiture of substantive rights or defenses). In case any such action shall be brought against any indemnified party, and it shall notify the indemnifying party of the commencement thereof, the indemnifying party shall be entitled to participate in, and, to the extent that it shall wish, jointly with any other indemnifying party similarly notified, to assume the defense thereof, with counsel satisfactory to such indemnified party, and after notice from the indemnifying party to such indemnified party of the indemnifying party's election so to assume the defense thereof, the indemnifying party shall not be liable to such indemnified party under such subsection for any legal or other expenses subsequently incurred by such indemnified party in connection with the defense thereof other than reasonable costs of investigation; *provided, however*, that if, in the sole judgment of the Representative, it is advisable for the Underwriters to be represented as a group by separate counsel, the Representative shall have the right to employ a single counsel (in addition to local counsel) to represent the Representative and all Underwriters who may be subject to liability arising from any claim in respect of which indemnity may be sought by the Underwriters under subsection (a) of this Section 6, in which event the reasonable fees and expenses of such separate counsel shall be borne by the indemnifying party or parties and reimbursed to the Underwriters as incurred. An indemnifying party shall not be obligated under any settlement agreement relating to any action under this Section 6 to which it has not agreed in writing. In addition, no indemnifying party shall, without the prior written consent of the indemnified party (which consent shall not be unreasonably withheld or delayed, effect any settlement of any pending or threatened proceeding unless such settlement includes an unconditional release of such indemnified party for all liability on claims that are the subject matter of such proceeding and does not include a statement as to, or an admission of, fault, culpability or a failure to act by or on behalf of an indemnified party. Notwithstanding the foregoing sentence, if at any time an indemnified party shall have requested an indemnifying party to reimburse the indemnified party for fees and expenses of counsel as contemplated by this Section 6(c) hereof, the indemnifying party shall be liable for any settlement of any proceeding effected without its written consent if (i) such settlement is entered into more than 30 days after receipt by such indemnifying party of the aforesaid request together with the terms of such settlement and (ii) such indemnifying party shall not have reimbursed the indemnified party in accordance with such request prior to the date of such settlement; *provided*, that an indemnifying party shall not be liable for any such settlement effected without its consent if such indemnifying party, prior to the date of such settlement, (1) reimburses such indemnified party in accordance with such request for the amount of such fees and expenses of counsel as the indemnifying party believes in good faith to be reasonable and owing in accordance with the provisions of this Section 6, and (2) provides written notice to the indemnified party that the indemnifying party disputes in good faith the reasonableness of the unpaid balance of such fees and expenses or its liability with respect thereto.

(m) Contribution; Limitations on Liability; Non-Exclusive Remedy. If the indemnification provided for in this Section 6 is unavailable or insufficient to hold harmless an indemnified party under subsection (a) or (b) above, then each indemnifying party shall contribute to the amount paid or payable by such indemnified party as a result of the losses, claims, damages or liabilities referred to in subsection (a) or (b) above, (i) in such proportion as is appropriate to reflect the relative benefits received by the Company on the one hand and the Underwriters on the other from the offering of the Securities or (ii) if the allocation provided by clause (i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in clause (i) above but also the relative fault of the Company on the one hand and the Underwriters on the other in connection with the statements or omissions that resulted in such losses, claims, damages or liabilities, as well as any other relevant equitable considerations. The relative benefits received by the Company on the one hand and the Underwriters on the other shall be deemed to be in the same proportion as the total net proceeds from the offering (before deducting expenses) received by the Company bears to the total underwriting discounts and commissions received by the Underwriters, in each case as set forth in the table on the cover page of the Prospectus. The relative fault shall be determined by reference to, among other things, whether the untrue or alleged untrue statement of a material fact or the omission or alleged omission to state a material fact relates to information supplied by the Company or the Underwriters and the parties' relevant intent, knowledge, access to information and opportunity to correct or prevent such untrue statement or omission. The Company and the Underwriters agree that it would not be just and equitable if contributions pursuant to this subsection (d) were to be determined by pro rata allocation (even if the Underwriters were treated as one entity for such purpose) or by any other method of allocation which does not take account of the equitable considerations referred to in the first sentence of this subsection (d). The amount paid by an indemnified party as a result of the losses, claims, damages or liabilities referred to in the first sentence of this subsection (d) shall be deemed to include any legal or other expenses reasonably incurred by such indemnified party in connection with investigating or defending against any action or claim which is the subject of this subsection (d). Notwithstanding the provisions of this subsection (d), no Underwriter shall be required to contribute any amount in excess of the amount by which the total underwriting discounts and commissions received by such Underwriter with respect to the Securities purchased by it hereunder exceeds the amount of any damages that such Underwriter has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The Underwriters' obligations in this subsection (d) to contribute are several in proportion to their respective underwriting obligations and not joint. The remedies provided for in this Section 6 are not exclusive and shall not limit any rights or remedies that might otherwise be available to any indemnified party at law or in equity.

(n) Information Provided by the Underwriters. The Underwriters severally confirm and the Company acknowledges that the statements with respect to the public offering of the Securities by the Underwriters set forth in the second, third and fourth paragraphs under the heading entitled "Price Stabilization, Short Positions and Penalty Bids," and the information under the heading entitled "Electronic Distribution," each under the caption "Underwriting" in the Time of Sale Prospectus and in the Prospectus are correct and constitute the only information concerning such Underwriters furnished in writing to the Company by or on behalf of the Underwriters specifically for inclusion in the Registration Statement, any Preliminary Prospectus, the Time of Sale Prospectus, the Prospectus or any issuer free writing prospectus.

7. Representations and Agreements to Survive Delivery. All representations, warranties, and agreements of the Company herein or in certificates delivered pursuant hereto, including but not limited to the agreements of the Underwriters and the Company contained in

Section 6 hereof, shall remain operative and in full force and effect regardless of any investigation made by or on behalf of any Underwriter or any controlling person thereof, or the Company or any of its officers, directors, or controlling persons, and shall survive delivery of, and payment for, the Securities to and by the Underwriters hereunder and any termination of this Agreement.

8. ***Substitution of Underwriters.***

(h) ***Obligation to Purchase Under Certain Circumstances.*** If any Underwriter or Underwriters shall fail to take up and pay for the amount of Firm Securities agreed by such Underwriter or Underwriters to be purchased hereunder, upon tender of such Firm Securities in accordance with the terms hereof, and the amount of Firm Securities not purchased does not aggregate to more than 10% of the total amount of Firm Securities set forth in Schedule I hereto, the remaining Underwriters shall be obligated to take up and pay for (in proportion to their respective underwriting obligations hereunder as set forth in Schedule I hereto except as may otherwise be determined by you) the Firm Securities that the withdrawing or defaulting Underwriters agreed but failed to purchase.

(i) ***Termination Under Certain Circumstances.*** If any Underwriter or Underwriters shall fail to take up and pay for the amount of Firm Securities agreed by such Underwriter or Underwriters to be purchased hereunder, upon tender of such Firm Securities in accordance with the terms hereof, and the amount of Firm Securities not purchased aggregates to more than 10% of the total amount of Firm Securities set forth in Schedule I hereto, and arrangements satisfactory to you for the purchase of such Firm Securities by other persons are not made within 36 hours thereafter, this Agreement shall terminate. In the event of any such termination, the Company shall not have any liability to any Underwriter (except to the extent provided in Section 4 (vii) and Section 6 hereof) nor shall any Underwriter (other than an Underwriter who shall have failed, otherwise than for some reason permitted under this Agreement, to purchase the amount of Firm Securities agreed by such Underwriter to be purchased hereunder) be under any liability to the Company (except to the extent provided in Section 6 hereof).

(j) ***Postponement of Closing.*** If Firm Securities to which a default relates are to be purchased by the non-defaulting Underwriters or by any other party or parties, the Representative or the Company shall have the right to postpone the First Closing Date for not more than seven business days in order that the necessary changes in the Registration Statement, in the Time of Sale Prospectus, in the Prospectus or in any other documents, as well as any other arrangements, may be effected. As used herein, the term "Underwriter" includes any person substituted for an Underwriter under this Section 8.

(k) ***No Relief from Liability.*** No action taken pursuant to this Section 8 shall relieve any defaulting Underwriter from liability, if any, in respect of such default.

9. ***Termination of this Agreement.***

(o) ***Right to Terminate.*** You, as Representative of the Underwriters, shall have the right to terminate this Agreement by giving notice to the Company as hereinafter specified at any time at or prior to the First Closing Date, and the option referred to in Section 3(b), if exercised, may be cancelled at any time prior to the Second Closing Date, if (i) the Company shall have failed, refused or been unable, at or prior to such Closing Date, to perform in any material respect any agreement on its or their part to be performed hereunder, (ii) any condition of the Underwriters' obligations hereunder is not fulfilled, (iii) trading in the Company's Common Stock shall have been suspended by the Commission or Nasdaq or trading in securities generally on Nasdaq or the New York Stock Exchange shall have been suspended, (iv) minimum or maximum prices for trading shall have been fixed, or maximum ranges for prices for securities

shall have been required, on Nasdaq or the New York Stock Exchange, by such Exchange or by order of the Commission or any other Governmental Authority having jurisdiction, (v) a banking moratorium shall have been declared by federal or New York state authorities or a material disruption in commercial banking or securities settlement or clearance services in the United States, or (vi) there shall have occurred any attack on, outbreak or escalation of hostilities or act of terrorism involving the United States, any declaration by the United States of a national emergency or war, any change in financial markets, any substantial change or development involving a prospective substantial change in United States or international political, financial or economic conditions, or any other calamity or crisis that, in your judgment, is material and adverse and makes it impractical or inadvisable to proceed with the completion of the sale of and payment for the Securities. Any such termination shall be without liability of any party to any other party except that the provisions of Section 4 (vii) and Section 6 hereof shall at all times be effective and shall survive such termination.

(p) Notice of Termination. If you elect to terminate this Agreement as provided in this Section, the Company shall be notified promptly by you by telephone, confirmed by letter.

(q) No Relief from Liability. No action taken pursuant to this Section 9 shall relieve the Company so defaulting from liability, if any, in respect of such default.

10. **Notices**. Except as otherwise provided herein, all communications hereunder shall be in writing and, if to the Underwriters, shall be mailed via overnight delivery service or hand delivered via courier to the Representative c/o Piper Sandler & Co., U.S. Bancorp Center, 800 Nicollet Mall, Minneapolis, Minnesota 55402, Attention: Equity Capital Markets, with a copy to Piper Sandler General Counsel at 800 Nicollet Mall, Minneapolis, MN 55402 and LegalCapMarkets@psc.com and a copy (which shall not constitute notice) to Cooley LLP, One Freedom Square, Reston Town Center, 11951 Freedom Drive, 14<sup>th</sup> Floor, Reston, VA 20191-5640, Attention: Brian F. Leaf; or if to the Company, shall be mailed or delivered to it at 1020 Stony Hill Road, Suite 300, Yardley, PA 19067, Attention: Chief Legal Officer, with a copy (which shall not constitute notice) to Hogan Lovells US LLP, 1735 Market Street, 23<sup>rd</sup> Floor, Philadelphia, PA 19103, Attention: Steven J. Abrams. Any 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.

11. **Persons Entitled to Benefit of Agreement**. This Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective successors and assigns and the controlling persons, officers and directors referred to in Section 6. Nothing in this Agreement is intended or shall be construed to give to any other person, firm or corporation any legal or equitable remedy or claim under or in respect of this Agreement or any provision herein contained. The term "successors and assigns" as herein used shall not include any purchaser, as such purchaser, of any of the Securities from any of the Underwriters.

12. **Absence of Fiduciary Relationship**. The Company acknowledges and agrees that: (a) the Representative has been retained solely to act as an underwriter in connection with the sale of the Securities and that no fiduciary, advisory or agency relationship between the Company and the Representative has been created in respect of any of the transactions contemplated by this Agreement, irrespective of whether the Representative has advised or is advising the Company on other matters; (b) the price and other terms of the Securities set forth in this Agreement were established by the Company following discussions and arms-length negotiations with the Representative and the Company is capable of evaluating and understanding and understands and accepts the terms, risks and conditions of the transactions contemplated by this Agreement; (c) it has been advised that the Representative and its affiliates are engaged in a broad range of transactions which may involve interests that differ from those of the Company and that the Representative has no obligation to disclose such interest and

transactions to the Company by virtue of any fiduciary, advisory or agency relationship; (d) it has been advised that the Representative is acting, in respect of the transactions contemplated by this Agreement, solely for the benefit of the Representative and the other Underwriters, and not on behalf of the Company; (e) it waives to the fullest extent permitted by law, any claims it may have against the Representative for breach of fiduciary duty or alleged breach of fiduciary duty in respect of any of the transactions contemplated by this Agreement and agrees that the Representative shall have no liability (whether direct or indirect) to the Company in respect of such a fiduciary duty claim on behalf of or in right of the Company, including stockholders, employees or creditors of the Company.

13. ***Recognition of the U.S. Special Resolution Regimes.***

(a) In the event that any Underwriter that is a Covered Entity becomes subject to a proceeding under a U.S. Special Resolution Regime, the transfer from such Underwriter of this Agreement, and any interest and obligation in or under this Agreement, will be effective to the same extent as the transfer would be effective under the U.S. Special Resolution Regime if this Agreement, and any such interest and obligation, were governed by the laws of the United States or a state of the United States.

(b) In the event that any Underwriter that is a Covered Entity or a BHC Act Affiliate of such Underwriter becomes subject to a proceeding under a U.S. Special Resolution Regime, Default Rights under this Agreement that may be exercised against such Underwriter are permitted to be exercised to no greater extent than such Default Rights could be exercised under the U.S. Special Resolution Regime if this Agreement were governed by the laws of the United States or a state of the United States.

(c) As used in this section:

“***BHC Act Affiliate***” has the meaning assigned to the term “affiliate” in, and shall be interpreted in accordance with, 12 U.S.C. § 1841(k);

“***Covered Entity***” means any of the following: (i) a “covered entity” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 252.82(b); (ii) a “covered bank” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 47.3(b); or (iii) a “covered FSI” as that term is defined in, and interpreted in accordance with, 12 C.F.R. § 382.2(b);

“***Default Right***” has the meaning assigned to that term in, and shall be interpreted in accordance with, 12 C.F.R. §§ 252.81, 47.2 or 382.1, as applicable; and

“***U.S. Special Resolution Regime***” means each of (i) the Federal Deposit Insurance Act and the regulations promulgated thereunder and (ii) Title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act and the regulations promulgated thereunder.

***Governing Law; Waiver of Jury Trial.*** This Agreement and any transaction contemplated by this Agreement and any claim, controversy or dispute arising under or related thereto shall be governed by and construed in accordance with the laws of the State of New York without regard to principles of conflict of laws that would result in the application of any other law than the laws of the State of New York. Any legal suit, action or proceeding arising out of or based upon this Agreement or the transactions contemplated hereby may be instituted in the federal courts of the United States of America located in the Borough of Manhattan in the City of New York or the courts of the State of New York in each case located in the Borough of Manhattan in the City of New York (collectively, the “***Specified Courts***”), and each party irrevocably submits to the exclusive jurisdiction (except for proceedings instituted in regard to

the enforcement of a judgment of any such court as to which such jurisdiction is non-exclusive) of such courts in any such suit, action or proceeding. Service of any process, summons, notice or document by mail to such party's address set forth above shall be effective service of process for any suit, action or other proceeding brought in any such court. The parties irrevocably and unconditionally waive any objection to the laying of venue of any suit, action or other proceeding in the Specified Courts and irrevocably and unconditionally waive and agree not to plead or claim in any such court that any such suit, action or other proceeding brought in any such court has been brought in an inconvenient forum. The Company (on its behalf and, to the extent permitted by applicable law, on behalf of its stockholders and affiliates) and each of the Underwriters 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.

14. **Counterparts.** This Agreement may be executed in one or more counterparts and, if executed in more than one counterpart, the executed counterparts shall each be deemed to be an original and all such counterparts shall together constitute one and the same instrument. Counterparts may be delivered via facsimile or electronic mail (including, without limitation, "pdf", "tif" or "jpg" or any electronic signature complying with the U.S. federal ESIGN Act of 2000, e.g., [www.docuSign.com](http://www.docuSign.com)) and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

15. **General Provisions.** This Agreement constitutes the entire agreement of the parties to this Agreement and supersedes all prior written or oral and all contemporaneous oral agreements, understandings and negotiations with respect to the subject matter hereof. This Agreement may not be amended or modified unless in writing by all of the parties hereto, and no condition herein (express or implied) may be waived unless waived in writing by each party whom the condition is meant to benefit. The Section headings herein are for the convenience of the parties only and shall not affect the construction or interpretation of this Agreement.

**[Signature Page Follows]**

Please sign and return to the Company the enclosed duplicates of this letter whereupon this letter will become a binding agreement between the Company and the Underwriters in accordance with its terms.

Very truly yours,

**OptiNose, Inc.**

By /s/ Peter K. Miller  
Name: Peter K. Miller  
Title: Chief Executive Officer

Confirmed as of the date first  
above mentioned, on behalf of  
themselves and the other  
Underwriters named in Schedule I  
hereto.

Piper Sandler & Co.

By /s/ Neil Riley  
Managing Director  
Equity Capital Markets

**SCHEDULE I**

| <u>Underwriter</u>        | <u>Number of Firm<br/>Shares<sup>(1)</sup></u> | <u>Number of<br/>Common Warrants</u> | <u>Number of<br/>Warrant Shares<br/>underlying the<br/>Common<br/>Warrants<sup>(2)</sup></u> | <u>Number of<br/>Option Shares<sup>(1)</sup></u> | <u>Number of<br/>Option Warrants</u> | <u>Number of<br/>Warrant Shares<br/>underlying the<br/>Option<br/>Warrants<sup>(2)</sup></u> |
|---------------------------|------------------------------------------------|--------------------------------------|----------------------------------------------------------------------------------------------|--------------------------------------------------|--------------------------------------|----------------------------------------------------------------------------------------------|
| Piper Sandler & Co.       | 17,108,000                                     | 17,108,000                           | 17,108,000                                                                                   | 2,566,200                                        | 2,566,200                            | 2,566,200                                                                                    |
| BMO Capital Markets Corp. | 4,606,000                                      | 4,606,000                            | 4,606,000                                                                                    | 690,900                                          | 690,900                              | 690,900                                                                                      |
| Cantor Fitzgerald & Co.   | 4,606,000                                      | 4,606,000                            | 4,606,000                                                                                    | 690,900                                          | 690,900                              | 690,900                                                                                      |
| <b>Total. ....</b>        | <b><u>26,320,000</u></b>                       | <b><u>26,320,000</u></b>             | <b><u>26,320,000</u></b>                                                                     | <b><u>3,948,000</u></b>                          | <b><u>3,948,000</u></b>              | <b><u>3,948,000</u></b>                                                                      |
| .....                     |                                                |                                      |                                                                                              |                                                  |                                      |                                                                                              |

- 
- (1) The Underwriters may purchase up to an additional 3,948,000 Option Shares, to the extent the option described in Section 3(b) of the Agreement is exercised, in the proportions and in the manner described in the Agreement.
- (2) The Underwriters may purchase up to an additional 3,948,000 Option Warrants, to the extent the option described in Section 3(b) of the Agreement is exercised, in the proportions and in the manner described in the Agreement.

**SCHEDULE II**

**Certain Permitted Free Writing Prospectuses**

None.

**SCHEDULE III**  
**Pricing Information**

Number of Firm Shares: 26,320,000

Number of Option Shares: 3,948,000

Number of Common Warrants: 26,320,000

Number of Option Warrants: 3,948,000

Combined public offering price per Firm Share and one accompanying Common Warrant: \$1.90 (\$1.89 per Firm Share and \$0.01 per Common Warrant)

Combined public offering price per Option Share and one accompanying Option Warrant: \$1.90 (\$1.89 per Option Share and \$0.01 per Option Warrant)

Common Warrant exercise price: \$2.565

Option Warrant exercise price: \$2.565

## **SCHEDULE IV**

### **List of Individuals Executing Lock-Up Agreements**

#### Executive Officers

- Peter K. Miller
- Ramy A. Mahmoud, M.D., M.P.H.
- Victor M. Clavelli
- Michele Janis
- Michael F. Marino
- Anthony Krick

#### Non-Employee Directors

- Joseph C. Scodari
- Eric Bednarski
- Kyle Dempsey
- R. John Fletcher
- Wilhelmus Groenhuysen
- Sandra L. Helton
- Tomas J. Heyman
- Catherine E. Owen

**SCHEDULE V**

**Permitted Section 5(d) Communications**

Investor presentation used in wall-cross marketing beginning November 14, 2022.

## EXHIBIT A

### Form of Lock-up Agreement

November \_\_\_\_, 2022

Piper Sandler & Co.  
800 Nicollet Mall, Suite 800  
Minneapolis, MN 55402  
RE: OptiNose, Inc. (the “**Company**”)

Ladies & Gentlemen:

The undersigned is an owner of shares of common stock, par value \$0.001 per share, of the Company (“**Shares**”) or of securities convertible into, exchangeable or exercisable for, or settled in Shares. The Company proposes to conduct a public offering of Shares to be sold by the Company (the “**Offering**”) for which Piper Sandler & Co. will act as representative (the “**Representative**”) of the underwriters. The undersigned recognizes that the Offering will benefit each of the Company and the undersigned. The undersigned acknowledges that the underwriters are relying on the representations and agreements of the undersigned contained in this letter agreement in conducting the Offering and entering into an underwriting agreement (the “**Underwriting Agreement**”) and other underwriting arrangements with the Company with respect to the Offering.

Annex A sets forth definitions for capitalized terms used in this letter agreement that are not defined in the body of this letter agreement. Those definitions are a part of this letter agreement.

In consideration of the foregoing, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the undersigned hereby agrees that, during the Lock-up Period, subject to the exceptions set forth in this letter agreement, the undersigned will not (and will cause any Family Member not to), without the prior written consent of the Representative, which consent may be withheld in its discretion:

- Sell or Offer to Sell any Shares or Related Securities currently or hereafter owned either of record or beneficially (as defined in Rule 13d-3 under the Exchange Act) by the undersigned or such Family Member,
- enter into any Swap,
- make any demand for, or exercise any right with respect to, the registration under the Securities Act of the offer and sale of any Shares or Related Securities, or cause to be filed a registration statement, prospectus or prospectus supplement (or an amendment or supplement thereto) with respect to any such registration, or
- publicly announce any intention to do any of the foregoing.

The foregoing will not apply to the registration of the offer and sale of the Shares, and the sale of the Shares to the underwriters, in each case as contemplated by the Underwriting

Agreement. In addition, the foregoing restrictions shall not apply to (i) sales of Shares acquired in the Offering or after the completion of the Offering or otherwise; provided that no filing under Section 16(a) of the Exchange Act shall be required or shall be voluntarily made in connection with such sales during the Lock-Up Period; (ii) the transfer of Shares or Related Securities by gift, (iii) the transfer of Shares or Related Securities by will or intestate succession to the legal representative, heir or beneficiary of the undersigned, (iv) the transfer of Shares or Related Securities to a trust whose beneficiaries consist exclusively of one or more of the undersigned and/or a member of the undersigned's Immediate Family, (v) transfers or dispositions of the undersigned's Shares or Related Securities to any corporation, partnership, limited liability company or other entity all of the beneficial ownership interests of which are held by the undersigned or any Family Member, (vi) distributions of Shares or Related Securities beneficially owned by the undersigned to limited partners, general partners, members, stockholders or other equityholders or affiliates of the undersigned, (vii) the transfer of Shares or Related Securities by operation of law, including pursuant to a domestic order or negotiated divorce settlement or (viii) if the undersigned is a corporation, partnership, limited liability company, trust or other business entity, the transfer of Shares or Related Securities to another corporation, partnership, limited liability company, trust or other business entity that is a direct or indirect affiliate (as defined in Rule 405 promulgated under the Securities Act) of the undersigned or to any investment fund or other entity controlled or managed by, or under common control or management as, the undersigned, provided that any such transfer or distribution set forth in (ii) through (vii) above shall not involve a disposition for value; *provided, however*, that in any such case set forth in (ii) through (vii) above, it shall be a condition to such transfer that:

- each transferee executes and delivers to the Representative an agreement in form and substance satisfactory to the Representative stating that such transferee is receiving and holding such Shares and/or Related Securities subject to the provisions of this letter agreement and agrees not to Sell or Offer to Sell such Shares and/or Related Securities, engage in any Swap or engage in any other activities restricted under this letter agreement during the Lock-Up Period except in accordance with this letter agreement (as if such transferee had been an original signatory hereto), and
- prior to the expiration of the Lock-up Period, no public disclosure or filing under the Exchange Act by any party to the transfer (donor, donee, transferor or transferee) shall be required, or made voluntarily, reporting a reduction in beneficial ownership of Shares or Related Securities in connection with such transfer, unless, in the case of a distribution excepted pursuant to clause (vi) above, such filing indicates in the footnotes thereto that the filing relates to a distribution to limited partners, general partners, members, shareholders or other equityholders or affiliates of the undersigned, as applicable, and that no Shares were sold to the public by the reporting person.

Furthermore, notwithstanding the restrictions imposed by this letter agreement, the undersigned may (i) exercise an option to purchase Shares granted under any equity incentive plan, receive Shares that vest under restricted stock units or purchase shares under any stock purchase plan of the Company, each existing as of the date of the Prospectus and described or incorporated by reference in the Prospectus, *provided* that the Shares issued upon such exercise or purchase shall continue to be subject to the restrictions on transfer set forth in this letter agreement, (ii) establish a trading plan pursuant to Rule 10b5-1 under the Exchange

Act for the transfer of Shares, *provided* that such plan does not provide for any transfers of Shares or Related Securities during the Lock-up Period and the entry into such plan is not publicly disclosed, including in any filing under the Exchange Act, during the Lock-up Period or (iii) Sell or transfer Shares or Related Securities (A) to satisfy tax withholding obligations of the undersigned in connection with the vesting, exercise or settlement of equity awards by the undersigned pursuant to the Company's equity incentive plan existing as of the date of the Prospectus and described or incorporated by reference in the Prospectus, (B) pursuant to a net exercise or cashless exercise (to satisfy exercise price or related withholding obligations) by the undersigned of outstanding equity awards pursuant to the Company's equity incentive plan existing as of the date of the Prospectus and described or incorporated by reference in the Prospectus, *provided* that any Shares acquired upon the net exercise or cashless exercise of equity awards described in this clause (B) shall be subject to the restrictions set forth in this letter agreement, (C) pursuant to a bona fide third-party tender offer for all outstanding shares of the Company, merger, consolidation or other similar transaction made to all holders of the Company's securities involving a change of control of the Company (including, without limitation, the entering into any lock-up, voting or similar agreement pursuant to which the undersigned may agree to transfer, sell, tender or otherwise dispose of common stock or other such securities in connection with such transaction, or vote any common stock or other such securities in favor of any transaction), *provided* that in the event that such tender offer, merger, consolidation or other such transaction is not completed, such securities held by the undersigned shall remain subject to the provisions of this letter agreement, (D) that may be deemed to have occurred as a result of the exercise of warrants, *provided* that the restrictions set forth in this letter agreement shall apply to any of the undersigned's Shares or Related Securities issued upon such exercise, or (E) covered by trading plans adopted pursuant to Rule 10b5-1 under the Exchange Act, copies of which have been provided to the Representative; *provided* that, in the case of a transfer pursuant to clause (A) or (B) above, if the undersigned is required to make a filing under the Exchange Act reporting a reduction in beneficial ownership of Shares during the Lock-up Period, the undersigned shall include a statement in such report to the effect that the purpose of such transfer was to cover tax obligations of the undersigned in connection with such exercise.

The undersigned also agrees and consents to the entry of stop transfer instructions with the Company's transfer agent and registrar against the transfer of Shares or Related Securities held by the undersigned and the undersigned's Family Members, if any, except in compliance with the foregoing restrictions.

With respect to the Offering only, the undersigned waives any registration rights relating to registration under the Securities Act of the offer and sale of any Shares and/or any Related Securities owned either of record or beneficially by the undersigned, including any rights to receive notice of the Offering.

The undersigned confirms that the undersigned has not, and has no knowledge that any Family Member has, directly or indirectly, taken any action designed to or that might reasonably be expected to cause or result in the stabilization or manipulation of the price of any security of the Company to facilitate the sale of the Shares. The undersigned will not, and will cause any Family Member not to take, directly or indirectly, any such action.

Whether or not the Offering occurs as currently contemplated or at all depends on market conditions and other factors. The Offering will only be made pursuant to the Underwriting

Agreement, the terms of which are subject to negotiation between the Company and the underwriters.

The undersigned hereby represents and warrants that the undersigned has full power, capacity and authority to enter into this letter agreement. This letter agreement is irrevocable and will be binding on the undersigned and the successors, heirs, personal representatives and assigns of the undersigned.

Notwithstanding anything herein to the contrary, if (a) the initial closing of the Offering has not occurred prior to November 30, 2022, (b) after being executed, the Underwriting Agreement (other than the provisions thereof that survive termination) shall terminate or be terminated prior to payment for and delivery of the Shares to be sold thereunder, (c) the Company notifies the Representative in writing that it does not intend to proceed with the Offering, or (d) the undersigned ceases to be employed by the Company or is no longer a director of the Company, *provided*, that the Company shall confirm such termination of employment or service as a director and promptly notify the Representative in writing, then this letter agreement shall terminate and the undersigned shall be released from all obligations hereunder upon the earliest to occur of the events specified above.

This letter agreement shall be governed by, and construed in accordance with, the laws of the State of New York.

*[signature page follows]*

Very truly yours,

\_\_\_\_\_  
Name of Security Holder (*Print exact name*)

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

If not signing in an individual capacity:

\_\_\_\_\_  
Name of Authorized Signatory (*Print*)

\_\_\_\_\_  
Title of Authorized Signatory (*Print*)

*(indicate capacity of person signing if signing as custodian, trustee, or on behalf of an entity)*

**Certain Defined Terms**  
**Used in Lock-up Agreement**

For purposes of the letter agreement to which this Annex A is attached and of which it is made a part:

- “**Call Equivalent Position**” shall have the meaning set forth in Rule 16a-1(b) under the Exchange Act.
- “**Exchange Act**” shall mean the Securities Exchange Act of 1934, as amended.
- “**Family Member**” shall mean the spouse of the undersigned, an immediate family member of the undersigned or an immediate family member of the undersigned’s spouse, in each case living in the undersigned’s household or whose principal residence is the undersigned’s household (regardless of whether such spouse or family member may at the time be living elsewhere due to educational activities, health care treatment, military service, temporary internship or employment or otherwise).
- “**Immediate Family**” shall have the meaning set forth in Rule 16a-1(e) under the Exchange Act.
- “**Lock-up Period**” shall mean the period beginning on the date hereof and continuing through the close of trading on the date that is 90 days after the date of the Prospectus (as defined in the Underwriting Agreement).
- “**Put Equivalent Position**” shall have the meaning set forth in Rule 16a-1(h) under the Exchange Act.
- “**Related Securities**” shall mean any options or warrants or other rights to acquire Shares or any securities exchangeable or exercisable for or convertible into Shares, or to acquire other securities or rights ultimately exchangeable or exercisable for or convertible into Shares.
- “**Securities Act**” shall mean the Securities Act of 1933, as amended.
- “**Sell or Offer to Sell**” shall mean to:
  - sell, offer to sell, contract to sell or lend,
  - effect any short sale or establish or increase a Put Equivalent Position or liquidate or decrease any Call Equivalent Position
  - pledge, hypothecate or grant any security interest in, or
  - in any other way transfer or dispose of,in each case whether effected directly or indirectly.
- “**Swap**” shall mean any swap, hedge or similar arrangement or agreement that transfers, in whole or in part, the economic risk of ownership of Shares or Related

Securities, regardless of whether any such transaction is to be settled in securities, in cash or otherwise.

Capitalized terms not defined in this Annex A shall have the meanings given to them in the body of this letter agreement.

## EXHIBIT B

OPTINOSE, INC.

### FORM OF WARRANT TO PURCHASE COMMON STOCK

Warrant No. [•]

Number of Shares: [•]

Date of Issuance: November [•], 2022 (“Issuance Date”)

CUSIP: 68404V118

OptiNose, Inc. a Delaware corporation (the “Company”), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, \_\_\_\_\_ or its permitted assigns (the “Holder”), is entitled, subject to the terms set forth below, to purchase from the Company, at the Exercise Price (as defined below) then in effect, at any time on or after the Issuance Date, but not after 11:59 p.m., New York time, on the Expiration Date (as defined below), \_\_\_\_\_ fully paid non-assessable shares of Common Stock (as defined below) (the “Warrant Shares”), subject to adjustment as provided herein. This Warrant to Purchase Common Stock (including any Warrants to Purchase Common Stock issued in exchange, transfer or replacement hereof, this “Warrant”) is one of the Warrants to Purchase Common Stock (the “Warrants”) issued in connection with the transactions contemplated by that certain Underwriting Agreement (the “Underwriting Agreement”), dated November [ ], 2022, between the Company and Piper Sandler & Co., as representative of the underwriters named therein. Except as otherwise defined herein, capitalized terms in this Warrant shall have the meanings set forth in Section 16. Unless the Warrants are issued in paper form for a Holder, this Warrant shall, other than in respect of such Holder, initially be issued and maintained in the form of a security held in book-entry form and the Depository Trust Company or its nominee (“DTC”) shall initially be the sole registered holder of this Warrant.

#### 1. Exercise of Warrant.

(a) Mechanics of Exercise. Subject to the terms and conditions hereof (including, without limitation, the limitations set forth in Section 1(f)), this Warrant may be exercised by the Holder at any time, in whole or in part, by delivery (whether via electronic mail or otherwise) of a written notice, in the form attached hereto as Exhibit A (the “Exercise Notice”), of the Holder’s election to exercise this Warrant for Warrant Shares, to the Company or Warrant Agent (or such other office or agency of the Company as it may designate by notice in writing to the registered Holder at the address of the Holder appearing on the books of the Company). Within one (1) Trading Day following the delivery of the Exercise Notice, the Holder shall make payment to the Company of an amount equal to the Exercise Price in effect on the date of such exercise multiplied by the number of Warrant Shares as to which this Warrant is being exercised (the “Aggregate Exercise Price”) in cash by wire transfer of immediately available funds or, only if the provisions of Section 1(d) are applicable, by notifying the Company that this Warrant is being exercised pursuant to a Cashless Exercise (as defined below). The Holder shall not be required to deliver the original Warrant in order to effect an exercise hereunder (until the Warrant has been exercised in full). Execution and delivery of the Exercise Notice with respect to less than all of the Warrant Shares shall have the same effect as cancellation of the original Warrant and issuance of a new Warrant evidencing the right to purchase the remaining number of Warrant Shares and the Holder shall not be required to physically surrender this Warrant to the Company or the Warrant Agent until the Warrant has been exercised in full, in which case, the Holder shall surrender this Warrant to the Company or the Warrant Agent for cancellation (or shall deliver to the Company a reasonable affidavit of loss and indemnity undertaking in lieu thereof) within three (3) Trading Days of the date on which the final Exercise Notice is delivered to the Company. On or before the first (1<sup>st</sup>) Trading Day following the date on which the Holder has delivered the applicable Exercise Notice, the Company shall transmit by electronic mail an acknowledgment of confirmation of receipt of the Exercise Notice, in the form attached to the Exercise Notice, to the Holder and the Company’s transfer agent (the “Transfer Agent”). So long as the Holder delivers the Aggregate Exercise Price (or notice of a Cashless Exercise, if applicable) on or prior to the first (1<sup>st</sup>) Trading Day following the date on which the Exercise Notice has been delivered to the Company, then on or prior to the earlier of (i) the second (2<sup>nd</sup>) Trading Day and (ii) the number of Trading Days comprising the Standard Settlement Period, in each case following the date on which the Exercise Notice has been delivered to the Company, or, if the Holder does not deliver the Aggregate Exercise Price (or notice of a Cashless Exercise, if applicable) on or prior to the first (1<sup>st</sup>) Trading Day following the date on which the

Exercise Notice has been delivered to the Company, then on or prior to the first (1<sup>st</sup>) Trading Day following the date on which the Aggregate Exercise Price (or notice of a Cashless Exercise, if applicable) is delivered to the Company (such earlier date, or if later, the earliest day on which the Company is required to deliver Warrant Shares pursuant to this Section 1(a), the “Delivery Date”), the Company shall credit such aggregate number of shares of Common Stock to which the Holder is entitled pursuant to such exercise to the Holder’s or its designee’s balance account with The Depository Trust Company (“DTC”) through its Deposit/Withdrawal At Custodian system provided that the Transfer Agent is then a participant in the DTC Fast Automated Securities Transfer Program (“FAST”) and either (x) there is an effective registration statement permitting the issuance of such Warrant Shares to or resale of such Warrant Shares by the Holder or (y) such Warrant Shares are eligible for resale by the Holder without limitations pursuant to Rule 144 promulgated under the Securities Act, and otherwise issue such Warrant Shares in the name of the Holder or its designee in restricted book-entry form in the Company’s share register. The Company agrees to maintain a transfer agent that is a participant in FAST so long as this Warrant remains outstanding and exercisable. The Company shall be responsible for all fees and expenses of the Transfer Agent and all fees and expenses with respect to the issuance of Warrant Shares via DTC, if any, including without limitation for same day processing. Upon delivery of the Exercise Notice, if the Holder is exercising this Warrant for Warrant Shares, the Holder shall be deemed for all corporate purposes to have become the holder of record and beneficial owner of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date such Warrant Shares are credited to the Holder’s DTC account or the date of delivery of the book entry positions evidencing such Warrant Shares, as the case may be. If this Warrant is physically delivered to the Company in connection with any exercise pursuant to this Section 1(a) and the number of Warrant Shares represented by this Warrant submitted for exercise is greater than the number of Warrant Shares being acquired upon an exercise, then the Company shall as soon as practicable and in no event later than three (3) Trading Days after any exercise and at its own expense, issue and deliver or cause to be issued and delivered to the Holder (or its designee) a new Warrant (in accordance with Section 6(d)) representing the right to purchase the number of Warrant Shares issuable immediately prior to such exercise under this Warrant, less the number of Warrant Shares with respect to which this Warrant is exercised. No fractional Warrant Shares are to be issued upon the exercise of this Warrant, but rather the number of Warrant Shares to be issued shall be rounded to the nearest whole number. The Company shall pay any and all transfer, stamp, issuance and similar taxes, costs and expenses (including, without limitation, fees and expenses of the Transfer Agent) which may be payable with respect to the issuance and delivery of Warrant Shares upon exercise of this Warrant. The Company’s obligations to issue and deliver or cause to be issued and delivered Warrant Shares in accordance with the terms and subject to the conditions hereof are absolute and unconditional, irrespective of any action or inaction by the Holder to enforce the same, any waiver or consent with respect to any provision hereof, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination; provided, however, that the Company shall not be required to deliver or cause to be delivered Warrant Shares with respect to an exercise prior to the Holder’s delivery of the Aggregate Exercise Price (or notice of a Cashless Exercise, if applicable) with respect to such exercise. If the Company fails to deliver or cause to be delivered to the Holder the Warrant Shares pursuant to this Section 1(a) by the Delivery Date, then the Holder will have the right to rescind such exercise by delivering written notice to the Company at any time prior to the Company delivering or causing the delivery of such Warrant Shares. Notwithstanding anything to the contrary herein, the Company and Warrant Agent may deem and treat the registered Holder of this Warrant as the absolute owner hereof for any and all purposes hereunder (including, without limitation, the delivery of any exercise hereunder) and is entitled to rely on instruction from such registered Holder of this Warrant without liability. Notwithstanding anything to the contrary in this Section 1(a), a holder whose interest in this Warrant is a beneficial interest in certificate(s) representing this Warrant held in book-entry form through DTC (or another established clearing corporation performing similar functions), shall effect exercises made pursuant to this Section 1(a) by delivering to DTC (or such other clearing corporation, as applicable) the appropriate instruction form for exercise, complying with the procedures to effect exercise that are required by DTC (or such other clearing corporation, as applicable), subject to a Holder’s right to elect to receive a Warrant in certificated form pursuant to the terms of the Warrant Agent Agreement, in which case this sentence shall not apply.

(b) Exercise Price. For purposes of this Warrant, “Exercise Price” means \$2.565 per share, subject to adjustment as provided herein.

(c) Company’s Failure to Timely Deliver Securities. In addition to any other rights available to the Holder, if the Company fails to cause the Transfer Agent to transmit to the Holder or its designee the required number of Warrant Shares in accordance with the provisions of Section 1(a) above pursuant to an exercise on or before the Delivery Date (other than a failure caused by incorrect or incomplete information provided by the Holder to the Company), and if after such date the Holder is required by its broker to purchase (in an open market transaction or otherwise) or the Holder’s brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a “Buy-In”), then the Company shall (A) pay in cash to the Holder the amount, if any, by which (x) the Holder’s total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (y) the amount obtained by multiplying (1) the number of Warrant Shares that the Company was required to deliver to the Holder in connection with the exercise at issue times (2) the price at which the sell order giving rise to such purchase

obligation was executed, and (B) at the option of the Holder, either reinstate the portion of the Warrant and equivalent number of Warrant Shares for which such exercise was not honored (in which case such exercise shall be deemed rescinded) or deliver to the Holder the number of shares of Common Stock that would have been issued had the Company timely complied with its exercise and delivery obligations hereunder. For example, if the Holder purchases Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted exercise of shares of Common Stock with an aggregate sale price giving rise to such purchase obligation of \$10,000, under clause (A) of the immediately preceding sentence, the Company shall be required to pay the Holder \$1,000. The Holder shall provide the Company written notice within three (3) Trading Days after the occurrence of a Buy-In, indicating the amounts payable to the Holder in respect of the Buy-In and evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof. The Company shall pay any payments incurred under this Section 1(c) in immediately available funds upon demand.

(d) Cashless Exercise. If at the time of exercise hereof, there is no effective registration statement registering, or the prospectus therein is not available for, the issuance of the Warrant Shares to the Holder, the Holder may exercise this Warrant in whole or in part by, in lieu of making the cash payment otherwise contemplated to be made to the Company upon such exercise in payment of the Aggregate Exercise Price, receiving upon such exercise the "Net Number" of shares of Common Stock determined according to the following formula (a "Cashless Exercise"):

$$\text{Net Number} = \frac{(A \times B) - (A \times C)}{B}$$

For purposes of the foregoing formula:

A = the total number of shares with respect to which this Warrant is then being exercised.

B = as applicable: (i) the Closing Sale Price of the Common Stock on the Trading Day immediately preceding the date of the applicable Exercise Notice if such Exercise Notice is (1) both executed and delivered pursuant to Section 1(a) hereof on a Trading Day prior to the opening of "regular trading hours" (as defined in Rule 600(b)(64) of Regulation NMS promulgated under the federal securities laws) on such Trading Day, (ii) at the option of the Holder, either (y) the Weighted Average Price on the Trading Day immediately preceding the date of the applicable Exercise Notice or (z) the Bid Price of the Common Stock as of the time of the Holder's execution of the applicable Exercise Notice if such Exercise Notice is executed during "regular trading hours" on a Trading Day and is delivered within two (2) hours thereafter (including until two (2) hours after the close of "regular trading hours" on a Trading Day) pursuant to Section 1(a) hereof or (iii) the Closing Sale Price of the Common Stock on the date of the applicable Exercise Notice if the date of such Exercise Notice is a Trading Day and such Exercise Notice is both executed and delivered pursuant to Section 1(a) hereof after the close of "regular trading hours" on such Trading Day.

C = the Exercise Price then in effect for the applicable Warrant Shares at the time of such exercise.

If Warrant Shares are issued in such a Cashless Exercise, the Company acknowledges and agrees that in accordance with Section 3(a)(9) of the Securities Act of 1933, as amended, the Warrant Shares shall take on the registered characteristics of the Warrants being exercised, and the holding period of the Warrants being exercised may be tacked on to the holding period of the Warrant Shares (provided that the Securities and Exchange Commission (the "SEC") continues to take the position that such treatment is proper at the time of such exercise). The Company agrees not to take any position contrary to this Section 1(d). For the avoidance of doubt, the Holder may utilize Cashless Exercise as contemplated by this Section 1(d) only if at the time of exercise hereof, there is no effective registration statement registering, or the prospectus therein is not available for, the issuance of the Warrant Shares to the Holder. In all other scenarios, the Holder shall only be permitted to exercise this Warrant in cash in accordance with Section 1(a).

(e) Disputes. In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Company shall promptly issue to the Holder the number of Warrant Shares that are not disputed and resolve such dispute in accordance with Section 10.

(f) Beneficial Ownership. The Holder shall be prohibited from exercising this Warrant if, immediately prior to or following such exercise (or portion of such exercise thereof), the Holder, together with its Attribution Parties,

beneficially owns or would beneficially own as determined in accordance with Section 13(d) of the Securities Exchange Act of 1934, as amended (the “1934 Act”), more than  $[4.99/9.99/19.99]^1\%$  (the “Maximum Percentage”) of the issued and outstanding Common Stock or any other class of equity security (other than an exempted security) of the Company that is registered pursuant to Section 12 of the 1934 Act. For purposes of calculating beneficial ownership, the aggregate number of shares of Common Stock beneficially owned by the Holder, together with its Attribution Parties, shall include the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which the determination is being made, but shall exclude the number of shares of Common Stock which are issuable upon (i) conversion of the remaining, unconverted portion of this Warrant beneficially owned by the Holder, together with its Attribution Parties, and (ii) exercise or conversion of the unexercised or unconverted portion of any other securities of the Company beneficially owned by the Holder, together with its Attribution Parties (including, without limitation, any convertible notes, convertible stock or warrants) that are subject to a limitation on conversion or exercise analogous to the limitation contained herein. For purposes of this Section 1(f), beneficial ownership shall be calculated and determined in accordance with Section 13(d) of the 1934 Act and the rules promulgated thereunder, it being acknowledged and agreed that the Holder is solely responsible for any schedules required to be filed in accordance therewith. For purposes of this Warrant, in determining the number of outstanding shares of Common Stock, the Holder may rely on the number of outstanding shares of Common Stock as reflected in (1) the Company’s most recent Form 10-K, Form 10-Q, Current Report on Form 8-K or other public filing with the SEC, as the case may be, (2) a more recent public announcement by the Company or (3) any written other notice by the Company or the Company’s transfer agent setting forth the number of shares of Common Stock outstanding. For any reason at any time, upon the written request of the Holder, the Company shall within two (2) Business Days confirm to the Holder the number of shares of Common Stock then outstanding. The Holder shall disclose to the Company the number of shares of Common Stock that it, its Affiliates or any other Attribution Party owns and has the right to acquire through the exercise of derivative securities and any limitations on exercise or conversion analogous to the limitation contained herein contemporaneously or immediately prior to exercising this Warrant. Any purported delivery of any number of shares of Common Stock or any other security upon exercise of this Warrant shall be void and have no effect to the extent, but only to the extent, that before or after such delivery, the exercising Holder, together with its Affiliates and any other Attribution Party would have beneficial ownership in excess of the Maximum Percentage. By written notice to the Company, the Holder may from time to time increase or decrease the Maximum Percentage to any other percentage not in excess of 19.99% specified in such notice; provided that any increase in the Maximum Percentage will not be effective until the sixty-first (61st) day after such notice is delivered to the Company.

(g) Reservation of Warrant Shares. The Company covenants that it will, at all times while this Warrant is outstanding, reserve and keep available out of the aggregate of its authorized but unissued and otherwise unreserved Common Stock, solely for the purpose of enabling it to issue Warrant Shares upon exercise of this Warrant as herein provided, the number of Warrant Shares that are issuable and deliverable upon the exercise of this entire Warrant, free from preemptive rights or any other Purchase Rights (as defined below) of Persons other than the Holder (taking into account the adjustments and restrictions of Section 2). The Company covenants that all Warrant Shares so issuable and deliverable shall, upon issuance and the payment of the applicable Exercise Price in accordance with the terms hereof, be duly and validly authorized, issued and fully paid and non-assessable. The Company will take all actions as may be necessary to assure that such shares of Common Stock may be issued as provided herein without violation of any applicable law or regulation, of any requirements of any securities exchange or automated quotation system upon which the Common Stock may be listed or of any contract to which the Company or any of its subsidiaries is bound.

## 2. Adjustment of Exercise Price and Number of Warrant Shares Upon Certain Events.

(a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding, (i) pays a dividend on its Common Stock or otherwise makes a distribution on any class of capital stock issued and outstanding on the Issuance Date and in accordance with the terms of such stock on the Issuance Date or as amended, that is payable in shares of Common Stock or in Options or Convertible Securities, (ii) subdivides (by any stock split, recapitalization, or otherwise) its outstanding shares of Common Stock into a larger number of shares of Common Stock, (iii) combines its outstanding shares of Common Stock into a smaller number of shares of Common Stock or (iv) issues by reclassification of shares of capital stock any additional shares of Common Stock of the Company, then in each such case the Exercise Price shall be multiplied by a fraction, the numerator of which shall be the number of shares of Common Stock outstanding immediately before such event and the denominator of which shall be the number of shares of Common Stock outstanding immediately after such event. Any adjustment made pursuant to clause (i) of this paragraph shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution, provided, however, that if such record date shall have been fixed and such dividend is not fully paid on the date fixed therefor, the Exercise Price shall be recomputed accordingly as of the close of business on such record date and thereafter the Exercise Price shall be adjusted pursuant to this paragraph as

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<sup>1</sup> NTD: Each warrant to choose.

of the time of actual payment of such dividends. Any adjustment pursuant to clause (ii) through (iv) of this paragraph shall become effective immediately after the effective date of such subdivision, combination or issuance.

(b) Pro Rata Distributions. If, on or after the Issuance Date and on or prior to the Expiration Date, the Company shall declare or make any dividend or other pro rata distribution of its assets (or rights to acquire its assets) to holders of all of its shares of Common Stock by way of return of capital or otherwise for no consideration (including, without limitation, any distribution of cash, stock or other securities, property, options, evidence of indebtedness or any other assets by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction, but, for the avoidance of doubt, excluding any distribution of shares of Common Stock subject to Section 2(a), any distribution of Purchase Rights subject to Section 2(c) and any Fundamental Transaction (as defined below) subject to Section 3) (a “Distribution”) then, in each such case, the Exercise Price shall be adjusted by multiplying the Exercise Price in effect immediately prior to the record date fixed for determination of stockholders entitled to receive such Distribution by a fraction, of which the denominator shall be the Weighted Average Price determined as of the record date mentioned above, and of which the numerator shall be such Weighted Average Price on such record date less the then per share fair market value at such record date of the portion of such Distribution so distributed applicable to one outstanding share of the Common Stock as determined by the Board of Directors of the Company in good faith. The adjustment shall be described in a statement provided to the Holder. Such adjustment shall be made whenever any such Distribution is made and shall become effective immediately after the record date mentioned above.

(c) Purchase Rights. If at any time on or after the Issuance Date and on or prior to the Expiration Date, the Company grants, issues or sells any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property, in each case pro rata to all of the record holders of any class of Common Stock (the “Purchase Rights”), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations or restrictions on exercise of this Warrant, including without limitation, the Maximum Percentage) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of Common Stock are to be determined for the grant, issuance or sale of such Purchase Rights (provided, that to the extent that the Holder’s right to participate in any such Purchase Right would result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Purchase Right to such extent (and shall not be entitled to beneficial ownership of such Common Stock as a result of such Purchase Right (and beneficial ownership) to such extent) and such Purchase Right to such extent shall be held in abeyance for the benefit of the Holder until such time or times as its right thereto would not result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be granted such right (and any Purchase Right granted, issued or sold on such initial Purchase Right or on any subsequent Purchase Right to be held similarly in abeyance) to the same extent as if there had been no such limitation). As used in this Section 2(c), “Convertible Securities” mean any capital stock, debt, securities or other contractual rights (other than Options) directly or indirectly convertible into or exercisable or exchangeable for shares of Common Stock.

(d) Number of Warrant Shares. Simultaneously with any adjustment to the Exercise Price pursuant to paragraph (a) or (b) of this Section 2, the number of Warrant Shares that may be purchased upon exercise of this Warrant shall be increased or decreased proportionately, so that after such adjustment, the aggregate Exercise Price payable hereunder for the increased or decreased number of Warrant Shares shall be the same as the aggregate Exercise Price in effect immediately prior to such adjustment.

(e) Calculations. All calculations under this Section 2 shall be made to the nearest one ten-thousandth of one cent or the nearest share, as applicable.

(f) Adjustment to Exercise Price Upon Issuance of Common Stock. Except as provided in Section 2(g) and except in the case of an event described in either Section 2(a) through Section 2(c) or Section 2(i), if the Company shall, at any time or from time to time after the Issuance Date, issue or sell, or in accordance with Section 2(h) is deemed to have issued or sold, any shares of common stock without consideration or for consideration per share (the “New Issuance Price”) less than the Exercise Price in effect immediately prior to such issuance or sale (or deemed issuance or sale), then immediately upon such issuance or sale (or deemed issuance or sale), the Exercise Price in effect immediately prior to such issuance or sale (or deemed issuance or sale) shall be reduced (and in no event increased) to an Exercise Price equal to the New Issuance Price.

(g) Exceptions To Adjustment Upon Issuance of Common Stock. Anything herein to the contrary notwithstanding, there shall be no adjustment to the Exercise Price or the number of Warrant Shares issuable upon exercise of this Warrant with respect to any Excluded Issuance.

(h) Effect of Certain Events on Adjustment to Exercise Price. For purposes of determining the adjusted Exercise Price under Section 2(f) hereof, the following shall be applicable:

(i) Issuance of Convertible Securities. If the Company shall, at any time or from time to time after the Issuance Date, in any manner grant or sell (whether directly or by assumption in a merger or otherwise) any Convertible Securities, whether or not the right to convert or exchange any such Convertible Securities is immediately exercisable, and the price per share (determined as provided in this paragraph and in Section 2(h)(v)) for which Common Stock is issuable upon the conversion or exchange of such Convertible Securities is less than the Exercise Price in effect immediately prior to the time of the granting or sale of such Convertible Securities, then the total maximum number of shares of Common Stock issuable upon conversion or exchange of the total maximum amount of such Convertible Securities shall be deemed to have been issued as of the date of granting or sale of such Convertible Securities without giving effect to any anti-dilution or similar adjustment unless and until triggered (and thereafter shall be deemed to be outstanding for purposes of adjusting the Exercise Price pursuant to Section 2(f)), at a price per share equal to the quotient obtained by dividing (A) the sum (which sum shall constitute the applicable consideration received for purposes of Section 2(f)) of (x) the total amount, if any, received or receivable by the Company as consideration for the granting or sale of such Convertible Securities, plus (y) the minimum aggregate amount of additional consideration, if any, payable to the Company upon the conversion or exchange of all such Convertible Securities, by (B) the total maximum number of shares of Common Stock issuable upon the conversion or exchange of all such Convertible Securities. Except as otherwise provided in Section 2(h)(iii), no further adjustment of the Exercise Price shall be made upon the actual issuance of Common Stock upon conversion or exchange of such Convertible Securities or the issue or sale of Convertible Securities upon exercise of any Options to purchase any such Convertible Securities for which adjustments of the Exercise Price have been made pursuant to the other provisions of this Section 2(h).

(ii) Issuance of Options. If the Company shall, at any time or from time to time after the Issuance Date, in any manner grant or sell (whether directly or by assumption in a merger or otherwise) any Options, whether or not such Options or the right to convert or exchange any Convertible Securities issuable upon the exercise of such Options are immediately exercisable, and the price per share (determined as provided in this paragraph and in Section 2(h)(v)) for which Common Stock is issuable upon the exercise of such Options or upon the conversion or exchange of Convertible Securities issuable upon the exercise of such Options is less than the Exercise Price in effect immediately prior to the time of the granting or sale of such Options, then the total maximum number of shares of Common Stock issuable upon the exercise of such Options or upon conversion or exchange of the total maximum amount of Convertible Securities issuable upon the exercise of such Options shall be deemed to have been issued as of the date of granting or sale of such Options without giving effect to any anti-dilution or similar adjustment unless and until triggered (and thereafter shall be deemed to be outstanding for purposes of adjusting the Exercise Price under Section 2(f)), at a price per share equal to the quotient obtained by dividing (A) the sum (which sum shall constitute the applicable consideration received for purposes of Section 2(f)) of (x) the total amount, if any, received or receivable by the Company as consideration for the granting or sale of all such Options, plus (y) the minimum aggregate amount of additional consideration payable to the Company upon the exercise of all such Options, plus (z), in the case of such Options which relate to Convertible Securities, the minimum aggregate amount of additional consideration, if any, payable to the Company upon the issuance or sale of all such Convertible Securities and the conversion or exchange of all such Convertible Securities, by (B) the total maximum number of shares of Common Stock issuable upon the exercise of all such Options or upon the conversion or exchange of all Convertible Securities issuable upon the exercise of all such Options. Except as otherwise provided in Section 2(h)(iii), no further adjustment of the Exercise Price shall be made upon the actual issuance of Common Stock or of Convertible Securities upon exercise of such Options or upon the actual issuance of Common Stock upon conversion or exchange of Convertible Securities issuable upon exercise of such Options.

(iii) Change in Terms of Options or Convertible Securities. Upon any change in any of (A) the total amount received or receivable by the Company as consideration for the granting or sale of any Convertible Securities or Options referred to in Section 2(h)(i) or Section 2(h)(ii) hereof, (B) the minimum aggregate amount of additional consideration, if any, payable to the Company upon the exercise of any Options or upon the issuance, conversion or exchange of any Convertible Securities referred to in Section 2(h)(i) or Section 2(h)(ii) hereof, (C) the rate at which Convertible Securities referred to in Section 2(h)(i) or Section 2(h)(ii) hereof are convertible into or exchangeable for Common Stock, or (D) the maximum number of shares of Common Stock issuable in connection with any Options referred to in Section 2(h)(ii) hereof or any Convertible Securities referred to in Section 2(h)(i) hereof (in each case, other than in connection with an Excluded Issuance), then (whether or not the original issuance or sale of such Options or Convertible Securities resulted in an adjustment to the Exercise Price pursuant to this Section 2) the Exercise Price in effect at the time of such change shall be adjusted or readjusted, as applicable, to the Exercise Price which would have been in effect at such time pursuant to the provisions of this Section 2 had such Options or Convertible Securities still outstanding provided for such changed consideration, conversion rate or maximum number of shares, as the case may be, at the time initially granted, issued or sold, but only if as a result of such adjustment or readjustment the Exercise Price then in effect is reduced.

(iv) Treatment of Expired or Terminated Options or Convertible Securities. Upon the expiration or termination of any unexercised Option (or portion thereof) or any unconverted or unexchanged Convertible Security (or portion thereof) for which any adjustment (either upon its original issuance or upon a revision of its terms) was made pursuant to this Section 2 (including without limitation upon the redemption or purchase for consideration of all or any portion of such Option or Convertible Security by the Company), the Exercise Price then in effect hereunder shall forthwith be changed pursuant to the provisions of this Section 2 to the Exercise Price which would have been in effect at the time of such expiration or termination had such unexercised Option (or portion thereof) or unconverted or unexchanged Convertible Security (or portion thereof), to the extent outstanding immediately prior to such expiration or termination, never been issued.

(v) Calculation of Consideration Received. If the Company shall, at any time or from time to time after the Issuance Date, issue or sell, or is deemed to have issued or sold in accordance with Section 2(h), any shares of Common Stock, Options or Convertible Securities: (A) for cash, the consideration received therefor shall be deemed to be the net amount received by the Company therefor; (B) for consideration other than cash, the amount of the consideration other than cash received by the Company shall be the fair value of such consideration, except where such consideration consists of marketable securities, in which case the amount of consideration received by the Company shall be the market price (as reflected on any securities exchange, quotation system or association or similar pricing system covering such security) for such securities as of the end of business on the date of receipt of such securities; (C) for no specifically allocated consideration in connection with an issuance or sale of other securities of the Company, together comprising one integrated transaction, the amount of the consideration therefor shall be deemed to be the fair value of such portion of the aggregate consideration received by the Company in such transaction as is attributable to such shares of Common Stock, Options or Convertible Securities, as the case may be, issued in such transaction; or (D) to the owners of the non-surviving entity in connection with any merger in which the Company is the surviving corporation, the amount of consideration therefor shall be deemed to be the fair value of such portion of the net assets and business of the non-surviving entity as is attributable to such shares of Common Stock, Options or Convertible Securities, as the case may be, issued to such owners. The net amount of any cash consideration and the fair value of any consideration other than cash or marketable securities shall be determined in good faith by the Company's Board of Directors.

(vi) Treasury Shares. The number of shares of Common Stock outstanding at any given time shall not include shares owned or held by or for the account of the Company or any of its wholly-owned subsidiaries, and the disposition of any such shares (other than the cancellation or retirement thereof or the transfer of such shares among the Company and its wholly-owned subsidiaries) shall be considered an issue or sale of Common Stock for the purpose of this Section 2.

(i) Adjustment to Exercise Price Upon Reorganization, Reclassification, Consolidation or Merger. To the extent not provided in Section 3 herein, in the event of any (i) capital reorganization of the Company, (ii) reclassification of the stock of the Company (other than a change in par value or from par value to no par value or from no par value to par value or as a result of a stock dividend or subdivision, split-up or combination of shares), (iii) consolidation or merger of the Company with or into another Person, (iv) sale of all or substantially all of the Company's assets to another Person or (v) other similar transaction (other than any such transaction covered by Section 2(a)), in each case which entitles the holders of Common Stock to receive (either directly or upon subsequent liquidation) stock, securities or assets with respect to or in exchange for Common Stock, each Warrant shall, immediately after such reorganization, reclassification, consolidation, merger, sale or similar transaction, remain outstanding and shall thereafter, in lieu of or in addition to (as the case may be) the number of Warrant Shares then exercisable under this Warrant, be exercisable for the kind and number of shares of stock or other securities or assets of the Company or of the successor Person resulting from such transaction to which the Holder would have been entitled upon such reorganization, reclassification, consolidation, merger, sale or similar transaction if the Holder had exercised this Warrant in full immediately prior to the time of such reorganization, reclassification, consolidation, merger, sale or similar transaction and acquired the applicable number of Warrant Shares then issuable hereunder as a result of such exercise (without taking into account any limitations or restrictions on the exercisability of this Warrant); and, in such case, appropriate adjustment (in form and substance as determined by the Board of Directors of the Company in its reasonable discretion) shall be made with respect to the Holder's rights under this Warrant to insure that the provisions of this Section 2 hereof shall thereafter be applicable, as nearly as possible, to this Warrant in relation to any shares of stock, securities or assets thereafter acquirable upon exercise of this Warrant. The provisions of this Section 2(i) shall similarly apply to successive reorganizations, reclassifications, consolidations, mergers, sales or similar transactions. The Company shall not effect any such reorganization, reclassification, consolidation, merger, sale or similar transaction unless, prior to the consummation thereof, the successor Person (if other than the Company) resulting from such reorganization, reclassification, consolidation, merger, sale or similar transaction, shall assume, by written instrument substantially similar in form and substance to this Warrant as determined by the Company's Board of Directors in its reasonable discretion, the obligation to deliver to the Holder such shares of stock, securities or assets which, in accordance with the foregoing provisions, such Holder shall be entitled to receive upon exercise of this Warrant.

(j) Certain Events. If any event of the type contemplated by the provisions of this Section 2 but not expressly provided for by such provisions (including, without limitation, the granting of stock appreciation rights, phantom stock rights or other rights with equity features) occurs, then the Board shall make an appropriate adjustment in the Exercise Price and, if applicable, the number of Warrant Shares issuable upon exercise of this Warrant so as to protect the rights of the Holder in a manner consistent with the provisions of this Section 2; provided, that no such adjustment pursuant to this Section 2(i) shall increase the Exercise Price or decrease the number of Warrant Shares issuable as otherwise determined pursuant to this Section 2.

(k) Notice of Adjustments. Upon the occurrence of each adjustment pursuant to this Section 2, the Company at its expense will, at the written request of the Holder, promptly compute such adjustment, in good faith, in accordance with the terms of this Warrant and prepare a certificate setting forth such adjustment, including a statement of the adjusted Exercise Price and adjusted number or type of Warrant Shares or other securities issuable upon exercise of this Warrant (as applicable), describing the transactions giving rise to such adjustments and showing in detail the facts upon which such adjustment is based. Upon written request, the Company will promptly deliver a copy of each such certificate to the Holder and to the Company's transfer agent and will issue a new Warrant to the Holder reflecting such calculations.

3. Fundamental Transactions. If (i) the Company effects any merger or consolidation of the Company with or into another Person, in which the Company is not the survivor or the stockholders of the Company immediately prior to such merger or consolidation do not own, directly or indirectly, at least 50.1% of the voting securities of the surviving entity, (ii) the Company effects any sale, lease, assignment, transfer, conveyance or other distribution of all or substantially all of its assets to a third party, in each case, in one or a series of related transactions, (iii) any direct or indirect purchase offer, tender offer or exchange offer (whether by the Company or another Person) is completed pursuant to which at least holders of a majority of the outstanding shares of Common Stock tender or exchange their shares for other securities, cash or property, (iv) the Company, directly or indirectly, in one or more related transactions, effects any reorganization, recapitalization or reclassification of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property (other than as a result of a subdivision or combination of shares of Common Stock covered by Section 2(a) above), or (v) the Company, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another person whereby such other person acquires more than 50% of the outstanding shares of Common Stock (not including any shares of Common Stock held by the other person or other persons making or party to, or associated or affiliated with the other persons making or party to, such stock or share purchase agreement or other business combination) (in any such case, a "Fundamental Transaction"), then the registered holder shall have the right thereafter to receive, upon exercise of the Warrant, the same amount and kind of securities, cash or property as it would have been entitled to receive upon the occurrence of such Fundamental Transaction if it had been, immediately prior to such Fundamental Transaction, the holder of the number of Warrant Shares then issuable upon exercise in full of the Warrant without regard to any limitations on exercise contained in the Warrant (the "Alternate Consideration"). The Company shall not effect any such Fundamental Transaction unless prior to or simultaneously with the consummation thereof, any successor to the Company, surviving entity or the corporation purchasing or otherwise acquiring such assets or other appropriate corporation or Person shall assume the Warrant and the obligation to deliver to the registered holder, such Alternate Consideration as, in accordance with the foregoing provisions, the registered holder may be entitled to receive, and the other obligations under the Warrant. Notwithstanding the foregoing at the request of the registered holder delivered at any time commencing on the earlier to occur of the public disclosure of a completed Fundamental Transaction or the consummation of any Fundamental Transaction through the date that is ninety (90) days after the later to occur of (i) the public disclosure of such Fundamental Transaction, (ii) the consummation of such Fundamental Transaction and (iii) the registered holder becoming aware of such Fundamental Transaction if such Fundamental Transaction was not publicly disclosed, the Company or the Successor Entity (as the case may be) shall purchase the Warrant from the registered holder on the date of such request by paying to the registered holder cash in an amount equal to the Black Scholes Value (as defined below). For purposes hereof, "Black Scholes Value" means the value of the unexercised portion of the Warrant remaining on the date of the registered holder's request pursuant, which value is calculated using the Black Scholes Option Pricing Model obtained from the "OV" function on Bloomberg utilizing (i) an underlying price per share equal to the greater of (1) the highest Closing Sale Price of the Common Stock during the period beginning on the Trading Day immediately preceding the earlier to occur of the public disclosure or consummation of the applicable Fundamental Transaction and ending on the Trading Day of the registered holder's request pursuant to this Section and (2) the sum of the price per share being offered in cash in the applicable Fundamental Transaction (if any) plus the value of the non-cash consideration being offered in the applicable Fundamental Transaction (if any), (ii) a strike price equal to the Exercise Price in effect on the date of the Holder's request pursuant to this Section, (iii) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the greater of (1) the remaining term of the Warrant as of the date of the Holder's request pursuant to this Section and (2) the remaining term of this Warrant as of the date of consummation of the applicable Fundamental Transaction or as of the date of the registered holder's request pursuant to this Section if such request is prior to the date of the consummation of the applicable Fundamental Transaction and (iv) an expected volatility

equal to the greater of 70% and the 30 day volatility obtained from the HVT function on Bloomberg (determined utilizing a 365 day annualization factor) as of the Trading Day immediately following the earlier to occur of the public disclosure or consummation of the applicable Fundamental Transaction.

4. Noncircumvention. The Company hereby covenants and agrees that the Company will not, by amendment of its certificate of incorporation or by-laws, or through any reorganization, transfer of assets, consolidation, merger, scheme, arrangement, dissolution, issuance or sale of securities, or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, and will at all times in good faith carry out all of the provisions of this Warrant and take all commercially reasonable actions as may be necessary to protect the rights of the Holder. Without limiting the generality of the foregoing, the Company (i) shall not increase the par value of any shares of Common Stock receivable upon the exercise of this Warrant above the Exercise Price then in effect, (ii) shall take all such actions as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable shares of Common Stock upon the exercise of this Warrant, and (iii) shall, so long as any of the Warrants are outstanding, take all actions necessary to reserve and keep available out of its authorized and unissued shares of Common Stock, solely for the purpose of effecting the exercise of the Warrants, the number of shares of Common Stock as shall from time to time be necessary to effect the exercise of the Warrants then outstanding (without regard to any limitations on exercise).

5. Warrant Holder not Deemed a Stockholder. Except as otherwise specifically provided herein, the Holder, solely in such Person's capacity as a holder of this Warrant, shall not be entitled to vote or receive dividends or be deemed the holder of capital stock of the Company for any purpose, nor shall anything contained in this Warrant be construed to confer upon the Holder, solely in such Person's capacity as the Holder of this Warrant, any of the rights of a stockholder of the Company or any right to vote, give or withhold consent to any corporate action (whether any reorganization, issue of stock, reclassification of stock, consolidation, merger, conveyance or otherwise), receive notice of meetings, receive dividends or subscription rights, or otherwise, prior to the issuance to the Holder of the Warrant Shares which such Person is then entitled to receive upon the due exercise of this Warrant. In addition, nothing contained in this Warrant shall be construed as imposing any liabilities on the Holder to purchase any securities (upon exercise of this Warrant or otherwise) or as a stockholder of the Company, whether such liabilities are asserted by the Company or by creditors of the Company.

Notwithstanding this Section 5, the Company shall provide the Holder with copies of the same notices and other information given to the stockholders of the Company generally, contemporaneously with the giving thereof to the stockholders; provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of any corporate action required to be specified in such notice; provided, further, that the Company shall not be obligated to provide such notice or information if it is filed with the SEC through EDGAR and available to the public through the EDGAR system.

#### 6. Reissuance of Warrants.

(a) Transfer of Warrant. If this Warrant is to be transferred, the Holder shall surrender this Warrant to the Company, whereupon the Company will forthwith issue and deliver or cause to be issued and delivered upon the order of the Holder a new Warrant (in accordance with Section 6(d)), registered as the Holder may request, representing the right to purchase the number of Warrant Shares being transferred by the Holder and, if less than the total number of Warrant Shares then underlying this Warrant is being transferred, a new Warrant (in accordance with Section 6(d)) to the Holder representing the right to purchase the number of Warrant Shares not being transferred.

(b) Lost, Stolen or Mutilated Warrant. In the event of any loss, theft or destruction of a Warrant for which the Company and the Warrant Agent shall have received from the Holder an indemnification reasonably satisfactory to the Company and the Warrant Agent holding the Warrant Agent and Company harmless, the Warrant Agent shall issue replacement Warrants in a form mutually agreed to by the Warrant Agent and the Company (in accordance with Section 6(d)) for those certificates alleged to have been lost, stolen or destroyed, absent notice to the Warrant Agent that such certificates have been acquired by a bona fide purchaser and, at the Company's or the Warrant Agent's request, reimbursement to the Company and the Warrant Agent of all reasonable expenses incidental thereto. The Warrant Agent may, at its option, issue replacement Warrants for mutilated certificates upon presentation thereof without such indemnity.

(c) Exchangeable for Multiple Warrants. This Warrant is exchangeable, upon the surrender hereof by the Holder at the principal office of the Company, for a new Warrant or Warrants (in accordance with Section 6(d)) representing in the aggregate the right to purchase the number of Warrant Shares then underlying this Warrant, and each such new Warrant will represent the right to purchase such portion of such Warrant Shares as is designated by the Holder at the time of such surrender.

(d) Issuance of New Warrants. Whenever the Company is required to issue a new Warrant pursuant to the terms of this Warrant, the Holder shall, at the Company's or Warrant Agent's request, reimburse the Company and the Warrant Agent of all reasonable expenses incidental thereto, and such new Warrant (i) shall be of like tenor with this Warrant, (ii) shall represent, as indicated on the face of such new Warrant, the right to purchase the Warrant Shares then underlying this Warrant (or in the case of a new Warrant being issued pursuant to Section 6(a) or Section 6(c), the Warrant Shares designated by the Holder which, when added to the number of shares of Common Stock underlying the other new Warrants issued in connection with such issuance, does not exceed the number of Warrant Shares then underlying this Warrant), (iii) shall have an issuance date, as indicated on the face of such new Warrant which is the same as the Issuance Date, and (iv) shall have the same rights and conditions as this Warrant.

7. Notices (Including of Certain Events). Whenever notice is required to be given under this Warrant, including, without limitation, an Exercise Notice, unless otherwise provided herein, such notice shall be given in writing, (i) if delivered (a) from within the domestic United States, by first-class registered or certified airmail, or nationally recognized overnight express courier, postage prepaid or electronic mail or (b) from outside the United States, by internationally recognized overnight carrier or electronic mail, and (ii) will be deemed given (A) if delivered by first-class registered or certified mail domestic, three (3) Business Days after so mailed, (B) if delivered by nationally recognized overnight carrier, one (1) Business Day after so mailed, (C) if delivered by internationally recognized overnight carrier, two (2) Business Days after so mailed and (D) at the time of transmission, if delivered by electronic mail to the email address specified in this Section 7 prior to 5:00 p.m. (New York time) on a Trading Day, and (E) the next Trading Day after the date of transmission, if delivered by electronic mail to the email address specified in this Section 7 on a day that is not a Trading Day or later than 5:00 p.m. (New York time) on any Trading Day, and will be delivered and addressed as follows:

(i) If to the Company, to:

OptiNose, Inc.  
1020 Stony Hill Road, Suite 300  
Yardley, PA 19067  
Attention: Chief Financial Officer  
e-mail: [warrants@optinose.com]

with a required copy to:

OptiNose, Inc.  
1020 Stony Hill Road, Suite 300  
Yardley, PA 19067  
Attention: Chief Legal Officer  
e-mail: [legal@optinose.com]

(ii) if to the Holder, at such address or other contact information as is on the books and records of the Company or Warrant Agent which Holder may update from time to time by delivering notice to the Company in accordance with this Section 7.

The Company shall provide the Holder with prompt written notice of all actions taken pursuant to this Warrant, including in reasonable detail a description of such action and the reason therefor. Without limiting the generality of the foregoing, the Company will give written notice to the Holder (i) promptly upon any adjustment of the Exercise Price, setting forth in reasonable detail, and certifying, the calculation of such adjustment; and (ii) at least ten (10) days prior to the date on which the Company closes its books or takes a record (A) with respect to any dividend or distribution upon the shares of Common Stock, (B) with respect to any grants, issuances or sales of any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property, in each case pro rata to all of the record holders of Common Stock or (C) for determining rights to vote with respect to any Fundamental Transaction, dissolution or liquidation; provided, further, that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice.

Notwithstanding any other provision of this Warrant, where this Warrant provides for notice of any event to the Holder, if this Warrant is held in global form by DTC (or any successor depository), such notice shall be sufficiently given if given to DTC (or any successor depository) pursuant to the procedures of DTC (or such successor depository).

8. Amendment and Waiver. The provisions of this Warrant may be amended or waived and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company has obtained the written consent of the Holder.

9. Governing Law; Jury Trial. This Warrant shall be governed by and construed and enforced in accordance with, and all questions concerning the construction, validity, interpretation and performance of this Warrant shall be governed by, the internal laws of the State of New York, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of New York or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of New York. THE COMPANY AND HOLDER EACH HEREBY IRREVOCABLY WAIVES ANY RIGHT IT MAY HAVE, AND EACH AGREES NOT TO REQUEST, A JURY TRIAL FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION WITH OR ARISING OUT OF THIS WARRANT OR ANY TRANSACTION CONTEMPLATED HEREBY.

10. Dispute Resolution. In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Company shall submit the disputed determinations or arithmetic calculations via facsimile or electronic mail within two (2) Business Days of receipt of the Exercise Notice or other event giving rise to such dispute, as the case may be, to the Holder. If the Holder and the Company are unable to agree upon such determination or calculation of the Exercise Price or the Warrant Shares within three (3) Business Days of such disputed determination or arithmetic calculation being submitted to the Holder, then the Company shall, within two (2) Business Days submit via facsimile or electronic mail (a) the disputed determination of the Exercise Price to an independent, reputable investment bank selected by the Company and approved by the Holder or (b) the disputed arithmetic calculation of the Warrant Shares to the Company's independent, outside accountant. The Company shall cause (at its expense subject to the last sentence in this Section 10) the investment bank or the accountant, as the case may be, to perform the determinations or calculations and notify the Company and the Holder of the results no later than ten (10) Business Days from the time it receives the disputed determinations or calculations. Such investment bank's or accountant's determination or calculation, as the case may be, shall be binding upon all parties absent demonstrable error. The fees and expenses of the investment bank or the accountant, as the case may be, shall be borne by the Holder if such investment bank or accountant, as the case may be, determines that the Company's calculations were accurate.

11. Remedies, Other Obligations, Breaches and Injunctive Relief. The remedies provided in this Warrant shall be cumulative and in addition to all other remedies available under this Warrant, at law or in equity (including a decree of specific performance and/or other injunctive relief), and nothing herein shall limit the right of the Holder to pursue actual damages for any failure by the Company to comply with the terms of this Warrant. The Company acknowledges that a breach by it of its obligations hereunder will cause irreparable harm to the Holder and that the remedy at law for any such breach may be inadequate. The Company therefore agrees that, in the event of any such breach or threatened breach, the holder of this Warrant shall be entitled, in addition to all other available remedies, to seek an injunction restraining any breach, without the necessity of showing economic loss and without any bond or other security being required.

12. Transfer. This Warrant and all rights hereunder are transferable, in whole or in part, upon surrender of this Warrant at the principal office of the Company or its designated agent, together with a written assignment of this Warrant substantially in the form attached hereto as Exhibit B duly executed by the Holder and funds sufficient to pay any transfer taxes payable upon the making of such transfer accompanied by reasonable evidence of authority of the party making such request that may be required by the Warrant Agent including but not limited to, the signature guarantee of a guarantor institution which is a participant in a signature guarantee program approved by the Securities Transfer Association. If, at the time of the surrender of this Warrant in connection with any such transfer, the transfer of this Warrant shall not be either (i) registered pursuant to an effective registration statement under the Securities Act of 1933, as amended, or (ii) eligible for resale pursuant to Rule 144, the Company may require, as a condition to such transfer, that the Holder or transferee of this Warrant, as the case may be, provide to the Company an opinion of counsel selected by the Holder and reasonably acceptable to the Company, the form and substance of which opinion shall be reasonably satisfactory to the Company, to the effect that such transfer does not require registration of such transferred Warrant under the Securities Act of 1933, as amended. Upon such surrender and, if required, such payment, the Company shall execute and deliver or cause to be executed and delivered a new Warrant or Warrants in the name of the assignee or assignees, as applicable, and in the denomination or denominations specified in such instrument of assignment, and shall issue to the assignor a new Warrant evidencing the portion of this Warrant not so assigned, and this Warrant shall promptly be cancelled. The Warrant, if properly assigned in accordance herewith, may be exercised by a new holder for the purchase of Warrant Shares without having a new Warrant issued. The Company shall register or cause to be registered this Warrant, upon records to be maintained by the Company or Warrant Agent for that purpose, in the name of the record Holder hereof from time to time. The Company or Warrant Agent may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, absent actual notice to the contrary.

13. Severability; Construction; Headings. If any provision of this Warrant is prohibited by law or otherwise determined to be invalid or unenforceable by a court of competent jurisdiction, the provision that would otherwise be prohibited, invalid or unenforceable shall be deemed amended to apply to the broadest extent that it would be valid and enforceable, and the invalidity or unenforceability of such provision shall not affect the validity of the remaining provisions of this Warrant so long as this Warrant as so modified continues to express, without material

change, the original intentions of the parties as to the subject matter hereof and the prohibited nature, invalidity or unenforceability of the provision(s) in question does not substantially impair the respective expectations or reciprocal obligations of the parties or the practical realization of the benefits that would otherwise be conferred upon the parties. The parties will endeavor in good faith negotiations to replace the prohibited, invalid or unenforceable provision(s) with a valid provision(s), the effect of which comes as close as possible to that of the prohibited, invalid or unenforceable provision(s). This Warrant shall be deemed to be jointly drafted by the Company and the Holder and shall not be construed against any Person as the drafter hereof. The headings of this Warrant are for convenience of reference and shall not form part of, or affect the interpretation of, this Warrant.

14. Disclosure. In the event that the Company believes that a notice delivered by the Company in accordance with the terms of this Warrant contains material, nonpublic information relating to the Company or its subsidiaries, the Company shall simultaneously file such notice with the SEC pursuant to a Current Report on Form 8-K. In the absence of any such indication, the Holder shall be allowed to presume that all matters relating to such notice do not constitute material, nonpublic information relating to the Company or its subsidiaries.

15. Restrictions. The Holder acknowledges that the Warrant Shares acquired upon the exercise of this Warrant, if not registered and if the Holder does not utilize cashless exercise after expiration of the Rule 144 holding period, will contain a legend to the effect that the Warrant Shares are not registered.

16. Certain Definitions. For purposes of this Warrant, the following terms shall have the following meanings:

(a) “Affiliate” means any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a Person, as such terms are used in and construed under Rule 405 under the Securities Act of 1933, as amended.

(b) “Attribution Parties” means, collectively, the following Persons and entities: (i) any direct or indirect Affiliates of the Holder, (ii) any Person acting or who could be deemed to be acting as a Group together with the Holder or any of the foregoing and (iii) any other Persons whose beneficial ownership of the Company’s Common Stock would or could be aggregated with the Holder’s and the other Attribution Parties for purposes of Section 13(d) or Section 16 of the 1934 Act. For clarity, the purpose of the foregoing is to subject collectively the Holder and all other Attribution Parties to the Maximum Percentage.

(c) “Bid Price” means, for any security as of the particular time of determination, the bid price for such security on the Principal Market as reported by Bloomberg as of such time of determination, or, if the Principal Market is not the principal securities exchange or trading market for such security, the bid price of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg as of such time of determination, or if the foregoing does not apply, the bid price of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg as of such time of determination, or, if no bid price is reported for such security by Bloomberg as of such time of determination, the average of the bid prices of any market makers for such security as reported in the “pink sheets” by OTC Markets Group Inc. (formerly Pink Sheets LLC) as of such time of determination. If the Bid Price cannot be calculated for a security as of the particular time of determination on any of the foregoing bases, the Bid Price of such security as of such time of determination shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved in accordance with the procedures in Section 10. All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination or other similar transaction during such period.

(d) “Bloomberg” means Bloomberg Financial Markets.

(e) “Business Day” means any day other than Saturday, Sunday or other day on which commercial banks in The City of New York are authorized or required by law to remain closed.

(f) “Closing Bid Price” and “Closing Sale Price” means, for any security as of any date, the last closing bid price and last closing trade price, respectively, for such security on the Principal Market, as reported by Bloomberg, or, if the Principal Market begins to operate on an extended hours basis and does not designate the closing bid price or the closing trade price, as the case may be, then the last bid price or the last trade price, respectively, of such security prior to 4:00:00 p.m., New York time, as reported by Bloomberg, or, if the Principal Market is not the principal securities exchange or trading market for such security, the last closing bid price or last trade price, respectively, of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg, or if the foregoing do not apply, the last closing bid price or last trade price, respectively, of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg, or, if no closing bid price or last trade price, respectively, is reported for such security by Bloomberg, the average of the bid prices, or the ask prices, respectively, of any market makers for such security as reported in

the OTC Link or “pink sheets” by OTC Markets Group Inc. (formerly Pink OTC Markets Inc.). If the Closing Bid Price or the Closing Sale Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Closing Bid Price or the Closing Sale Price, as the case may be, of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved pursuant to Section 10. All such determinations to be appropriately adjusted for any stock dividend, stock split, stock combination, reclassification or other similar transaction during the applicable calculation period.

(g) “Common Stock” means (i) the Company’s Common Stock, par value \$0.001 per share, (ii) any capital stock into which such Common Stock shall have been changed or any capital stock resulting from a reclassification of such Common Stock, and (iii) at the Holder’s election, if such non-voting class of Common Stock exists, any non-voting class of Common Stock.

(h) “Convertible Securities” means any stock or securities or other contractual rights (other than Options) directly or indirectly convertible into, settled in or exercisable or exchangeable for shares of Common Stock.

(i) “Eligible Market” means The Nasdaq Capital Market, the NYSE American LLC, The Nasdaq Global Select Market, The Nasdaq Global Market or The New York Stock Exchange, Inc.

(j) “Excluded Issuances” means any issuance or sale (or deemed issuance or sale in accordance with Section 2(h)) by the Company after the Issuance Date of: (a) shares of Common Stock issued upon the exercise of this Warrant; (b) shares of Common Stock issued directly or upon the conversion, settlement or exercise of Options or Convertible Securities to directors, officers, employees, or consultants of the Company in connection with their service as directors of the Company, their employment by the Company or their retention as consultants by the Company, in each case authorized by the Board or a duly authorized committee thereof and issued pursuant to the Company’s equity incentive plan or outside of the Company’s equity incentive plan in accordance with Nasdaq Listing Rule 5635(c)(4) or its successor thereto; (c) shares of Common Stock issued to individuals pursuant to the Company’s employee stock purchase plan; (d) shares of Common Stock issued upon the conversion or exercise of Options (other than Options covered by clause (b) above) or Convertible Securities issued prior to the Issuance Date, provided that such securities are not amended after the date hereof to increase the number of shares of Common Stock issuable thereunder or to lower the exercise or conversion price thereof; (e) shares of Common Stock, Options or Convertible Securities issued (i) to persons in connection with a joint venture, strategic alliance or other commercial relationship with such person (including persons that are customers, suppliers and strategic partners of the Company) relating to the operation of the Company’s business and not for the primary purpose of raising equity capital, (ii) as acquisition consideration in a transaction in which the Company, directly or indirectly, acquires another business or its tangible or intangible assets, or (iii) to lenders as equity kickers in connection with debt financings of the Company, in each case where such transactions have been approved by the Board; or (f) shares of Common Stock, Options or Convertible Securities issued to the lessor or vendor in any office lease or equipment lease or similar equipment financing transaction in which the Company obtains the use of such office space or equipment for its business.

(k) “Expiration Date” means the fifth (5<sup>th</sup>) anniversary of the Issuance Date.

(l) “Group” means a “group” as that term is used in Section 13(d) of the 1934 Act and as defined in Rule 13d-5 thereunder.

(m) “Options” means any rights, warrants or options to subscribe for or purchase shares of Common Stock or Convertible Securities.

(n) “Parent Entity” of a Person means an entity that, directly or indirectly, controls the applicable Person, including such entity whose common stock or equivalent equity security is quoted or listed on an Eligible Market, or, if there is more than one such Person or such entity, the Person or such entity designated by the Holder or in the absence of such designation, such Person or entity with the largest public market capitalization as of the date of consummation of the Fundamental Transaction.

(o) “Person” means an individual, a limited liability company, a partnership, a joint venture, a corporation, a trust, an unincorporated organization, any other entity and a government or any department or agency thereof.

(p) “Principal Market” means the Nasdaq Global Select Market.

(q) “Standard Settlement Period” means the standard settlement period, expressed in a number of Trading Days, for the Company’s primary trading market or quotation system with respect to the Common Stock that is in effect on the date of delivery of an applicable Exercise Notice, which as of the Issuance Date was “T+2”.

(r) “Subject Entity” means any Person, Persons or Group or any Affiliate or associate of any such Person, Persons or Group.

(s) “Successor Entity” means one or more Person or Persons formed by, resulting from or surviving any Fundamental Transaction or one or more Person or Persons with which such Fundamental Transaction shall have been entered into, or in each, case the resulting Parent Entity.

(t) “Trading Day” means any day on which the Common Stock is traded on the Principal Market, or, if the Principal Market is not the principal trading market for the Common Stock, then on the principal securities exchange or securities market on which the Common Stock is then traded.

(u) “Warrant Agent” means Broadridge Corporate Issuer Solutions, Inc.

(v) “Warrant Agent Agreement” means that certain warrant agency agreement, dated on or about the Issuance Date, between the Company and the Warrant Agent.

(w) “Weighted Average Price” means, for any security as of any date, the dollar volume-weighted average price for such security on the Principal Market during the period beginning at 9:30:01 a.m., New York time (or such other time as the Principal Market publicly announces is the official open of trading), and ending at 4:00:00 p.m., New York time (or such other time as the Principal Market publicly announces is the official close of trading), as reported by Bloomberg through its “Volume at Price” function or, if the foregoing does not apply, the dollar volume-weighted average price of such security in the over-the-counter market on the electronic bulletin board for such security during the period beginning at 9:30:01 a.m., New York time (or such other time as such market publicly announces is the official open of trading), and ending at 4:00:00 p.m., New York time (or such other time as such market publicly announces is the official close of trading), as reported by Bloomberg, or, if no dollar volume-weighted average price is reported for such security by Bloomberg for such hours, the average of the highest Closing Bid Price and the lowest closing ask price of any of the market makers for such security as reported in the OTC Link or “pink sheets” by OTC Markets Group Inc. (formerly Pink OTC Markets Inc.). If the Weighted Average Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Weighted Average Price of such security on such date shall be the fair market value as determined by the Board of Directors of the Company in good faith. All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination, reclassification or other similar transaction during the applicable calculation period.

17. Warrant Agent Agreement. If this Warrant is held in global form through DTC (or any successor depository), this Warrant is issued subject to the Warrant Agent Agreement. To the extent any provision of this Warrant conflicts with the express provisions of the Warrant Agent Agreement, the provisions of this Warrant shall govern and be controlling.

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IN WITNESS WHEREOF, the Company has caused this Warrant to be duly executed as of the Issuance Date set out above.

**OPTINOSE, INC.**

By: \_\_\_  
Name:  
Title:

EXHIBIT A

FORM OF EXERCISE NOTICE

[To be executed by the Holder to purchase shares of Common Stock under the Warrant]

**OPTINOSE, INC.**

The undersigned holder hereby exercises the attached Warrant to Purchase Common Stock (the "Warrant") with respect to \_\_\_\_\_ shares of Common Stock ("Warrant Shares") of OptiNose, Inc., a Delaware corporation (the "Company") in the manner indicated below. Capitalized terms used herein and not otherwise defined shall have the respective meanings set forth in the Warrant.

1. Form of Exercise. The Holder intends that exercise shall be made as:

a "Cash Exercise" with respect to Warrant Shares; or

a "Cashless Exercise" with respect to Warrant Shares.

2. Payment of Exercise Price. In the event that this notice relates to a Cash Exercise with respect to some or all of the Warrant Shares to be issued pursuant hereto, the holder shall pay the Aggregate Exercise Price in the sum of \$ \_\_\_\_\_ to the Company in accordance with the terms of the Warrant.

3. Delivery of Warrant Shares. The Company shall deliver to the holder Warrant Shares in accordance with the terms of the Warrant.

Dated: \_\_\_\_\_

Name of Holder: \_\_\_\_\_

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

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

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

(Signature must conform in all respects to name of Holder as specified on the face of the Warrant)

**ACKNOWLEDGMENT**

The Company hereby acknowledges this Exercise Notice and hereby directs Broadridge Corporate Issuer Solutions, Inc. to issue the above indicated number of shares of Common Stock on or prior to the applicable Delivery Date.

**OPTINOSE, INC.**

By: \_\_\_\_\_  
Name:  
Title:

EXHIBIT B

ASSIGNMENT FORM

*(To assign the foregoing Warrant, execute this form and supply required information. Do not use this form to purchase shares.)*

FOR VALUE RECEIVED, the foregoing Warrant and all rights evidenced thereby are hereby assigned to

Name:

(Please Print)

Address:

(Please Print)

Phone Number:

\_\_\_\_\_

Email Address:

\_\_\_\_\_

Dated: \_\_\_\_\_, \_\_\_\_\_

Holder's Signature:

Holder's Address:

OPTINOSE, INC.

FORM OF WARRANT TO PURCHASE COMMON STOCK

Warrant No. \_\_\_\_\_

Number of Shares: \_\_\_\_\_

Date of Issuance: November 23, 2022 (“Issuance Date”)

CUSIP: 68404V118

OptiNose, Inc. a Delaware corporation (the “Company”), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, \_\_\_\_\_ or its permitted assigns (the “Holder”), is entitled, subject to the terms set forth below, to purchase from the Company, at the Exercise Price (as defined below) then in effect, at any time on or after the Issuance Date, but not after 11:59 p.m., New York time, on the Expiration Date (as defined below), \_\_\_\_\_ fully paid non-assessable shares of Common Stock (as defined below) (the “Warrant Shares”), subject to adjustment as provided herein. This Warrant to Purchase Common Stock (including any Warrants to Purchase Common Stock issued in exchange, transfer or replacement hereof, this “Warrant”) is one of the Warrants to Purchase Common Stock (the “Warrants”) issued in connection with the transactions contemplated by that certain Underwriting Agreement (the “Underwriting Agreement”), dated November 21, 2022, between the Company and Piper Sandler & Co., as representative of the underwriters named therein. Except as otherwise defined herein, capitalized terms in this Warrant shall have the meanings set forth in Section 16. Unless the Warrants are issued in paper form for a Holder, this Warrant shall, other than in respect of such Holder, initially be issued and maintained in the form of a security held in book-entry form and the Depository Trust Company or its nominee (“DTC”) shall initially be the sole registered holder of this Warrant.

1. Exercise of Warrant.

(a) Mechanics of Exercise. Subject to the terms and conditions hereof (including, without limitation, the limitations set forth in Section 1(f)), this Warrant may be exercised by the Holder at any time, in whole or in part, by delivery (whether via electronic mail or otherwise) of a written notice, in the form attached hereto as Exhibit A (the “Exercise Notice”), of the Holder’s election to exercise this Warrant for Warrant Shares, to the Company or Warrant Agent (or such other office or agency of the Company as it may designate by notice in writing to the registered Holder at the address of the Holder appearing on the books of the Company). Within one (1) Trading Day following the delivery of the Exercise Notice, the Holder shall make payment to the Company of an amount equal to the Exercise Price in effect on the date of such exercise multiplied by the number of Warrant Shares as to which this Warrant is being exercised (the “Aggregate Exercise Price”) in cash by wire transfer of immediately available funds or, only if the provisions of Section 1(d) are applicable, by notifying the Company that this Warrant is being exercised pursuant to a Cashless Exercise (as defined below). The Holder shall not be required to deliver the original Warrant in order to effect an exercise hereunder (until the Warrant has been exercised in full). Execution and delivery of the Exercise Notice with respect to less than all of the Warrant Shares shall have the same effect as cancellation of the original Warrant and issuance of a new Warrant evidencing the right to purchase the remaining number of Warrant Shares and the Holder shall not be required to physically surrender this Warrant to the Company or the Warrant Agent until the Warrant has been exercised in full, in which case, the Holder shall surrender this Warrant to the Company or the Warrant Agent for cancellation (or shall deliver to the Company a reasonable affidavit of loss and indemnity undertaking in lieu thereof) within three (3) Trading Days of the date on which the final Exercise Notice is delivered to the Company. On or before the first (1<sup>st</sup>) Trading Day following the date on which the Holder has delivered the applicable Exercise Notice, the Company shall transmit by electronic mail an acknowledgment of confirmation of receipt of the Exercise Notice, in the form attached to the Exercise Notice, to the Holder and the Company’s transfer agent (the “Transfer Agent”). So long as the Holder delivers the Aggregate Exercise Price (or notice of a Cashless Exercise, if applicable) on or prior to the first (1<sup>st</sup>) Trading Day following the date on which the Exercise Notice has been delivered to the Company, then on or prior to the earlier of (i) the second (2<sup>nd</sup>) Trading Day and (ii) the number of Trading Days comprising the Standard Settlement Period, in each case following the date on which the Exercise Notice has been delivered to the Company, or, if the Holder does not deliver the Aggregate Exercise Price (or notice of a Cashless Exercise, if applicable) on or prior to the first (1<sup>st</sup>) Trading Day following the date on which the Exercise Notice has been delivered to the Company, then on or prior to the first (1<sup>st</sup>) Trading Day following the date on which the Aggregate Exercise Price (or notice of a Cashless Exercise, if applicable) is delivered to the Company (such earlier date, or if later, the earliest day on which the Company is required to deliver Warrant Shares pursuant

to this Section 1(a), the “Delivery Date”), the Company shall credit such aggregate number of shares of Common Stock to which the Holder is entitled pursuant to such exercise to the Holder’s or its designee’s balance account with The Depository Trust Company (“DTC”) through its Deposit/Withdrawal At Custodian system provided that the Transfer Agent is then a participant in the DTC Fast Automated Securities Transfer Program (“FAST”) and either (x) there is an effective registration statement permitting the issuance of such Warrant Shares to or resale of such Warrant Shares by the Holder or (y) such Warrant Shares are eligible for resale by the Holder without limitations pursuant to Rule 144 promulgated under the Securities Act, and otherwise issue such Warrant Shares in the name of the Holder or its designee in restricted book-entry form in the Company’s share register. The Company agrees to maintain a transfer agent that is a participant in FAST so long as this Warrant remains outstanding and exercisable. The Company shall be responsible for all fees and expenses of the Transfer Agent and all fees and expenses with respect to the issuance of Warrant Shares via DTC, if any, including without limitation for same day processing. Upon delivery of the Exercise Notice, if the Holder is exercising this Warrant for Warrant Shares, the Holder shall be deemed for all corporate purposes to have become the holder of record and beneficial owner of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date such Warrant Shares are credited to the Holder’s DTC account or the date of delivery of the book entry positions evidencing such Warrant Shares, as the case may be. If this Warrant is physically delivered to the Company in connection with any exercise pursuant to this Section 1(a) and the number of Warrant Shares represented by this Warrant submitted for exercise is greater than the number of Warrant Shares being acquired upon an exercise, then the Company shall as soon as practicable and in no event later than three (3) Trading Days after any exercise and at its own expense, issue and deliver or cause to be issued and delivered to the Holder (or its designee) a new Warrant (in accordance with Section 6(d)) representing the right to purchase the number of Warrant Shares issuable immediately prior to such exercise under this Warrant, less the number of Warrant Shares with respect to which this Warrant is exercised. No fractional Warrant Shares are to be issued upon the exercise of this Warrant, but rather the number of Warrant Shares to be issued shall be rounded to the nearest whole number. The Company shall pay any and all transfer, stamp, issuance and similar taxes, costs and expenses (including, without limitation, fees and expenses of the Transfer Agent) which may be payable with respect to the issuance and delivery of Warrant Shares upon exercise of this Warrant. The Company’s obligations to issue and deliver or cause to be issued and delivered Warrant Shares in accordance with the terms and subject to the conditions hereof are absolute and unconditional, irrespective of any action or inaction by the Holder to enforce the same, any waiver or consent with respect to any provision hereof, the recovery of any judgment against any Person or any action to enforce the same, or any setoff, counterclaim, recoupment, limitation or termination; provided, however, that the Company shall not be required to deliver or cause to be delivered Warrant Shares with respect to an exercise prior to the Holder’s delivery of the Aggregate Exercise Price (or notice of a Cashless Exercise, if applicable) with respect to such exercise. If the Company fails to deliver or cause to be delivered to the Holder the Warrant Shares pursuant to this Section 1(a) by the Delivery Date, then the Holder will have the right to rescind such exercise by delivering written notice to the Company at any time prior to the Company delivering or causing the delivery of such Warrant Shares. Notwithstanding anything to the contrary herein, the Company and Warrant Agent may deem and treat the registered Holder of this Warrant as the absolute owner hereof for any and all purposes hereunder (including, without limitation, the delivery of any exercise hereunder) and is entitled to rely on instruction from such registered Holder of this Warrant without liability. Notwithstanding anything to the contrary in this Section 1(a), a holder whose interest in this Warrant is a beneficial interest in certificate(s) representing this Warrant held in book-entry form through DTC (or another established clearing corporation performing similar functions), shall effect exercises made pursuant to this Section 1(a) by delivering to DTC (or such other clearing corporation, as applicable) the appropriate instruction form for exercise and complying with the procedures to effect exercise that are required by DTC (or such other clearing corporation, as applicable), subject to a Holder’s right to elect to receive a Warrant in certificated form pursuant to the terms of the Warrant Agent Agreement, in which case this sentence shall not apply.

(b) Exercise Price. For purposes of this Warrant, “Exercise Price” means \$2.565 per share, subject to adjustment as provided herein.

(c) Company’s Failure to Timely Deliver Securities. In addition to any other rights available to the Holder, if the Company fails to cause the Transfer Agent to transmit to the Holder or its designee the required number of Warrant Shares in accordance with the provisions of Section 1(a) above pursuant to an exercise on or before the Delivery Date (other than a failure caused by incorrect or incomplete information provided by the Holder to the Company), and if after such date the Holder is required by its broker to purchase (in an open market transaction or otherwise) or the Holder’s brokerage firm otherwise purchases, shares of Common Stock to deliver in satisfaction of a sale by the Holder of the Warrant Shares which the Holder anticipated receiving upon such exercise (a “Buy-In”), then the Company shall (A) pay in cash to the Holder the amount, if any, by which (x) the Holder’s total purchase price (including brokerage commissions, if any) for the shares of Common Stock so purchased exceeds (y) the amount obtained by multiplying (1) the number of Warrant Shares that the Company was required to deliver to the Holder in connection with the exercise at issue times (2) the price at which the sell order giving rise to such purchase obligation was executed, and (B) at the option of the Holder, either reinstate the portion of the Warrant and equivalent number of Warrant Shares for which such exercise was not honored (in which case such exercise shall be

deemed rescinded) or deliver to the Holder the number of shares of Common Stock that would have been issued had the Company timely complied with its exercise and delivery obligations hereunder. For example, if the Holder purchases Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted exercise of shares of Common Stock with an aggregate sale price giving rise to such purchase obligation of \$10,000, under clause (A) of the immediately preceding sentence, the Company shall be required to pay the Holder \$1,000. The Holder shall provide the Company written notice within three (3) Trading Days after the occurrence of a Buy-In, indicating the amounts payable to the Holder in respect of the Buy-In and evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue a decree of specific performance and/or injunctive relief with respect to the Company's failure to timely deliver shares of Common Stock upon exercise of the Warrant as required pursuant to the terms hereof. The Company shall pay any payments incurred under this Section 1(c) in immediately available funds upon demand.

(d) Cashless Exercise. If at the time of exercise hereof, there is no effective registration statement registering, or the prospectus therein is not available for, the issuance of the Warrant Shares to the Holder, the Holder may exercise this Warrant in whole or in part by, in lieu of making the cash payment otherwise contemplated to be made to the Company upon such exercise in payment of the Aggregate Exercise Price, receiving upon such exercise the "Net Number" of shares of Common Stock determined according to the following formula (a "Cashless Exercise"):

$$\text{Net Number} = \frac{(A \times B) - (A \times C)}{B}$$

For purposes of the foregoing formula:

A = the total number of shares with respect to which this Warrant is then being exercised.

B = as applicable: (i) the Closing Sale Price of the Common Stock on the Trading Day immediately preceding the date of the applicable Exercise Notice if such Exercise Notice is (1) both executed and delivered pursuant to Section 1(a) hereof on a day that is not a Trading Day or (2) both executed and delivered pursuant to Section 1(a) hereof on a Trading Day prior to the opening of "regular trading hours" (as defined in Rule 600(b)(64) of Regulation NMS promulgated under the federal securities laws) on such Trading Day, (ii) at the option of the Holder, either (y) the Weighted Average Price on the Trading Day immediately preceding the date of the applicable Exercise Notice or (z) the Bid Price of the Common Stock as of the time of the Holder's execution of the applicable Exercise Notice if such Exercise Notice is executed during "regular trading hours" on a Trading Day and is delivered within two (2) hours thereafter (including until two (2) hours after the close of "regular trading hours" on a Trading Day) pursuant to Section 1(a) hereof or (iii) the Closing Sale Price of the Common Stock on the date of the applicable Exercise Notice if the date of such Exercise Notice is a Trading Day and such Exercise Notice is both executed and delivered pursuant to Section 1(a) hereof after the close of "regular trading hours" on such Trading Day.

C = the Exercise Price then in effect for the applicable Warrant Shares at the time of such exercise.

If Warrant Shares are issued in such a Cashless Exercise, the Company acknowledges and agrees that in accordance with Section 3(a)(9) of the Securities Act of 1933, as amended, the Warrant Shares shall take on the registered characteristics of the Warrants being exercised, and the holding period of the Warrants being exercised may be tacked on to the holding period of the Warrant Shares (provided that the Securities and Exchange Commission (the "SEC") continues to take the position that such treatment is proper at the time of such exercise). The Company agrees not to take any position contrary to this Section 1(d). For the avoidance of doubt, the Holder may utilize Cashless Exercise as contemplated by this Section 1(d) only if at the time of exercise hereof, there is no effective registration statement registering, or the prospectus therein is not available for, the issuance of the Warrant Shares to the Holder. In all other scenarios, the Holder shall only be permitted to exercise this Warrant in cash in accordance with Section 1(a).

(e) Disputes. In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Company shall promptly issue to the Holder the number of Warrant Shares that are not disputed and resolve such dispute in accordance with Section 10.

(f) Beneficial Ownership. The Holder shall be prohibited from exercising this Warrant if, immediately prior to or following such exercise (or portion of such exercise thereof), the Holder, together with its Attribution Parties, beneficially owns or would beneficially own as determined in accordance with Section 13(d) of the Securities

Exchange Act of 1934, as amended (the “1934 Act”), more than 4.99% (or, upon election by a Holder prior to the issuance of any Warrants, 9.99%) (the “Maximum Percentage”) of the issued and outstanding Common Stock or any other class of equity security (other than an exempted security) of the Company that is registered pursuant to Section 12 of the 1934 Act. For purposes of calculating beneficial ownership, the aggregate number of shares of Common Stock beneficially owned by the Holder, together with its Attribution Parties, shall include the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which the determination is being made, but shall exclude the number of shares of Common Stock which are issuable upon (i) conversion of the remaining, unconverted portion of this Warrant beneficially owned by the Holder, together with its Attribution Parties, and (ii) exercise or conversion of the unexercised or unconverted portion of any other securities of the Company beneficially owned by the Holder, together with its Attribution Parties (including, without limitation, any convertible notes, convertible stock or warrants) that are subject to a limitation on conversion or exercise analogous to the limitation contained herein. For purposes of this Section 1(f), beneficial ownership shall be calculated and determined in accordance with Section 13(d) of the 1934 Act and the rules promulgated thereunder, it being acknowledged and agreed that the Holder is solely responsible for any schedules required to be filed in accordance therewith. For purposes of this Warrant, in determining the number of outstanding shares of Common Stock, the Holder may rely on the number of outstanding shares of Common Stock as reflected in (1) the Company’s most recent Form 10-K, Form 10-Q, Current Report on Form 8-K or other public filing with the SEC, as the case may be, (2) a more recent public announcement by the Company or (3) any written other notice by the Company or the Company’s transfer agent setting forth the number of shares of Common Stock outstanding. For any reason at any time, upon the written request of the Holder, the Company shall within two (2) Business Days confirm to the Holder the number of shares of Common Stock then outstanding. The Holder shall disclose to the Company the number of shares of Common Stock that it, its Affiliates or any other Attribution Party owns and has the right to acquire through the exercise of derivative securities and any limitations on exercise or conversion analogous to the limitation contained herein contemporaneously or immediately prior to exercising this Warrant. Any purported delivery of any number of shares of Common Stock or any other security upon exercise of this Warrant shall be void and have no effect to the extent, but only to the extent, that before or after such delivery, the exercising Holder, together with its Affiliates and any other Attribution Party would have beneficial ownership in excess of the Maximum Percentage. By written notice to the Company, the Holder may from time to time increase or decrease the Maximum Percentage to any other percentage not in excess of 19.99% specified in such notice; provided that any increase in the Maximum Percentage will not be effective until the sixty-first (61st) day after such notice is delivered to the Company.

(g) Reservation of Warrant Shares. The Company covenants that it will, at all times while this Warrant is outstanding, reserve and keep available out of the aggregate of its authorized but unissued and otherwise unreserved Common Stock, solely for the purpose of enabling it to issue Warrant Shares upon exercise of this Warrant as herein provided, the number of Warrant Shares that are issuable and deliverable upon the exercise of this entire Warrant, free from preemptive rights or any other Purchase Rights (as defined below) of Persons other than the Holder (taking into account the adjustments and restrictions of Section 2). The Company covenants that all Warrant Shares so issuable and deliverable shall, upon issuance and the payment of the applicable Exercise Price in accordance with the terms hereof, be duly and validly authorized, issued and fully paid and non-assessable. The Company will take all actions as may be necessary to assure that such shares of Common Stock may be issued as provided herein without violation of any applicable law or regulation, of any requirements of any securities exchange or automated quotation system upon which the Common Stock may be listed or of any contract to which the Company or any of its subsidiaries is bound.

## 2. Adjustment of Exercise Price and Number of Warrant Shares Upon Certain Events.

(a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding, (i) pays a dividend on its Common Stock or otherwise makes a distribution on any class of capital stock issued and outstanding on the Issuance Date and in accordance with the terms of such stock on the Issuance Date or as amended, that is payable in shares of Common Stock or in Options or Convertible Securities, (ii) subdivides (by any stock split, recapitalization, or otherwise) its outstanding shares of Common Stock into a larger number of shares of Common Stock, (iii) combines its outstanding shares of Common Stock into a smaller number of shares of Common Stock or (iv) issues by reclassification of shares of capital stock any additional shares of Common Stock of the Company, then in each such case the Exercise Price shall be multiplied by a fraction, the numerator of which shall be the number of shares of Common Stock outstanding immediately before such event and the denominator of which shall be the number of shares of Common Stock outstanding immediately after such event. Any adjustment made pursuant to clause (i) of this paragraph shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution, provided, however, that if such record date shall have been fixed and such dividend is not fully paid on the date fixed therefor, the Exercise Price shall be recomputed accordingly as of the close of business on such record date and thereafter the Exercise Price shall be adjusted pursuant to this paragraph as of the time of actual payment of such dividends. Any adjustment pursuant to clause (ii) through (iv) of this paragraph shall become effective immediately after the effective date of such subdivision, combination or issuance.

(b) Pro Rata Distributions. If, on or after the Issuance Date and on or prior to the Expiration Date, the Company shall declare or make any dividend or other pro rata distribution of its assets (or rights to acquire its assets) to holders of all of its shares of Common Stock by way of return of capital or otherwise for no consideration (including, without limitation, any distribution of cash, stock or other securities, property, options, evidence of indebtedness or any other assets by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction, but, for the avoidance of doubt, excluding any distribution of shares of Common Stock subject to Section 2(a), any distribution of Purchase Rights subject to Section 2(c) and any Fundamental Transaction (as defined below) subject to Section 3) (a “Distribution”) then, in each such case, the Exercise Price shall be adjusted by multiplying the Exercise Price in effect immediately prior to the record date fixed for determination of stockholders entitled to receive such Distribution by a fraction, of which the denominator shall be the Weighted Average Price determined as of the record date mentioned above, and of which the numerator shall be such Weighted Average Price on such record date less the then per share fair market value at such record date of the portion of such Distribution so distributed applicable to one outstanding share of the Common Stock as determined by the Board of Directors of the Company in good faith. The adjustment shall be described in a statement provided to the Holder. Such adjustment shall be made whenever any such Distribution is made and shall become effective immediately after the record date mentioned above.

(c) Purchase Rights. If at any time on or after the Issuance Date and on or prior to the Expiration Date, the Company grants, issues or sells any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property, in each case pro rata to all of the record holders of any class of Common Stock (the “Purchase Rights”), then the Holder will be entitled to acquire, upon the terms applicable to such Purchase Rights, the aggregate Purchase Rights which the Holder could have acquired if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations or restrictions on exercise of this Warrant, including without limitation, the Maximum Percentage) immediately before the date on which a record is taken for the grant, issuance or sale of such Purchase Rights, or, if no such record is taken, the date as of which the record holders of Common Stock are to be determined for the grant, issuance or sale of such Purchase Rights (provided, that to the extent that the Holder’s right to participate in any such Purchase Right would result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, then the Holder shall not be entitled to participate in such Purchase Right to such extent (and shall not be entitled to beneficial ownership of such Common Stock as a result of such Purchase Right (and beneficial ownership) to such extent) and such Purchase Right to such extent shall be held in abeyance for the benefit of the Holder until such time or times as its right thereto would not result in the Holder and the other Attribution Parties exceeding the Maximum Percentage, at which time or times the Holder shall be granted such right (and any Purchase Right granted, issued or sold on such initial Purchase Right or on any subsequent Purchase Right to be held similarly in abeyance) to the same extent as if there had been no such limitation). As used in this Section 2(c), “Convertible Securities” mean any capital stock, debt, securities or other contractual rights (other than Options) directly or indirectly convertible into or exercisable or exchangeable for shares of Common Stock.

(d) Number of Warrant Shares. Simultaneously with any adjustment to the Exercise Price pursuant to paragraph (a) or (b) of this Section 2, the number of Warrant Shares that may be purchased upon exercise of this Warrant shall be increased or decreased proportionately, so that after such adjustment, the aggregate Exercise Price payable hereunder for the increased or decreased number of Warrant Shares shall be the same as the aggregate Exercise Price in effect immediately prior to such adjustment.

(e) Calculations. All calculations under this Section 2 shall be made to the nearest one ten-thousandth of one cent or the nearest share, as applicable.

(f) Adjustment to Exercise Price Upon Issuance of Common Stock. Except as provided in Section 2(g) and except in the case of an event described in either Section 2(a) through Section 2(c) or Section 2(i), if the Company shall, at any time or from time to time after the Issuance Date, issue or sell, or in accordance with Section 2(h) is deemed to have issued or sold, any shares of common stock without consideration or for consideration per share (the “New Issuance Price”) less than the Exercise Price in effect immediately prior to such issuance or sale (or deemed issuance or sale), then immediately upon such issuance or sale (or deemed issuance or sale), the Exercise Price in effect immediately prior to such issuance or sale (or deemed issuance or sale) shall be reduced (and in no event increased) to an Exercise Price equal to the New Issuance Price.

(g) Exceptions To Adjustment Upon Issuance of Common Stock. Anything herein to the contrary notwithstanding, there shall be no adjustment to the Exercise Price or the number of Warrant Shares issuable upon exercise of this Warrant with respect to any Excluded Issuance.

(h) Effect of Certain Events on Adjustment to Exercise Price. For purposes of determining the adjusted Exercise Price under Section 2(f) hereof, the following shall be applicable:

(i) Issuance of Convertible Securities. If the Company shall, at any time or from time to time after the Issuance Date, in any manner grant or sell (whether directly or by assumption in a merger or otherwise) any Convertible Securities, whether or not the right to convert or exchange any such Convertible Securities is immediately exercisable, and the price per share (determined as provided in this paragraph and in Section 2(h)(v)) for which Common Stock is issuable upon the conversion or exchange of such Convertible Securities is less than the Exercise Price in effect immediately prior to the time of the granting or sale of such Convertible Securities, then the total maximum number of shares of Common Stock issuable upon conversion or exchange of the total maximum amount of such Convertible Securities shall be deemed to have been issued as of the date of granting or sale of such Convertible Securities without giving effect to any anti-dilution or similar adjustment unless and until triggered (and thereafter shall be deemed to be outstanding for purposes of adjusting the Exercise Price pursuant to Section 2(f)), at a price per share equal to the quotient obtained by dividing (A) the sum (which sum shall constitute the applicable consideration received for purposes of Section 2(f)) of (x) the total amount, if any, received or receivable by the Company as consideration for the granting or sale of such Convertible Securities, plus (y) the minimum aggregate amount of additional consideration, if any, payable to the Company upon the conversion or exchange of all such Convertible Securities, by (B) the total maximum number of shares of Common Stock issuable upon the conversion or exchange of all such Convertible Securities. Except as otherwise provided in Section 2(h)(iii), no further adjustment of the Exercise Price shall be made upon the actual issuance of Common Stock upon conversion or exchange of such Convertible Securities or the issue or sale of Convertible Securities upon exercise of any Options to purchase any such Convertible Securities for which adjustments of the Exercise Price have been made pursuant to the other provisions of this Section 2(h).

(ii) Issuance of Options. If the Company shall, at any time or from time to time after the Issuance Date, in any manner grant or sell (whether directly or by assumption in a merger or otherwise) any Options, whether or not such Options or the right to convert or exchange any Convertible Securities issuable upon the exercise of such Options are immediately exercisable, and the price per share (determined as provided in this paragraph and in Section 2(h)(v)) for which Common Stock is issuable upon the exercise of such Options or upon the conversion or exchange of Convertible Securities issuable upon the exercise of such Options is less than the Exercise Price in effect immediately prior to the time of the granting or sale of such Options, then the total maximum number of shares of Common Stock issuable upon the exercise of such Options or upon conversion or exchange of the total maximum amount of Convertible Securities issuable upon the exercise of such Options shall be deemed to have been issued as of the date of granting or sale of such Options without giving effect to any anti-dilution or similar adjustment unless and until triggered (and thereafter shall be deemed to be outstanding for purposes of adjusting the Exercise Price under Section 2(f)), at a price per share equal to the quotient obtained by dividing (A) the sum (which sum shall constitute the applicable consideration received for purposes of Section 2(f)) of (x) the total amount, if any, received or receivable by the Company as consideration for the granting or sale of all such Options, plus (y) the minimum aggregate amount of additional consideration payable to the Company upon the exercise of all such Options, plus (z), in the case of such Options which relate to Convertible Securities, the minimum aggregate amount of additional consideration, if any, payable to the Company upon the issuance or sale of all such Convertible Securities and the conversion or exchange of all such Convertible Securities, by (B) the total maximum number of shares of Common Stock issuable upon the exercise of all such Options or upon the conversion or exchange of all Convertible Securities issuable upon the exercise of all such Options. Except as otherwise provided in Section 2(h)(iii), no further adjustment of the Exercise Price shall be made upon the actual issuance of Common Stock or of Convertible Securities upon exercise of such Options or upon the actual issuance of Common Stock upon conversion or exchange of Convertible Securities issuable upon exercise of such Options.

(iii) Change in Terms of Options or Convertible Securities. Upon any change in any of (A) the total amount received or receivable by the Company as consideration for the granting or sale of any Convertible Securities or Options referred to in Section 2(h)(i) or Section 2(h)(ii) hereof, (B) the minimum aggregate amount of additional consideration, if any, payable to the Company upon the exercise of any Options or upon the issuance, conversion or exchange of any Convertible Securities referred to in Section 2(h)(i) or Section 2(h)(ii) hereof, (C) the rate at which Convertible Securities referred to in Section 2(h)(i) or Section 2(h)(ii) hereof are convertible into or exchangeable for Common Stock, or (D) the maximum number of shares of Common Stock issuable in connection with any Options referred to in Section 2(h)(ii) hereof or any Convertible Securities referred to in Section 2(h)(i) hereof (in each case, other than in connection with an Excluded Issuance), then (whether or not the original issuance or sale of such Options or Convertible Securities resulted in an adjustment to the Exercise Price pursuant to this Section 2) the Exercise Price in effect at the time of such change shall be adjusted or readjusted, as applicable, to the Exercise Price which would have been in effect at such time pursuant to the provisions of this Section 2 had such Options or Convertible Securities still outstanding provided for such changed consideration, conversion rate or maximum number of shares, as the case may be, at the time initially granted, issued or sold, but only if as a result of such adjustment or readjustment the Exercise Price then in effect is reduced.

(iv) Treatment of Expired or Terminated Options or Convertible Securities. Upon the expiration or termination of any unexercised Option (or portion thereof) or any unconverted or unexchanged Convertible Security (or portion thereof) for which any adjustment (either upon its original issuance or upon a revision of its terms) was made pursuant to this Section 2 (including without limitation upon the redemption or purchase for consideration of all or any portion of such Option or Convertible Security by the Company), the Exercise Price then in effect hereunder shall forthwith be changed pursuant to the provisions of this Section 2 to the Exercise Price which would have been in effect at the time of such expiration or termination had such unexercised Option (or portion thereof) or unconverted or unexchanged Convertible Security (or portion thereof), to the extent outstanding immediately prior to such expiration or termination, never been issued.

(v) Calculation of Consideration Received. If the Company shall, at any time or from time to time after the Issuance Date, issue or sell, or is deemed to have issued or sold in accordance with Section 2(h), any shares of Common Stock, Options or Convertible Securities: (A) for cash, the consideration received therefor shall be deemed to be the net amount received by the Company therefor; (B) for consideration other than cash, the amount of the consideration other than cash received by the Company shall be the fair value of such consideration, except where such consideration consists of marketable securities, in which case the amount of consideration received by the Company shall be the market price (as reflected on any securities exchange, quotation system or association or similar pricing system covering such security) for such securities as of the end of business on the date of receipt of such securities; (C) for no specifically allocated consideration in connection with an issuance or sale of other securities of the Company, together comprising one integrated transaction, the amount of the consideration therefor shall be deemed to be the fair value of such portion of the aggregate consideration received by the Company in such transaction as is attributable to such shares of Common Stock, Options or Convertible Securities, as the case may be, issued in such transaction; or (D) to the owners of the non-surviving entity in connection with any merger in which the Company is the surviving corporation, the amount of consideration therefor shall be deemed to be the fair value of such portion of the net assets and business of the non-surviving entity as is attributable to such shares of Common Stock, Options or Convertible Securities, as the case may be, issued to such owners. The net amount of any cash consideration and the fair value of any consideration other than cash or marketable securities shall be determined in good faith by the Company's Board of Directors.

(vi) Treasury Shares. The number of shares of Common Stock outstanding at any given time shall not include shares owned or held by or for the account of the Company or any of its wholly-owned subsidiaries, and the disposition of any such shares (other than the cancellation or retirement thereof or the transfer of such shares among the Company and its wholly-owned subsidiaries) shall be considered an issue or sale of Common Stock for the purpose of this Section 2.

(i) Adjustment to Exercise Price Upon Reorganization, Reclassification, Consolidation or Merger. To the extent not provided in Section 3 herein, in the event of any (i) capital reorganization of the Company, (ii) reclassification of the stock of the Company (other than a change in par value or from par value to no par value or from no par value to par value or as a result of a stock dividend or subdivision, split-up or combination of shares), (iii) consolidation or merger of the Company with or into another Person, (iv) sale of all or substantially all of the Company's assets to another Person or (v) other similar transaction (other than any such transaction covered by Section 2(a)), in each case which entitles the holders of Common Stock to receive (either directly or upon subsequent liquidation) stock, securities or assets with respect to or in exchange for Common Stock, each Warrant shall, immediately after such reorganization, reclassification, consolidation, merger, sale or similar transaction, remain outstanding and shall thereafter, in lieu of or in addition to (as the case may be) the number of Warrant Shares then exercisable under this Warrant, be exercisable for the kind and number of shares of stock or other securities or assets of the Company or of the successor Person resulting from such transaction to which the Holder would have been entitled upon such reorganization, reclassification, consolidation, merger, sale or similar transaction if the Holder had exercised this Warrant in full immediately prior to the time of such reorganization, reclassification, consolidation, merger, sale or similar transaction and acquired the applicable number of Warrant Shares then issuable hereunder as a result of such exercise (without taking into account any limitations or restrictions on the exercisability of this Warrant); and, in such case, appropriate adjustment (in form and substance as determined by the Board of Directors of the Company in its reasonable discretion) shall be made with respect to the Holder's rights under this Warrant to insure that the provisions of this Section 2 hereof shall thereafter be applicable, as nearly as possible, to this Warrant in relation to any shares of stock, securities or assets thereafter acquirable upon exercise of this Warrant. The provisions of this Section 2(i) shall similarly apply to successive reorganizations, reclassifications, consolidations, mergers, sales or similar transactions. The Company shall not effect any such reorganization, reclassification, consolidation, merger, sale or similar transaction unless, prior to the consummation thereof, the successor Person (if other than the Company) resulting from such reorganization, reclassification, consolidation, merger, sale or similar transaction, shall assume, by written instrument substantially similar in form and substance to this Warrant as determined by the Company's Board of Directors in its reasonable discretion, the obligation to deliver to the Holder such shares of

stock, securities or assets which, in accordance with the foregoing provisions, such Holder shall be entitled to receive upon exercise of this Warrant.

(j) Certain Events. If any event of the type contemplated by the provisions of this Section 2 but not expressly provided for by such provisions (including, without limitation, the granting of stock appreciation rights, phantom stock rights or other rights with equity features) occurs, then the Board shall make an appropriate adjustment in the Exercise Price and, if applicable, the number of Warrant Shares issuable upon exercise of this Warrant so as to protect the rights of the Holder in a manner consistent with the provisions of this Section 2; provided, that no such adjustment pursuant to this Section 2(i) shall increase the Exercise Price or decrease the number of Warrant Shares issuable as otherwise determined pursuant to this Section 2.

(k) Notice of Adjustments. Upon the occurrence of each adjustment pursuant to this Section 2, the Company at its expense will, at the written request of the Holder, promptly compute such adjustment, in good faith, in accordance with the terms of this Warrant and prepare a certificate setting forth such adjustment, including a statement of the adjusted Exercise Price and adjusted number or type of Warrant Shares or other securities issuable upon exercise of this Warrant (as applicable), describing the transactions giving rise to such adjustments and showing in detail the facts upon which such adjustment is based. Upon written request, the Company will promptly deliver a copy of each such certificate to the Holder and to the Company's transfer agent and will issue a new Warrant to the Holder reflecting such calculations.

3. Fundamental Transactions. If (i) the Company effects any merger or consolidation of the Company with or into another Person, in which the Company is not the survivor or the stockholders of the Company immediately prior to such merger or consolidation do not own, directly or indirectly, at least 50.1% of the voting securities of the surviving entity, (ii) the Company effects any sale, lease, assignment, transfer, conveyance or other distribution of all or substantially all of its assets to a third party, in each case, in one or a series of related transactions, (iii) any direct or indirect purchase offer, tender offer or exchange offer (whether by the Company or another Person) is completed pursuant to which at least holders of a majority of the outstanding shares of Common Stock tender or exchange their shares for other securities, cash or property, (iv) the Company, directly or indirectly, in one or more related transactions, effects any reorganization, recapitalization or reclassification of the Common Stock or any compulsory share exchange pursuant to which the Common Stock is effectively converted into or exchanged for other securities, cash or property (other than as a result of a subdivision or combination of shares of Common Stock covered by Section 2(a) above), or (v) the Company, directly or indirectly, in one or more related transactions consummates a stock or share purchase agreement or other business combination (including, without limitation, a reorganization, recapitalization, spin-off or scheme of arrangement) with another person whereby such other person acquires more than 50% of the outstanding shares of Common Stock (not including any shares of Common Stock held by the other person or other persons making or party to, or associated or affiliated with the other persons making or party to, such stock or share purchase agreement or other business combination) (in any such case, a "Fundamental Transaction"), then the registered holder shall have the right thereafter to receive, upon exercise of the Warrant, the same amount and kind of securities, cash or property as it would have been entitled to receive upon the occurrence of such Fundamental Transaction if it had been, immediately prior to such Fundamental Transaction, the holder of the number of Warrant Shares then issuable upon exercise in full of the Warrant without regard to any limitations on exercise contained in the Warrant (the "Alternate Consideration"). The Company shall not effect any such Fundamental Transaction unless prior to or simultaneously with the consummation thereof, any successor to the Company, surviving entity or the corporation purchasing or otherwise acquiring such assets or other appropriate corporation or Person shall assume the Warrant and the obligation to deliver to the registered holder, such Alternate Consideration as, in accordance with the foregoing provisions, the registered holder may be entitled to receive, and the other obligations under the Warrant. Notwithstanding the foregoing at the request of the registered holder delivered at any time commencing on the earlier to occur of the public disclosure of a completed Fundamental Transaction or the consummation of any Fundamental Transaction through the date that is ninety (90) days after the later to occur of (i) the public disclosure of such Fundamental Transaction, (ii) the consummation of such Fundamental Transaction and (iii) the registered holder becoming aware of such Fundamental Transaction if such Fundamental Transaction was not publicly disclosed, the Company or the Successor Entity (as the case may be) shall purchase the Warrant from the registered holder on the date of such request by paying to the registered holder cash in an amount equal to the Black Scholes Value (as defined below). For purposes hereof, "Black Scholes Value" means the value of the unexercised portion of the Warrant remaining on the date of the registered holder's request pursuant, which value is calculated using the Black Scholes Option Pricing Model obtained from the "OV" function on Bloomberg utilizing (i) an underlying price per share equal to the greater of (1) the highest Closing Sale Price of the Common Stock during the period beginning on the Trading Day immediately preceding the earlier to occur of the public disclosure or consummation of the applicable Fundamental Transaction and ending on the Trading Day of the registered holder's request pursuant to this Section and (2) the sum of the price per share being offered in cash in the applicable Fundamental Transaction (if any) plus the value of the non-cash consideration being offered in the applicable Fundamental Transaction (if any), (ii) a strike price equal to the Exercise Price in effect on the date of

the Holder's request pursuant to this Section, (iii) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the greater of (1) the remaining term of the Warrant as of the date of the Holder's request pursuant to this Section and (2) the remaining term of this Warrant as of the date of consummation of the applicable Fundamental Transaction or as of the date of the registered holder's request pursuant to this Section if such request is prior to the date of the consummation of the applicable Fundamental Transaction and (iv) an expected volatility equal to the greater of 70% and the 30 day volatility obtained from the HVT function on Bloomberg (determined utilizing a 365 day annualization factor) as of the Trading Day immediately following the earlier to occur of the public disclosure or consummation of the applicable Fundamental Transaction.

4. Noncircumvention. The Company hereby covenants and agrees that the Company will not, by amendment of its certificate of incorporation or by-laws, or through any reorganization, transfer of assets, consolidation, merger, scheme, arrangement, dissolution, issuance or sale of securities, or any other voluntary action, avoid or seek to avoid the observance or performance of any of the terms of this Warrant, and will at all times in good faith carry out all of the provisions of this Warrant and take all commercially reasonable actions as may be necessary to protect the rights of the Holder. Without limiting the generality of the foregoing, the Company (i) shall not increase the par value of any shares of Common Stock receivable upon the exercise of this Warrant above the Exercise Price then in effect, (ii) shall take all such actions as may be necessary or appropriate in order that the Company may validly and legally issue fully paid and nonassessable shares of Common Stock upon the exercise of this Warrant, and (iii) shall, so long as any of the Warrants are outstanding, take all actions necessary to reserve and keep available out of its authorized and unissued shares of Common Stock, solely for the purpose of effecting the exercise of the Warrants, the number of shares of Common Stock as shall from time to time be necessary to effect the exercise of the Warrants then outstanding (without regard to any limitations on exercise).

5. Warrant Holder not Deemed a Stockholder. Except as otherwise specifically provided herein, the Holder, solely in such Person's capacity as a holder of this Warrant, shall not be entitled to vote or receive dividends or be deemed the holder of capital stock of the Company for any purpose, nor shall anything contained in this Warrant be construed to confer upon the Holder, solely in such Person's capacity as the Holder of this Warrant, any of the rights of a stockholder of the Company or any right to vote, give or withhold consent to any corporate action (whether any reorganization, issue of stock, reclassification of stock, consolidation, merger, conveyance or otherwise), receive notice of meetings, receive dividends or subscription rights, or otherwise, prior to the issuance to the Holder of the Warrant Shares which such Person is then entitled to receive upon the due exercise of this Warrant. In addition, nothing contained in this Warrant shall be construed as imposing any liabilities on the Holder to purchase any securities (upon exercise of this Warrant or otherwise) or as a stockholder of the Company, whether such liabilities are asserted by the Company or by creditors of the Company.

Notwithstanding this Section 5, the Company shall provide the Holder with copies of the same notices and other information given to the stockholders of the Company generally, contemporaneously with the giving thereof to the stockholders; provided that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of any corporate action required to be specified in such notice; provided, further, that the Company shall not be obligated to provide such notice or information if it is filed with the SEC through EDGAR and available to the public through the EDGAR system.

#### 6. Reissuance of Warrants.

(a) Transfer of Warrant. If this Warrant is to be transferred, the Holder shall surrender this Warrant to the Company, whereupon the Company will forthwith issue and deliver or cause to be issued and delivered upon the order of the Holder a new Warrant (in accordance with Section 6(d)), registered as the Holder may request, representing the right to purchase the number of Warrant Shares being transferred by the Holder and, if less than the total number of Warrant Shares then underlying this Warrant is being transferred, a new Warrant (in accordance with Section 6(d)) to the Holder representing the right to purchase the number of Warrant Shares not being transferred.

(b) Lost, Stolen or Mutilated Warrant. In the event of any loss, theft or destruction of a Warrant for which the Company and the Warrant Agent shall have received from the Holder an indemnification reasonably satisfactory to the Company and the Warrant Agent holding the Warrant Agent and Company harmless, the Warrant Agent shall issue replacement Warrants in a form mutually agreed to by the Warrant Agent and the Company (in accordance with Section 6(d)) for those certificates alleged to have been lost, stolen or destroyed, absent notice to the Warrant Agent that such certificates have been acquired by a bona fide purchaser and, at the Company's or the Warrant Agent's request, reimbursement to the Company and the Warrant Agent of all reasonable expenses incidental thereto. The Warrant Agent may, at its option, issue replacement Warrants for mutilated certificates upon presentation thereof without such indemnity.

(c) Exchangeable for Multiple Warrants. This Warrant is exchangeable, upon the surrender hereof by the Holder at the principal office of the Company, for a new Warrant or Warrants (in accordance with Section 6(d)) representing in the aggregate the right to purchase the number of Warrant Shares then underlying this Warrant, and each such new Warrant will represent the right to purchase such portion of such Warrant Shares as is designated by the Holder at the time of such surrender.

(d) Issuance of New Warrants. Whenever the Company is required to issue a new Warrant pursuant to the terms of this Warrant, the Holder shall, at the Company's or Warrant Agent's request, reimburse the Company and the Warrant Agent of all reasonable expenses incidental thereto, and such new Warrant (i) shall be of like tenor with this Warrant, (ii) shall represent, as indicated on the face of such new Warrant, the right to purchase the Warrant Shares then underlying this Warrant (or in the case of a new Warrant being issued pursuant to Section 6(a) or Section 6(c), the Warrant Shares designated by the Holder which, when added to the number of shares of Common Stock underlying the other new Warrants issued in connection with such issuance, does not exceed the number of Warrant Shares then underlying this Warrant), (iii) shall have an issuance date, as indicated on the face of such new Warrant which is the same as the Issuance Date, and (iv) shall have the same rights and conditions as this Warrant.

7. Notices (Including of Certain Events). Whenever notice is required to be given under this Warrant, including, without limitation, an Exercise Notice, unless otherwise provided herein, such notice shall be given in writing, (i) if delivered (a) from within the domestic United States, by first-class registered or certified airmail, or nationally recognized overnight express courier, postage prepaid or electronic mail or (b) from outside the United States, by internationally recognized overnight carrier or electronic mail, and (ii) will be deemed given (A) if delivered by first-class registered or certified mail domestic, three (3) Business Days after so mailed, (B) if delivered by nationally recognized overnight carrier, one (1) Business Day after so mailed, (C) if delivered by internationally recognized overnight carrier, two (2) Business Days after so mailed and (D) at the time of transmission, if delivered by electronic mail to the email address specified in this Section 7 prior to 5:00 p.m. (New York time) on a Trading Day, and (E) the next Trading Day after the date of transmission, if delivered by electronic mail to the email address specified in this Section 7 on a day that is not a Trading Day or later than 5:00 p.m. (New York time) on any Trading Day, and will be delivered and addressed as follows:

(i) If to the Company, to:

OptiNose, Inc.  
1020 Stony Hill Road, Suite 300  
Yardley, PA 19067  
Attention: Chief Financial Officer  
e-mail: warrants@optinose.com

with a required copy to:

OptiNose, Inc.  
1020 Stony Hill Road, Suite 300  
Yardley, PA 19067  
Attention: Chief Legal Officer  
e-mail: legal@optinose.com

(ii) if to the Holder, at such address or other contact information as is on the books and records of the Company or Warrant Agent which Holder may update from time to time by delivering notice to the Company in accordance with this Section 7.

(iii) if to the Warrant Agent, to:  
Broadridge Corporate Issuer Solutions, Inc.,  
51 Mercedes Way  
Edgewood, NY 11717  
Attn: Corporate Actions Department

with a copy to:

Broadridge Financial Solutions, Inc.  
2 Gateway Center  
Newark, New Jersey 07102,  
and a copy via email to legalnotices@broadridge.com  
in each case, Attention: General Counsel

The Company shall provide the Holder with prompt written notice of all actions taken pursuant to this Warrant, including in reasonable detail a description of such action and the reason therefor. Without limiting the generality of the foregoing, the Company will give written notice to the Holder (i) promptly upon any adjustment of the Exercise Price, setting forth in reasonable detail, and certifying, the calculation of such adjustment; and (ii) at least ten (10) days prior to the date on which the Company closes its books or takes a record (A) with respect to any dividend or distribution upon the shares of Common Stock, (B) with respect to any grants, issuances or sales of any Options, Convertible Securities or rights to purchase stock, warrants, securities or other property, in each case pro rata to all of the record holders of Common Stock or (C) for determining rights to vote with respect to any Fundamental Transaction, dissolution or liquidation; provided, further, that the failure to deliver such notice or any defect therein or in the delivery thereof shall not affect the validity of the corporate action required to be specified in such notice.

Notwithstanding any other provision of this Warrant, where this Warrant provides for notice of any event to the Holder, if this Warrant is held in global form by DTC (or any successor depository), such notice shall be sufficiently given if given to DTC (or any successor depository) pursuant to the procedures of DTC (or such successor depository).

8. Amendment and Waiver. The provisions of this Warrant may be amended or waived and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only if the Company has obtained the written consent of the Holder.

9. Governing Law; Jury Trial. This Warrant shall be governed by and construed and enforced in accordance with, and all questions concerning the construction, validity, interpretation and performance of this Warrant shall be governed by, the internal laws of the State of New York, without giving effect to any choice of law or conflict of law provision or rule (whether of the State of New York or any other jurisdictions) that would cause the application of the laws of any jurisdictions other than the State of New York. THE COMPANY AND HOLDER EACH HEREBY IRREVOCABLY WAIVES ANY RIGHT IT MAY HAVE, AND EACH AGREES NOT TO REQUEST, A JURY TRIAL FOR THE ADJUDICATION OF ANY DISPUTE HEREUNDER OR IN CONNECTION WITH OR ARISING OUT OF THIS WARRANT OR ANY TRANSACTION CONTEMPLATED HEREBY.

10. Dispute Resolution. In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Company shall submit the disputed determinations or arithmetic calculations via facsimile or electronic mail within two (2) Business Days of receipt of the Exercise Notice or other event giving rise to such dispute, as the case may be, to the Holder. If the Holder and the Company are unable to agree upon such determination or calculation of the Exercise Price or the Warrant Shares within three (3) Business Days of such disputed determination or arithmetic calculation being submitted to the Holder, then the Company shall, within two (2) Business Days submit via facsimile or electronic mail (a) the disputed determination of the Exercise Price to an independent, reputable investment bank selected by the Company and approved by the Holder or (b) the disputed arithmetic calculation of the Warrant Shares to the Company's independent, outside accountant. The Company shall cause (at its expense subject to the last sentence in this Section 10) the investment bank or the accountant, as the case may be, to perform the determinations or calculations and notify the Company and the Holder of the results no later than ten (10) Business Days from the time it receives the disputed determinations or calculations. Such investment bank's or accountant's determination or calculation, as the case may be, shall be binding upon all parties absent demonstrable error. The fees and expenses of the investment bank or the accountant, as the case may be, shall be borne by the Holder if such investment bank or accountant, as the case may be, determines that the Company's calculations were accurate.

11. Remedies, Other Obligations, Breaches and Injunctive Relief. The remedies provided in this Warrant shall be cumulative and in addition to all other remedies available under this Warrant, at law or in equity (including a decree of specific performance and/or other injunctive relief), and nothing herein shall limit the right of the Holder to pursue actual damages for any failure by the Company to comply with the terms of this Warrant. The Company acknowledges that a breach by it of its obligations hereunder will cause irreparable harm to the Holder and that the remedy at law for any such breach may be inadequate. The Company therefore agrees that, in the event of any such breach or threatened breach, the holder of this Warrant shall be entitled, in addition to all other available remedies, to seek an injunction restraining any breach, without the necessity of showing economic loss and without any bond or other security being required.

12. Transfer. This Warrant and all rights hereunder are transferable, in whole or in part, upon surrender of this Warrant at the principal office of the Company or its designated agent, together with a written assignment of this Warrant substantially in the form attached hereto as Exhibit B duly executed by the Holder and funds sufficient to pay any transfer taxes payable upon the making of such transfer accompanied by reasonable evidence of authority of the party making such request that may be required by the Warrant Agent including but not limited to, the signature guarantee of a guarantor institution which is a participant in a signature guarantee program approved by the Securities Transfer Association. If, at the time of the surrender of this Warrant in connection with any such transfer,

the transfer of this Warrant shall not be either (i) registered pursuant to an effective registration statement under the Securities Act of 1933, as amended, or (ii) eligible for resale pursuant to Rule 144, the Company may require, as a condition to such transfer, that the Holder or transferee of this Warrant, as the case may be, provide to the Company an opinion of counsel selected by the Holder and reasonably acceptable to the Company, the form and substance of which opinion shall be reasonably satisfactory to the Company, to the effect that such transfer does not require registration of such transferred Warrant under the Securities Act of 1933, as amended. Upon such surrender and, if required, such payment, the Company shall execute and deliver or cause to be executed and delivered a new Warrant or Warrants in the name of the assignee or assignees, as applicable, and in the denomination or denominations specified in such instrument of assignment, and shall issue to the assignor a new Warrant evidencing the portion of this Warrant not so assigned, and this Warrant shall promptly be cancelled. The Warrant, if properly assigned in accordance herewith, may be exercised by a new holder for the purchase of Warrant Shares without having a new Warrant issued. The Company shall register or cause to be registered this Warrant, upon records to be maintained by the Company or Warrant Agent for that purpose, in the name of the record Holder hereof from time to time. The Company or Warrant Agent may deem and treat the registered Holder of this Warrant as the absolute owner hereof for the purpose of any exercise hereof or any distribution to the Holder, and for all other purposes, absent actual notice to the contrary.

13. Severability; Construction; Headings. If any provision of this Warrant is prohibited by law or otherwise determined to be invalid or unenforceable by a court of competent jurisdiction, the provision that would otherwise be prohibited, invalid or unenforceable shall be deemed amended to apply to the broadest extent that it would be valid and enforceable, and the invalidity or unenforceability of such provision shall not affect the validity of the remaining provisions of this Warrant so long as this Warrant as so modified continues to express, without material change, the original intentions of the parties as to the subject matter hereof and the prohibited nature, invalidity or unenforceability of the provision(s) in question does not substantially impair the respective expectations or reciprocal obligations of the parties or the practical realization of the benefits that would otherwise be conferred upon the parties. The parties will endeavor in good faith negotiations to replace the prohibited, invalid or unenforceable provision(s) with a valid provision(s), the effect of which comes as close as possible to that of the prohibited, invalid or unenforceable provision(s). This Warrant shall be deemed to be jointly drafted by the Company and the Holder and shall not be construed against any Person as the drafter hereof. The headings of this Warrant are for convenience of reference and shall not form part of, or affect the interpretation of, this Warrant.

14. Disclosure. In the event that the Company believes that a notice delivered by the Company in accordance with the terms of this Warrant contains material, nonpublic information relating to the Company or its subsidiaries, the Company shall simultaneously file such notice with the SEC pursuant to a Current Report on Form 8-K. In the absence of any such indication, the Holder shall be allowed to presume that all matters relating to such notice do not constitute material, nonpublic information relating to the Company or its subsidiaries.

15. Restrictions. The Holder acknowledges that the Warrant Shares acquired upon the exercise of this Warrant, if not registered and if the Holder does not utilize cashless exercise after expiration of the Rule 144 holding period, will contain a legend to the effect that the Warrant Shares are not registered.

16. Certain Definitions. For purposes of this Warrant, the following terms shall have the following meanings:

(a) “Affiliate” means any Person that, directly or indirectly through one or more intermediaries, controls or is controlled by or is under common control with a Person, as such terms are used in and construed under Rule 405 under the Securities Act of 1933, as amended.

(b) “Attribution Parties” means, collectively, the following Persons and entities: (i) any direct or indirect Affiliates of the Holder, (ii) any Person acting or who could be deemed to be acting as a Group together with the Holder or any of the foregoing and (iii) any other Persons whose beneficial ownership of the Company’s Common Stock would or could be aggregated with the Holder’s and the other Attribution Parties for purposes of Section 13(d) or Section 16 of the 1934 Act. For clarity, the purpose of the foregoing is to subject collectively the Holder and all other Attribution Parties to the Maximum Percentage.

(c) “Bid Price” means, for any security as of the particular time of determination, the bid price for such security on the Principal Market as reported by Bloomberg as of such time of determination, or, if the Principal Market is not the principal securities exchange or trading market for such security, the bid price of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg as of such time of determination, or if the foregoing does not apply, the bid price of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg as of such time of determination, or, if no bid price is reported for such security by Bloomberg as of such time of determination, the average of the bid prices of any market makers for such security as reported in the “pink sheets” by OTC Markets Group Inc. (formerly

Pink Sheets LLC) as of such time of determination. If the Bid Price cannot be calculated for a security as of the particular time of determination on any of the foregoing bases, the Bid Price of such security as of such time of determination shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved in accordance with the procedures in Section 10. All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination or other similar transaction during such period.

(d) “Bloomberg” means Bloomberg Financial Markets.

(e) “Business Day” means any day other than Saturday, Sunday or other day on which commercial banks in The City of New York are authorized or required by law to remain closed.

(f) “Closing Bid Price” and “Closing Sale Price” means, for any security as of any date, the last closing bid price and last closing trade price, respectively, for such security on the Principal Market, as reported by Bloomberg, or, if the Principal Market begins to operate on an extended hours basis and does not designate the closing bid price or the closing trade price, as the case may be, then the last bid price or the last trade price, respectively, of such security prior to 4:00:00 p.m., New York time, as reported by Bloomberg, or, if the Principal Market is not the principal securities exchange or trading market for such security, the last closing bid price or last trade price, respectively, of such security on the principal securities exchange or trading market where such security is listed or traded as reported by Bloomberg, or if the foregoing do not apply, the last closing bid price or last trade price, respectively, of such security in the over-the-counter market on the electronic bulletin board for such security as reported by Bloomberg, or, if no closing bid price or last trade price, respectively, is reported for such security by Bloomberg, the average of the bid prices, or the ask prices, respectively, of any market makers for such security as reported in the OTC Link or “pink sheets” by OTC Markets Group Inc. (formerly Pink OTC Markets Inc.). If the Closing Bid Price or the Closing Sale Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Closing Bid Price or the Closing Sale Price, as the case may be, of such security on such date shall be the fair market value as mutually determined by the Company and the Holder. If the Company and the Holder are unable to agree upon the fair market value of such security, then such dispute shall be resolved pursuant to Section 10. All such determinations to be appropriately adjusted for any stock dividend, stock split, stock combination, reclassification or other similar transaction during the applicable calculation period.

(g) “Common Stock” means (i) the Company’s Common Stock, par value \$0.001 per share, (ii) any capital stock into which such Common Stock shall have been changed or any capital stock resulting from a reclassification of such Common Stock, and (iii) at the Holder’s election, if such non-voting class of Common Stock exists, any non-voting class of Common Stock.

(h) “Convertible Securities” means any stock or securities or other contractual rights (other than Options) directly or indirectly convertible into, settled in or exercisable or exchangeable for shares of Common Stock.

(i) “Eligible Market” means The Nasdaq Capital Market, the NYSE American LLC, The Nasdaq Global Select Market, The Nasdaq Global Market or The New York Stock Exchange, Inc.

(j) “Excluded Issuances” means any issuance or sale (or deemed issuance or sale in accordance with Section 2(h)) by the Company after the Issuance Date of: (a) shares of Common Stock issued upon the exercise of this Warrant; (b) shares of Common Stock issued directly or upon the conversion, settlement or exercise of Options or Convertible Securities to directors, officers, employees, or consultants of the Company in connection with their service as directors of the Company, their employment by the Company or their retention as consultants by the Company, in each case authorized by the Board or a duly authorized committee thereof and issued pursuant to the Company’s equity incentive plan or outside of the Company’s equity incentive plan in accordance with Nasdaq Listing Rule 5635(c)(4) or its successor thereto; (c) shares of Common Stock issued to individuals pursuant to the Company’s employee stock purchase plan; (d) shares of Common Stock issued upon the conversion or exercise of Options (other than Options covered by clause (b) above) or Convertible Securities issued prior to the Issuance Date, provided that such securities are not amended after the date hereof to increase the number of shares of Common Stock issuable thereunder or to lower the exercise or conversion price thereof; (e) shares of Common Stock, Options or Convertible Securities issued (i) to persons in connection with a joint venture, strategic alliance or other commercial relationship with such person (including persons that are customers, suppliers and strategic partners of the Company) relating to the operation of the Company’s business and not for the primary purpose of raising equity capital, (ii) as acquisition consideration in a transaction in which the Company, directly or indirectly, acquires another business or its tangible or intangible assets, or (iii) to lenders as equity kickers in connection with debt financings of the Company, in each case where such transactions have been approved by the Board; or (f) shares of Common Stock, Options or Convertible Securities issued to the lessor or vendor in any office lease or equipment

lease or similar equipment financing transaction in which the Company obtains the use of such office space or equipment for its business.

(k) “Expiration Date” means the fifth (5<sup>th</sup>) anniversary of the Issuance Date.

(l) “Group” means a “group” as that term is used in Section 13(d) of the 1934 Act and as defined in Rule 13d-5 thereunder.

(m) “Options” means any rights, warrants or options to subscribe for or purchase shares of Common Stock or Convertible Securities.

(n) “Parent Entity” of a Person means an entity that, directly or indirectly, controls the applicable Person, including such entity whose common stock or equivalent equity security is quoted or listed on an Eligible Market, or, if there is more than one such Person or such entity, the Person or such entity designated by the Holder or in the absence of such designation, such Person or entity with the largest public market capitalization as of the date of consummation of the Fundamental Transaction.

(o) “Person” means an individual, a limited liability company, a partnership, a joint venture, a corporation, a trust, an unincorporated organization, any other entity and a government or any department or agency thereof.

(p) “Principal Market” means the Nasdaq Global Select Market.

(q) “Standard Settlement Period” means the standard settlement period, expressed in a number of Trading Days, for the Company’s primary trading market or quotation system with respect to the Common Stock that is in effect on the date of delivery of an applicable Exercise Notice, which as of the Issuance Date was “T+2”.

(r) “Subject Entity” means any Person, Persons or Group or any Affiliate or associate of any such Person, Persons or Group.

(s) “Successor Entity” means one or more Person or Persons formed by, resulting from or surviving any Fundamental Transaction or one or more Person or Persons with which such Fundamental Transaction shall have been entered into, or in each, case the resulting Parent Entity.

(t) “Trading Day” means any day on which the Common Stock is traded on the Principal Market, or, if the Principal Market is not the principal trading market for the Common Stock, then on the principal securities exchange or securities market on which the Common Stock is then traded.

(u) “Warrant Agent” means Broadridge Corporate Issuer Solutions, Inc.

(v) “Warrant Agent Agreement” means that certain warrant agency agreement, dated on or about the Issuance Date, between the Company and the Warrant Agent.

(w) “Weighted Average Price” means, for any security as of any date, the dollar volume-weighted average price for such security on the Principal Market during the period beginning at 9:30:01 a.m., New York time (or such other time as the Principal Market publicly announces is the official open of trading), and ending at 4:00:00 p.m., New York time (or such other time as the Principal Market publicly announces is the official close of trading), as reported by Bloomberg through its “Volume at Price” function or, if the foregoing does not apply, the dollar volume-weighted average price of such security in the over-the-counter market on the electronic bulletin board for such security during the period beginning at 9:30:01 a.m., New York time (or such other time as such market publicly announces is the official open of trading), and ending at 4:00:00 p.m., New York time (or such other time as such market publicly announces is the official close of trading), as reported by Bloomberg, or, if no dollar volume-weighted average price is reported for such security by Bloomberg for such hours, the average of the highest Closing Bid Price and the lowest closing ask price of any of the market makers for such security as reported in the OTC Link or “pink sheets” by OTC Markets Group Inc. (formerly Pink OTC Markets Inc.). If the Weighted Average Price cannot be calculated for a security on a particular date on any of the foregoing bases, the Weighted Average Price of such security on such date shall be the fair market value as determined by the Board of Directors of the Company in good faith. All such determinations shall be appropriately adjusted for any stock dividend, stock split, stock combination, reclassification or other similar transaction during the applicable calculation period.

17. Warrant Agent Agreement. If this Warrant is held in global form through DTC (or any successor depositary) or registered in certificate form with the Warrant Agent, then this Warrant is issued subject to the Warrant Agent

Agreement. To the extent any provision of this Warrant conflicts with the express provisions of the Warrant Agent Agreement, the provisions of this Warrant shall govern and be controlling.

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IN WITNESS WHEREOF, the Company has caused this Warrant to be duly executed as of the Issuance Date set out above.

**OPTINOSE, INC.**

By: \_\_\_\_\_  
Name:  
Title:

Countersigned:

**BROADRIDGE CORPORATE ISSUER SOLUTIONS,  
INC.**

By: \_\_\_\_\_  
Name:  
Title:

EXHIBIT A

FORM OF EXERCISE NOTICE

[To be executed by the Holder to purchase shares of Common Stock under the Warrant]

**OPTINOSE, INC.**

The undersigned holder hereby exercises the attached Warrant to Purchase Common Stock (the "Warrant") with respect to \_\_\_\_\_ shares of Common Stock ("Warrant Shares") of OptiNose, Inc., a Delaware corporation (the "Company") in the manner indicated below. Capitalized terms used herein and not otherwise defined shall have the respective meanings set forth in the Warrant.

1. Form of Exercise. The Holder intends that exercise shall be made as:

a "Cash Exercise" with respect to Warrant Shares; or

a "Cashless Exercise" with respect to Warrant Shares.

2. Payment of Exercise Price. In the event that this notice relates to a Cash Exercise with respect to some or all of the Warrant Shares to be issued pursuant hereto, the holder shall pay the Aggregate Exercise Price in the sum of \$ \_\_\_\_\_ to the Company in accordance with the terms of the Warrant.

3. Delivery of Warrant Shares. The Company shall deliver to the holder Warrant Shares in accordance with the terms of the Warrant.

Dated: \_\_\_\_\_

Name of Holder: \_\_\_\_\_

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

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

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

(Signature must conform in all respects to name of Holder as specified on the face of the Warrant)

***Notwithstanding anything to the contrary in the Warrant, if the Holder's interest in the Warrant is a beneficial interest in certificate(s) representing the Warrant held in book-entry form through the Depository Trust Company or its nominee ("DTC") (or another established clearing corporation performing similar functions), instead of executing and delivering this Form of Exercise Notice, the Holder shall effect exercises made pursuant to the Warrant by delivering to DTC (or such other clearing corporation, as applicable) the appropriate instruction form for exercise and complying with the procedures to effect exercise that are required by DTC (or such other clearing corporation, as applicable).***

**ACKNOWLEDGMENT**

The Company hereby acknowledges this Exercise Notice and hereby directs Broadridge Corporate Issuer Solutions, Inc. to issue the above indicated number of shares of Common Stock on or prior to the applicable Delivery Date.

**OPTINOSE, INC.**

By: \_\_\_\_\_  
Name:  
Title:

EXHIBIT B

ASSIGNMENT FORM

*(To assign the foregoing Warrant, execute this form and supply required information. Do not use this form to purchase shares.)*

FOR VALUE RECEIVED, the foregoing Warrant and all rights evidenced thereby are hereby assigned to

Name: \_\_\_\_\_ (Please Print)

Address: \_\_\_\_\_ (Please Print)

Phone Number: \_\_\_\_\_

Email Address: \_\_\_\_\_

Dated: \_\_\_\_\_, \_\_\_\_\_

Holder's Signature:

Holder's Address:

***Notwithstanding anything to the contrary in the Warrant, if the Holder's interest in the Warrant is a beneficial interest in certificate(s) representing the Warrant held in book-entry form through the Depository Trust Company or its nominee ("DTC") (or another established clearing corporation performing similar functions), instead of executing and delivering this Assignment Form, the Holder shall effect transfers or assignments made pursuant to the Warrant by delivering to DTC (or such other clearing corporation, as applicable) the appropriate instruction form for transfer or assignment and complying with the procedures to effect transfers or assignments that are required by DTC (or such other clearing corporation, as applicable).***

**WARRANT AGENCY AGREEMENT**

THIS WARRANT AGENCY AGREEMENT (this "Warrant Agreement") is made as of November 23, 2022 ("Issuance Date"), between OptiNose, Inc., a Delaware corporation, with offices at 1020 Stony Hill Road, Suite 200, Yardley, PA 19067 (the "Company"), and Broadridge Corporate Issuer Solutions, Inc., with offices at 51 Mercedes Way, Edgewood, NY 11717 (the "Warrant Agent").

WHEREAS, the Company is conducting an underwritten public offering of certain of its securities (the "Offering") and, in connection therewith, has determined to issue and deliver 30,268,000 warrants (the "Warrants") to the public investors, with each such Warrant evidencing the right of the holder thereof to purchase one share of common stock, par value \$0.001 per share, of the Company (the "Common Stock") for an initial exercise price of \$2.565 per share, subject to adjustment as described therein; and

WHEREAS, the Company has filed with the U.S. Securities and Exchange Commission ("SEC") a Registration Statement, No. 333-258707 on Form S-3 (as the same may be amended from time to time, the "Registration Statement") for the registration, under the Securities Act of 1933, as amended (the "Act") of, among other securities, the Warrants and the Common Stock issuable upon exercise of the Warrants (the "Warrant Shares"), and such Registration Statement was declared effective on August 31, 2021; and

WHEREAS, the Company desires the Warrant Agent to act on behalf of the Company, and the Warrant Agent is willing to so act, in connection with the issuance, registration, transfer, exchange and exercise of the Warrants; and

WHEREAS, the Company desires to provide the terms upon which they shall be issued and exercised, and the respective rights, limitation of rights, and immunities of the Company, the Warrant Agent, and the holders of the Warrants; and

WHEREAS, all acts and things have been done and performed which are necessary to make the Warrants, when executed on behalf of the Company and countersigned by or on behalf of the Warrant Agent, as provided herein, the valid, binding and legal obligations of the Company, and to authorize the execution and delivery of this Warrant Agreement.

NOW, THEREFORE, in consideration of the mutual agreements herein contained, the parties hereto agree as follows:

1. Appointment of Warrant Agent. The Company hereby appoints the Warrant Agent to act as agent for the Company with respect to the Warrants, and the Warrant Agent hereby accepts such appointment and agrees to perform the same in accordance with the terms and conditions set forth in this Warrant Agreement.

2. Warrants.

2.1 Form of Warrant. Each Warrant shall be issued in registered form only and shall be in substantially the form of Exhibit A hereto, the provisions of which are incorporated herein, and shall be signed by, or bear the facsimile or electronic signature of, the Chief Executive Officer, President, Chief Financial Officer or Treasurer, Chief Legal Officer, Secretary or Assistant Secretary of the Company. NOTWITHSTANDING ANYTHING TO THE CONTRARY PROVIDED HEREIN, THE PROVISIONS OF EXHIBIT A SHALL BE BINDING IN ALL RESPECTS ON EACH OF THE COMPANY AND THE WARRANT AGENT. TO THE EXTENT ANY PROVISIONS OF THIS WARRANT AGREEMENT CONFLICT WITH THE EXPRESS PROVISIONS OF EXHIBIT A, THE PROVISIONS OF EXHIBIT A SHALL PREVAIL. CAPITALIZED TERMS USED BUT NOT DEFINED HEREIN SHALL HAVE THE MEANING ASCRIBED TO THEM IN EXHIBIT A. In the event the person whose facsimile or

electronic signature has been placed upon any Warrant shall have ceased to serve in the capacity in which such person signed the Warrant before such Warrant is issued, it may be issued with the same effect as if he or she had not ceased to be such at the date of issuance. All of the Warrants shall initially be represented by one or more book-entry certificates (each such Warrant, a "Book-Entry Warrant", and each such certificate, a "Book-Entry Warrant Certificate").

2.2. Effect of Countersignature. Unless and until countersigned by the Warrant Agent pursuant to this Warrant Agreement, a Warrant shall be invalid and of no effect and may not be exercised by the holder thereof.

2.3. Registration.

2.3.1. Warrant Register. The Warrant Agent shall maintain books ("Warrant Register") for the registration of original issuance and the registration of transfer of the Warrants. Upon the initial issuance of the Warrants, the Warrant Agent shall issue and register the Warrants in the names of the respective holders thereof in such denominations and otherwise in accordance with instructions delivered to the Warrant Agent by the Company. To the extent the Warrants are DTC eligible as of the Issuance Date, all of the Warrants shall be represented by one or more Book-Entry Warrant Certificates deposited with the Depository Trust Company (the "Depository") and registered in the name of Cede & Co., a nominee of the Depository. Ownership of beneficial interests in the Book-Entry Warrant Certificates shall be shown on, and the transfer of such ownership shall be effected through, records maintained (i) by the Depository or its nominee for each Book-Entry Warrant Certificate; (ii) by institutions that have accounts with the Depository (such institution, with respect to a Warrant in its account, a "Participant"); or (iii) directly on the book-entry records of the Warrant Agent with respect only to owners of beneficial interests that represent such direct registration.

If the Warrants are not DTC Eligible as of the Issuance Date or the Depository subsequently ceases to make its book-entry settlement system available for the Warrants, the Company may instruct the Warrant Agent regarding making other arrangements for book-entry settlement within ten (10) days after the Depository ceases to make its book-entry settlement available. In the event that the Company does not make alternative arrangements for book-entry settlement within ten (10) days or the Warrants are not eligible for, or it is no longer necessary to have the Warrants available in, book-entry form, the Warrant Agent shall provide written instructions to the Depository to deliver to the Warrant Agent for cancellation each Book-Entry Warrant Certificate, and the Company shall instruct the Warrant Agent to deliver to the Depository definitive Warrant Certificates in physical form evidencing such Warrants (each such certificate, a "Definitive Certificate" and, together with the Book-Entry Warrant Certificates, "Warrant Certificates"). Such Definitive Certificates shall be in substantially the form annexed hereto as Exhibit A.

2.3.2. A holder of the Warrants (the "Holder," which term shall include a Holder's transferees, successors and assigns and "Holder" shall include, if the Warrants are held in "street name," a Participant (as defined below) or a designee appointed by such Participant) has the right to elect at any time or from time to time a Warrant Exchange (as defined below) pursuant to a written notice (which written notice shall include delivery instructions) ("Warrant Certificate Request Notice") made by a Holder to the Warrant Agent for the exchange of some or all of such Holder's Book-Entry Warrants for a Definitive Certificate evidencing the same number of Warrants (the date of delivery of such Warrant Certificate Request Notice by the Holder, the "Warrant Certificate Request Notice Date," and the surrender by the Holder to the Warrant Agent of a number of Book-Entry Warrants for the same number of Warrants evidenced by a

Warrant Certificate, a “Warrant Exchange”). The Warrant Agent shall promptly effect the Warrant Exchange and the Warrant Agent shall promptly issue and deliver to the Holder a Definitive Certificate for such number of Warrants in the name set forth in the Warrant Certificate Request Notice. Such Definitive Certificate shall be dated the original issue date of the Warrants, shall be manually executed by an authorized signatory of the Company, and shall be in the form attached hereto as Exhibit A. In connection with a Warrant Exchange, the Warrant Agent agrees to deliver the Definitive Certificate to the Holder within five (5) Business Days of the Warrant Certificate Request Notice pursuant to the delivery instructions in the Warrant Certificate Request Notice (“Warrant Certificate Delivery Date”). The Warrant Agent shall act as warrant agent with respect to any Definitive Certificate requested and issued pursuant to this section. Notwithstanding anything to the contrary contained in this Warrant Agreement, to the extent any provisions of this Warrant Agreement conflict with the express provisions of a Definitive Certificate, the provisions of the Definitive Certificate shall prevail; provided, however, that to the extent a modification or amendment of the provisions of a Definitive Certificate adversely affects the Warrant Agent’s rights, duties or obligations under such Definitive Certificate or this Warrant Agreement, such modification or amendment shall not be effective against the Warrant Agent without its express written consent.

2.3.3. A Holder of a Definitive Certificate (pursuant to a Warrant Exchange or otherwise) has the right to elect at any time or from time to time a Book-Entry Exchange (as defined below) pursuant to a written notice (which written notice shall include delivery instructions) (a “Book-Entry Warrants Request Notice”) made by a Holder to the Warrant Agent for the exchange of some or all of such Holder’s Warrants evidenced by a Definitive Certificate for a beneficial interest in Book-Entry Warrants held in book-entry form through the Depository evidencing the same number of Warrants (the date of delivery of such Book-Entry Warrants Request Notice by the Holder, the “Book-Entry Warrants Request Notice Date,” and the surrender upon delivery by the Holder of the Warrants evidenced by Definitive Certificates for the same number of Warrants evidenced by a beneficial interest in Book-Entry Warrants held in book-entry form through the Depository, a “Book-Entry Exchange”). The Warrant Agent shall promptly effect the Book-Entry Warrants Exchange and shall issue and deliver to the Holder Book-Entry Warrants for such number of Warrants in the Book-Entry Warrants Request Notice, and so long as the Warrant Agent has previously received confirmation from the Company that the Warrants have been registered under the Securities Act of 1933, as amended, pursuant to an effective registration statement (and such registration statement remains effective at such time of issuance) or otherwise may be sold pursuant to an applicable exemption without any restriction, the beneficial interest in such Book-Entry Warrants shall be delivered by the Depository’s Deposit or Withdrawal at Custodian system to the Holder pursuant to the instructions in the Book-Entry Warrants Request Notice. In connection with a Book-Entry Warrants Exchange, the Warrant Agent shall deliver the beneficial interest in such Book-Entry Warrants to the Holder within five (5) Business Days of the Book-Entry Warrants Request Notice pursuant to the delivery instructions in the Book-Entry Warrant Request Notice (“Book-Entry Warrants Delivery Date”).

2.3.4. Beneficial Owner; Registered Holder. The term “beneficial owner” shall mean any person in whose name ownership of a beneficial interest in the Warrants evidenced by a Book-Entry Warrant Certificate is recorded in the records maintained by the Depository or its nominee. Prior to due presentment for registration of transfer of any Warrant, the Company and the Warrant Agent may deem and treat the person in whose name such Warrant shall be registered upon the Warrant Register (“registered holder”), as the absolute owner of such Warrant and of each Warrant represented thereby (notwithstanding any notation of ownership or other writing on

the Warrant Certificate made by anyone other than the Company or the Warrant Agent), for the purpose of any exercise thereof, and for all other purposes, and neither the Company nor the Warrant Agent shall be affected by any notice to the contrary. Notwithstanding the foregoing, nothing herein shall prevent the Company, the Warrant Agent or any agent of the Company or the Warrant Agent from giving effect to any written certification, proxy or other authorization furnished by DTC governing the exercise of the rights of a holder of a beneficial interest in any Warrant. The rights of beneficial owners in a Warrant evidenced by a Book-Entry Warrant Certificate shall be exercised by the Holder or a Participant through the DTC system, except to the extent set forth herein or in the Book-Entry Warrant Certificate. To the extent there is a conflict between the procedures or processes required by DTC and the provisions of the Warrant or this Warrant Agreement, the procedures and processes of DTC shall govern with respect to any Holder's beneficial interest in such Book-Entry Warrant Certificate.

2.4. Detachability of Warrants. The shares of Common Stock and the Warrants issued in the Offering will be issued separately and will be separately transferable immediately upon issuance.

2.5. Uncertificated Warrants. Notwithstanding the foregoing and anything else herein to the contrary, the Warrants may be issued in uncertificated form.

### 3. Terms and Exercise of Warrants.

3.1. Exercise Price. Each Warrant shall, when countersigned by the Warrant Agent, entitle the registered holder thereof, subject to the provisions of such Warrant and of this Warrant Agreement, to purchase from the Company the number of shares of Common Stock stated therein, at the price of \$2.565 per whole share, subject to the subsequent adjustments as provided in Section 2 of the Warrant Certificate. The term "Exercise Price" as used in this Warrant Agreement refers to the price per share at which Common Stock may be purchased at the time a Warrant is exercised.

3.2. Duration of Warrants. A Warrant may be exercised only during the period ("Exercise Period") commencing on November 23, 2022 and terminating at 11:59 p.m., New York time, on November 23, 2027 ("Expiration Date") as set forth in the Warrant. Each Warrant not exercised on or before the Expiration Date shall become void, and all rights thereunder and all rights in respect thereof under this Warrant Agreement shall cease at 11:59 p.m., New York time, on the Expiration Date.

#### 3.3. Exercise of Warrants.

3.3.1. Exercise and Payment. The Holder of a Warrant may exercise the Warrant in accordance with Section 1 of the Warrant Certificate. For the avoidance of doubt, a Holder whose interest in the Warrant is a beneficial interest in certificate(s) representing the Warrant held in book-entry form through DTC (or another established clearing corporation performing similar functions), shall effect exercises made pursuant to Section 1(a) of the Warrant by delivering to DTC (or such other clearing corporation, as applicable) the appropriate instruction form for exercise and complying with the procedures to effect exercise that are required by DTC (or such other clearing corporation, as applicable). Upon the exercise of the Warrant Certificate pursuant to the terms of Section 1 of the Warrant Certificate, the Warrant Agent shall provide the acknowledgment contemplated by Section 1(a) of the Warrant Certificate and cause the Warrant Shares underlying such Definitive Certificate or Book-Entry Warrant to be delivered to or upon the order of the Holder of such Definitive Certificate or Book-Entry Warrant, registered in such name or names as may be designated by such Holder, no later than the Delivery Date (as such term is defined in the Warrant Certificate), in each case, in accordance with the terms of the Warrant Certificate. If the Company is then a participant in the DWAC system of the Depository and either (A)

there is an effective registration statement permitting the issuance of the Warrant Shares to or resale of the Warrant Shares by Holder or (B) the Warrant is being exercised via cashless exercise pursuant to Section 3.3.6 hereof, then the certificates for Warrant Shares shall be transmitted by the Warrant Agent to the Holder by crediting the account of the Holder's broker with the Depository through its DWAC system. In no event will interest accrue on funds deposited with the Warrant Agent in respect of an exercise or attempted exercise of Warrants. The validity of any exercise of Warrants will be determined by the Company or the Warrant Agent in its sole discretion and such determination will be final and binding upon the registered holder or Participant, as applicable, and the Warrant Agent. Neither the Company nor the Warrant Agent shall have any obligation to inform a registered holder or the Participant, as applicable, of the invalidity of any exercise of Warrants.

The Warrant Agent shall deposit all funds received by it in payment of the exercise price of the Warrant in the account of the Company maintained with the Warrant Agent for such purpose and shall advise the Company via telephone at the end of each day on which funds for the exercise of the Warrants are received of the amount so deposited to its account. The Warrant Agent shall promptly confirm such telephonic advice to the Company in writing.

3.3.2. Valid Issuance. All shares of Common Stock issued upon the proper exercise of a Warrant in conformity with this Warrant Agreement shall be validly issued, fully paid and nonassessable.

3.3.3. No Fractional Exercise. As set forth in the Warrant, Warrants may be exercised only in whole numbers of Warrant Shares.

3.3.4. Date of Issuance. Each person in whose name any such certificate for shares of Common Stock is issued shall for all purposes be deemed to have become the holder of record of such shares on the date on which the Warrant was properly exercised in accordance with the Warrant, irrespective of the date of delivery of such certificate.

3.3.5. Cashless Exercise Under Certain Circumstances. The Warrant may be exercisable on a cashless basis pursuant to Section 1(d) of the Warrant Certificate. Notwithstanding anything herein to the contrary, the Company shall not be required to make any cash payments or net cash settlement to the registered holder in lieu of issuance of the Warrant Shares. Upon receipt of a Notice of Exercise for a cashless exercise, the Warrant Agent shall promptly (and in any event within one (1) Business Day) deliver a copy of the Notice of Exercise to the Company to confirm that cashless exercise is permitted pursuant to Section 1(d) of the Warrant Certificate and, if so, the number of Warrant Shares issuable in connection with the cashless exercise. If the Company determines that the exercise on a cashless basis is permitted pursuant to Section 1(d) of the Warrant, the Warrant Agent shall calculate the number of Warrant Shares issuable in connection with the cashless exercise and promptly provide such calculation to the Company for review and confirmation. Subject to and conditioned upon confirmation by the Company of such calculations, the Warrant Agent shall transmit such shares in accordance with the exercise procedures set forth in the Warrant.

3.3.6. Disputes. In the case of a dispute as to the determination of the Exercise Price or the arithmetic calculation of the Warrant Shares, the Warrant Agent shall promptly issue to the registered holder the number of Warrant Shares that are not disputed and resolve such dispute in accordance with Section 10 of the Warrant.

#### 4. Adjustments.

4.1 Adjustment of Exercise Price and, if applicable, Number of Warrant Shares Upon Certain Events. Upon any adjustment pursuant to Section 2 of the Warrant Certificate, the Company shall give written notice thereof to the Warrant Agent, which notice shall state the Exercise Price resulting from such adjustment and the increase or decrease, if any, in the number of shares purchasable at such price upon the exercise of a Warrant, setting forth in reasonable detail the method of calculation and the facts upon which such calculation is based. Upon the occurrence of any event specified in Section 2 of the Warrant Certificate, then, in any such event, the Company shall give, or shall cause the Warrant Agent to give, written notice to each registered holder, at the last address set forth for such holder in the warrant register, of the record date or the effective date of the event in accordance with the terms of the Warrant Certificate. Failure to give such notice, or any defect therein, shall not affect the legality or validity of such event.

4.2. Fractional Shares. Notwithstanding any provision contained in this Warrant Agreement to the contrary, the Company shall not issue fractional shares upon exercise of Warrants. Fractional shares resulting from adjustments contemplated by Section 2 of the Warrant Certificate shall be handled in accordance with Section 1(a) of the Warrant Certificate.

4.3. Form of Warrant. Except as otherwise contemplated by the Warrant Certificate, the form of Warrant need not be changed because of any adjustment pursuant to this Section 4, and Warrants issued after such adjustment may state the same Exercise Price and the same number of shares as is stated in the Warrants initially issued pursuant to this Warrant Agreement. However, the Company may at any time in its sole discretion make any change in the form of Warrant that the Company may deem appropriate and that does not affect the substance thereof, and any Warrant thereafter issued or countersigned, whether in exchange or substitution for an outstanding Warrant or otherwise, may be in the form as so changed.

#### 5. Transfer and Exchange of Warrants.

5.1. Registration of Transfer. The Warrant Agent shall register the transfer, from time to time, of any outstanding Warrant upon the Warrant Register, upon surrender of such Warrant for transfer in accordance with Section 5.2, properly endorsed with signatures properly guaranteed and accompanied by appropriate instructions for transfer. Upon any such transfer, a new Warrant representing an equal aggregate number of Warrants transferred shall be issued and the old Warrant shall be cancelled by the Warrant Agent. The Warrants so cancelled shall be delivered by the Warrant Agent to the Company from time to time upon request from the Company.

5.2. Procedure for Surrender of Warrants. Warrants may be surrendered to the Warrant Agent, together with a written request for exchange or transfer reasonably acceptable to Warrant Agent, duly executed by the registered holder thereof, or by a duly authorized attorney, and thereupon the Warrant Agent shall issue in exchange therefor one or more new Warrants as requested by the registered holder of the Warrants so surrendered, representing an equal aggregate number of such Warrants; provided, however, that except as otherwise provided herein or in any Book-Entry Warrant Certificate, each Book-Entry Warrant Certificate may be transferred only in whole and only to the Depository, to another nominee of the Depository, to a successor depository, or to a nominee of a successor depository; provided further, however, that in the event that a Warrant surrendered for transfer bears a restrictive legend, the Warrant Agent shall not cancel such Warrant and issue new Warrants in exchange therefor until the Warrant Agent has received an opinion of counsel for the Company stating that such transfer may be made and indicating whether the new Warrants must also bear a restrictive legend. Upon any such registration of transfer, the

Company shall execute, and the Warrant Agent shall countersign and deliver, in the name of the designated transferee a new Warrant Certificate or Warrant Certificates of any authorized denomination evidencing in the aggregate a like number of unexercised Warrants.

5.3. Reserved.

5.4. Warrant Execution and Countersignature. The Warrant Agent is hereby authorized to deliver, in accordance with the terms of this Warrant Agreement and the Warrant, the Warrants required to be issued pursuant to the provisions of this Section 5, and the Company, whenever required by the Warrant Agent, will supply the Warrant Agent with Warrants duly executed on behalf of the Company for such purpose.

7. Other Provisions Relating to Rights of Holders of Warrants.

7.1. No Rights as Stockholder. A Warrant does not entitle the registered holder thereof to any of the rights of a stockholder.

7.2. Lost, Stolen, Mutilated, or Destroyed Warrants. Upon receipt by the Warrant Agent of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of a Warrant Certificate, which evidence shall include an affidavit of loss, or in the case of mutilated certificates, the certificate or portion thereof remaining, and, in case of loss, theft or destruction, of indemnity in customary form and amount, and satisfaction of any other reasonable requirements established by Section 8-405 of the Uniform Commercial Code as in effect in the State of Delaware, and reimbursement to the Company and the Warrant Agent of all reasonable expenses incidental thereto, and upon surrender to the Warrant Agent and cancellation of the Warrant Certificate if mutilated, the Company will make and deliver a new Warrant Certificate of like tenor to the Warrant Agent for delivery to the Holder in lieu of the Warrant Certificate so lost, stolen, destroyed or mutilated. Any such new Warrant shall constitute a substitute contractual obligation of the Company, whether or not the allegedly lost, stolen, mutilated, or destroyed Warrant shall be at any time enforceable by anyone.

7.3. Reservation of Common Stock. The Company shall at all times reserve and keep available a number of its authorized but unissued shares of Common Stock that will be sufficient to permit the exercise in full of all outstanding Warrants issued pursuant to this Warrant Agreement.

8. Concerning the Warrant Agent and Other Matters.

8.1. Concerning the Warrant Agent. The Warrant Agent:

8.1.1 shall have no duties or obligations other than those set forth herein and no duties or obligations shall be inferred or implied;

8.1.2 may rely on and shall be held harmless by the Company in acting upon any certificate, statement, instrument, opinion, notice, letter, electronic transmission, telegram or other document, or any security delivered to it, and reasonably believed by it to be genuine and to have been made or signed by the proper party or parties;

8.1.3 may rely on and shall be held harmless by the Company in acting upon written or oral instructions or statements from the Company with respect to any matter relating to its acting as Warrant Agent;

8.1.4 may consult with counsel satisfactory to it (including counsel for the Company) and, absent gross negligence on the part of the Warrant Agent (as determined by a court of competent jurisdiction in a final, non-appealable order), shall be held harmless by the Company in relying on the advice or opinion of such counsel in respect of any action taken, suffered or omitted by it hereunder in good faith and in accordance with such advice or opinion of such counsel;

8.1.5 solely shall make the final determination as to whether or not a Warrant received by Warrant Agent is duly, completely and correctly executed, and, absent gross negligence on the part of the Warrant Agent (as determined by a court of competent jurisdiction in a final, non-appealable order), Warrant Agent shall be held harmless by the Company in respect of any action taken, suffered or omitted by Warrant Agent hereunder in good faith and in accordance with its determination;

8.1.6 shall not be obligated to take any legal or other action hereunder which might, in its judgment subject or expose it to any expense or liability unless it shall have been furnished with an indemnity satisfactory to it; and

8.1.7 shall not be liable or responsible for any failure of the Company to comply with any of its obligations relating to the Registration Statement or this Warrant Agreement, including without limitation obligations under applicable regulation or law.

8.2 Payment of Taxes. The Company will from time to time promptly pay all taxes and charges that may be imposed upon the Company or the Warrant Agent in respect of the issuance or delivery of shares of Common Stock upon the exercise of Warrants, but the Company shall not be obligated to pay any transfer taxes in respect of the Warrants or such shares. The Warrant Agent shall not register any transfer or issue or deliver any Warrant Certificate(s) or Warrant Shares unless or until the persons requesting the registration or issuance shall have paid to the Warrant Agent for the account of the Company the amount of such tax, if any, or shall have established to the reasonable satisfaction of the Company that such tax, if any, has been paid

### 8.3 Resignation, Consolidation, or Merger of Warrant Agent.

8.3.1. Appointment of Successor Warrant Agent. The Warrant Agent, or any successor to it hereafter appointed, may resign its duties and be discharged from all further duties and liabilities hereunder after giving sixty (60) days' notice in writing to the Company. If the office of the Warrant Agent becomes vacant by resignation or incapacity to act or otherwise, the Company shall appoint in writing a successor Warrant Agent in place of the Warrant Agent. If the Company shall fail to make such appointment within a period of 30 days after it has been notified in writing of such resignation or incapacity by the Warrant Agent or by the holder of the Warrant (who shall, with such notice, submit his Warrant for inspection by the Company), then the holder of any Warrant may apply to the Supreme Court of the State of New York for the County of New York for the appointment of a successor Warrant Agent at the Company's cost. Any successor Warrant Agent, whether appointed by the Company or by such court, shall be a corporation organized and existing under the laws of the United States of America or any state thereof or the District of Columbia, in good standing, which is authorized under such laws to exercise corporate trust, stock transfer, or shareholder services powers and which has at the time of its appointment as Warrant Agent a combined capital and surplus of at least \$50 million or (b) an affiliate of a legal business entity described in clause (a) of this sentence. After appointment, any

successor Warrant Agent shall be vested with all the authority, powers, rights, immunities, duties, and obligations of its predecessor Warrant Agent with like effect as if originally named as Warrant Agent hereunder, without any further act or deed; but if for any reason it becomes necessary or appropriate, the predecessor Warrant Agent shall execute and deliver, at the expense of the Company, an instrument transferring to such successor Warrant Agent all the authority, powers, and rights of such predecessor Warrant Agent hereunder; and upon request of any successor Warrant Agent the Company shall make, execute, acknowledge, and deliver any and all instruments in writing for more fully and effectually vesting in and confirming to such successor Warrant Agent all such authority, powers, rights, immunities, duties, and obligations.

8.2.2. Notice of Successor Warrant Agent. In the event a successor Warrant Agent shall be appointed, the Company shall give notice thereof to the predecessor Warrant Agent and the transfer agent for the Common Stock not later than the effective date of any such appointment.

8.2.3. Merger or Consolidation of Warrant Agent. Any corporation into which the Warrant Agent may be merged or with which it may be consolidated or any corporation resulting from any merger or consolidation to which the Warrant Agent shall be a party shall be the successor Warrant Agent under this Warrant Agreement without any further act.

#### 8.4. Fees and Expenses of Warrant Agent.

8.4.1. Remuneration. The Company agrees to pay the Warrant Agent reasonable remuneration in an amount agreed to between the Company and Warrant Agent for its services as Warrant Agent hereunder, as set forth in Exhibit B, and will reimburse the Warrant Agent upon demand for all reasonable and documented expenditures that the Warrant Agent may reasonably incur in the execution of its duties hereunder. All monthly fees shall be paid by the Company within thirty (30) calendar days of receiving an invoice from the Warrant Agent. An invoice for any reasonable out-of-pocket and/or per item fees incurred will be rendered to and payable by the Company within thirty (30) days of the date of said invoice. It is understood and agreed that all services to be performed by Warrant Agent shall cease if full payment for its services has not been received in accordance with the above schedule, and said services will not commence thereafter until all payment due has been received by Warrant Agent. If Company fails to pay any amounts due under this Warrant Agreement, Company shall, upon demand by Warrant Agent, pay interest at the rate of 1-1/2% per month (but in no event more than the highest interest rate allowable by law) on such delinquent amounts from the due date until the date of payment.

8.4.2. Further Assurances. The Company agrees to perform, execute, acknowledge, and deliver or cause to be performed, executed, acknowledged, and delivered all such further and other acts, instruments, and assurances as may reasonably be required by the Warrant Agent for the carrying out or performing of the provisions of this Warrant Agreement.

#### 8.5. Liability of Warrant Agent.

8.5.1. Reliance on Company Statement. Whenever in the performance of its duties under this Warrant Agreement, the Warrant Agent shall deem it necessary or desirable that any fact or matter be proved or established by the Company prior to taking or suffering any action hereunder, such fact or matter (unless other evidence in respect thereof be herein specifically prescribed) may be deemed to be conclusively proved and established by a statement signed by the Chief Executive Officer, President, Chief Operating Officer, Chief Financial Officer, Treasurer, Chief Legal Officer or Secretary of the Company and delivered to the Warrant Agent. The Warrant

Agent may rely upon such statement for any action taken or suffered in good faith by it pursuant to the provisions of this Warrant Agreement.

8.5.2. Indemnity. The Warrant Agent shall be liable hereunder only for its own gross negligence, willful misconduct or bad faith. The Company agrees to indemnify the Warrant Agent and save it harmless against any and all liabilities, including judgments, claims, losses, damages, costs and reasonable counsel fees, for anything done or omitted by the Warrant Agent in the execution of this Warrant Agreement except as a result of the Warrant Agent's gross negligence, willful misconduct, or bad faith.

8.5.3. Limitation of Liability.

(i) Warrant Agent shall not be liable or deemed to be in default for any delay or failure to perform under this Warrant Agreement or any schedule resulting directly or indirectly from any cause beyond Warrant Agent's reasonable control, including, without limitation, natural disasters, and failure of utilities or carriers.

(ii) Other than for liabilities relating to the Warrant Agent's gross negligence, willful misconduct or bad faith (in each case, as determined by a court of competent jurisdiction in a final, non-appealable order), the Warrant Agent's aggregate liability for any and all damages arising from or relating to any and all claims and causes of action in connection with the services provided under this Warrant Agreement or any schedule hereto (the "**Services**"), shall not exceed the lesser of: (i) the amount of actual damages incurred by Company; and (ii) an amount equal to the fees (excluding pass-through charges) paid by Company to Warrant Agent with respect to those Services giving rise to such claim or cause of action during the 12 month period (or such lesser period if those Services have been provided for less than 12 months) immediately preceding the date of occurrence of the event upon which a claim is asserted, less any amounts previously paid by Warrant Agent in satisfaction or settlement of other claims applicable to those Services giving rise to such claim or cause of action, regardless of the basis on which Company is entitled to claim damages (including, without limitation breach, negligence, misrepresentation, or other contract or tort claim) and shall constitute Company's sole monetary remedy.

(iii) NOTWITHSTANDING ANYTHING IN THIS WARRANT AGREEMENT TO THE CONTRARY, NEITHER PARTY TO THIS WARRANT AGREEMENT SHALL BE LIABLE TO THE OTHER PARTY FOR ANY CONSEQUENTIAL, INDIRECT, SPECIAL OR INCIDENTAL DAMAGES UNDER ANY PROVISION OF THIS WARRANT AGREEMENT OR FOR ANY CONSEQUENTIAL, INDIRECT, PUNITIVE, SPECIAL OR INCIDENTAL DAMAGES ARISING OUT OF ANY ACT OR FAILURE TO ACT HEREUNDER EVEN IF THAT PARTY HAS BEEN ADVISED OF OR HAS FORESEEN THE POSSIBILITY OF SUCH DAMAGES.

(iv) This Section allocates the risks under this Warrant Agreement between Warrant Agent and Company and is viewed by the parties as an integral part of the business arrangement between them. The pricing and other terms and conditions of this Warrant Agreement and any schedule hereto reflect this allocation of risk and the limitations specified herein.

8.5.4 Disputes. In the event any question or dispute arises with respect to the proper interpretation of this Warrant Agreement or the Warrant Agent's duties hereunder or the rights of the Company or of any holder of a Warrant, the Warrant Agent shall not be required to act and shall not be held liable or responsible for refusing to act until the question or dispute has been judicially settled (and the Warrant Agent may, if it deems it advisable, but shall not be obligated to, file a suit in

interpleader or for a declaratory judgment for such purpose) by final judgment rendered by a court of competent jurisdiction, binding on all parties interested in the matter which is no longer subject to review or appeal, or settled by a written document in form and substance satisfactory to the Warrant Agent and executed by the Company and each other interested party. In addition, the Warrant Agent may require for such purpose, but shall not be obligated to require, the execution of such written settlement by all the Warrant holders, as applicable, and all other parties that may have an interest in the settlement.

8.5.5 Exclusions. The Warrant Agent shall have no responsibility with respect to the validity of this Warrant Agreement or with respect to the validity or execution of any Warrant (except its countersignature thereof); nor shall it be responsible for any breach by the Company of any covenant or condition contained in this Warrant Agreement or in any Warrant; nor shall it be responsible to make any adjustments required under the provisions of Section 4 hereof or responsible for the manner, method, or amount of any such adjustment or the ascertaining of the existence of facts that would require any such adjustment; nor shall it by any act hereunder be deemed to make any representation or warranty as to the authorization or reservation of any shares of Common Stock to be issued pursuant to this Warrant Agreement or any Warrant or as to whether any shares of Common Stock will when issued be valid and fully paid and nonassessable.

8.6. Acceptance of Agency. The Warrant Agent hereby accepts the agency established by this Warrant Agreement and agrees to perform the same upon the terms and conditions herein set forth and among other things, shall account promptly to the Company with respect to Warrants exercised and concurrently account for, and pay to the Company, all moneys received by the Warrant Agent for the purchase of shares of Common Stock through the exercise of Warrants.

## 9. Miscellaneous Provisions.

9.1. Successors. All the covenants and provisions of this Warrant Agreement by or for the benefit of the Company or the Warrant Agent shall bind and inure to the benefit of their respective successors and assigns.

9.2. Notices. Any notice, statement or demand authorized by this Warrant Agreement to be given or made by the Warrant Agent or by the holder of any Warrant to or on the Company shall be sufficiently given when so delivered if by hand or overnight delivery or if sent by certified mail or private courier service within five days after deposit of such notice, postage prepaid, addressed (until another address is filed in writing by the Company with the Warrant Agent), as follows:

OptiNose, Inc.  
1020 Stony Hill Road, Suite 300  
Yardley, PA 19067  
Attention: Chief Financial Officer  
e-mail: warrants@optinose.com

with a required copy to:

OptiNose, Inc.  
1020 Stony Hill Road, Suite 300  
Yardley, PA 19067  
Attention: Chief Legal Officer  
e-mail: legal@optinose.com

Any notice, statement or demand authorized by this Warrant Agreement to be given or made by the holder of any Warrant or by the Company to or on the Warrant Agent shall be sufficiently given when so delivered if by hand or overnight delivery or if sent by certified mail or private courier service within five days after deposit of such notice, postage prepaid, addressed (until another address is filed in writing by the Warrant Agent with the Company), as follows:

Broadridge Corporate Issuer Solutions, Inc.,  
51 Mercedes Way  
Edgewood, NY 11717  
Attn: Corporate Actions Department

With a copy to:

Broadridge Financial Solutions, Inc.  
2 Gateway Center  
Newark, New Jersey 07102,  
and a copy via email to [legalnotices@broadridge.com](mailto:legalnotices@broadridge.com)  
in each case, Attention: General Counsel

9.3. Applicable law. The validity, interpretation, and performance of this Warrant Agreement and of the Warrants shall be governed in all respects by the laws of the State of New York, without giving effect to conflicts of law principles that would result in the application of the substantive laws of another jurisdiction. The Company hereby agrees that any action, proceeding or claim against it arising out of or relating in any way to this Warrant Agreement shall be brought and enforced in the courts of the State of New York or the United States District Court for the Southern District of New York, and irrevocably submits to such jurisdiction, which jurisdiction shall be exclusive. The Company hereby waives any objection to such exclusive jurisdiction and that such courts represent an inconvenience forum. Any such process or summons to be served upon the Company may be served by transmitting a copy thereof by registered or certified mail, return receipt requested, postage prepaid, addressed to it at the address set forth in Section 9.2 hereof. Such mailing shall be deemed personal service and shall be legal and binding upon the Company in any action, proceeding or claim.

9.4. Persons Having Rights under this Warrant Agreement. Nothing in this Warrant Agreement expressed and nothing that may be implied from any of the provisions hereof is intended, or shall be construed, to confer upon, or give to, any person or corporation other than the parties hereto and the registered holders of the Warrants, any right, remedy, or claim under or by reason of this Warrant Agreement or of any covenant, condition, stipulation, promise, or agreement hereof. All covenants, conditions, stipulations, promises, and agreements contained in this Warrant Agreement shall be for the sole and exclusive benefit of the parties hereto and their successors and assigns and of the registered holders of the Warrants.

9.5. Examination of the Warrant Agreement. A copy of this Warrant Agreement shall be available at all reasonable times at the office of the Warrant Agent in the city of Edgewood, State of New York, for inspection by the registered holder of any Warrant. The Warrant Agent may require any such holder to submit his, her or its Warrant for inspection by it.

9.6. Counterparts. This Warrant Agreement may be executed in any number of original or electronic counterparts and each of such counterparts shall for all

purposes be deemed to be an original, and all such counterparts shall together constitute but one and the same instrument.

9.7. Effect of Headings. The Section headings herein are for convenience only and are not part of this Warrant Agreement and shall not affect the interpretation thereof.

9.8. Amendments. This Warrant Agreement may be amended by the parties hereto without the consent of any registered holder for the purpose of curing any ambiguity, or of curing, correcting or supplementing any defective provision contained herein or adding or changing any other provisions with respect to matters or questions arising under this Warrant Agreement as the parties may deem necessary or desirable and that the parties deem shall not adversely affect the interest of the registered holders.

9.9. Severability. This Warrant Agreement shall be deemed severable, and the invalidity or unenforceability of any term or provision hereof shall not affect the validity or enforceability of this Warrant Agreement or of any other term or provision hereof. Furthermore, in lieu of any such invalid or unenforceable term or provision, the parties hereto intend that there shall be added as a part of this Warrant Agreement a provision as similar in terms to such invalid or unenforceable provision as may be possible and be valid and enforceable.

9.10. Force Majeure. In the event either party is unable to perform its obligations under the terms of this Warrant Agreement because of acts of God, strikes, natural disasters failure of carrier or utilities, equipment or transmission failure or damage that is reasonably beyond its control, or any other cause that is reasonably beyond its control, such party shall not be liable for damages to the other for any damages resulting from such failure to perform or otherwise from such causes. Performance under this Warrant Agreement shall resume when the affected party or parties are able to perform substantially that party's duties.

9.11. Severability. If any provision of this Warrant Agreement shall be held invalid, unlawful, or unenforceable, the validity, legality, and enforceability of the remaining provisions shall not in any way be affected or impaired.

9.12. Confidentiality. Warrant Agent and the Company agree that all books, records, information and data pertaining to the business of the other party which are exchanged or received pursuant to the negotiation or the carrying out of this Warrant Agreement, including the fees for services set forth in the attached schedule, shall remain confidential and shall not be voluntarily disclosed to any third party (except the party's attorneys, subcontractors, vendors, representatives, agents, advisors and affiliates), except with the written approval of the other party or as may be required by law or regulatory authority.

9.13. Survival. The applicable provisions of Sections 8 and 9 shall survive any termination of this Warrant Agreement.

9.14. Merger of Agreement. This Warrant Agreement constitutes the entire agreement between the parties hereto and supersedes any prior agreement with respect to the subject matter hereof whether oral or written provided, however, that nothing herein contained shall amend, replace or supersede any agreement between the Company and Warrant Agent to act as the Company's transfer agent which agreement shall remain in full force and effect.

9.15. GDPR and Territorial Limitation.

9.15.1 To the extent Warrant Agent processes Personal Information that would constitute EU Personal Data as defined under Regulation (EU)

2016/679 (General Data Protection Regulation), Warrant Agent will comply with the provisions of the Warrant Agent GDPR Annex, found at [https://www.broadridge.com/GDPR-Annex by using password ICS54903](https://www.broadridge.com/GDPR-Annex%20by%20using%20password%20ICS54903).

9.15.2 The Services are intended for use in the United States. Except with respect to representations pertaining to the EU Personal Data as defined under Regulation (EU) 2016/679 (General Data Protection Regulation) in Section 9.15.1 Warrant Agent makes no representation that the Services are appropriate or available for use outside the United States, and access to the Services from territories where the Services are illegal is prohibited. Company is responsible for compliance with all local laws in connection with its use of the Services.

IN WITNESS WHEREOF, this Warrant Agreement has been duly executed by the parties hereto as of the day and year first above written.

OPTINOSE, INC.

By: /s/ Michael F. Marino  
Name: Michael F. Marino  
Title: Chief Legal Officer

BROADRIDGE CORPORATE ISSUER SOLUTIONS, INC.

By: /s/ John P. Dunn  
Name: John P. Dunn  
Title: SVP

**EXHIBIT A  
FORM OF WARRANT**

**EXHIBIT B  
FEE SCHEDULE**

November 23, 2022

Board of Directors  
OptiNose, Inc.  
1020 Stony Hill Road, Suite 300  
Yardley, Pennsylvania 19067

Ladies and Gentlemen:

We are acting as counsel to OptiNose, Inc., a Delaware corporation (the "**Company**"), in connection with its registration statement on Form S-3 (File No. 333-258707) (the "**Registration Statement**"), filed with the Securities and Exchange Commission under the Securities Act of 1933, as amended (the "**Act**"), relating to the public offering of up to (i) 30,268,000 shares of common stock, par value \$0.001 per share (the "**Common Stock**"), of the Company (the "**Shares**"), and (ii) warrants (the "**Warrants**") to purchase an aggregate of up to 30,268,000 shares of Common Stock with an initial exercise price equal to \$2.565 per share (the "**Warrant Shares**") and, together with the Shares and the Warrants, the "**Securities**"), all of which Securities are to be sold by the Company pursuant to the Underwriting Agreement, dated as of November 21, 2022, by and between the Company and Piper Sandler & Co., as the representative of the underwriters named therein (the "**Underwriting Agreement**"), and that certain Warrant Agency Agreement, dated as of November 23, 2022, by and between the Company and Broadridge Corporate Issuer Solutions, Inc., as the Warrant agent (the "**Warrant Agent Agreement**"), in each case, as described in the Prospectus, dated August 31, 2021 (the "**Registration Statement Prospectus**"), which forms a part of the Registration Statement, as supplemented by the Prospectus Supplement, dated November 21, 2022 (together with the Registration Statement Prospectus, the "**Prospectus**"). This opinion letter is furnished to you at your request to enable you to fulfill the requirements of Item 601(b)(5) of Regulation S-K, 17 C.F.R. § 229.601(b)(5), in connection with the Registration Statement.

For purposes of this opinion letter, we have examined copies of such agreements, instruments and documents as we have deemed an appropriate basis on which to render the opinions hereinafter expressed. In our examination of the aforesaid documents, we have assumed the genuineness of all signatures, the legal capacity of all natural persons, the accuracy and completeness of all documents submitted to us, the authenticity of all original documents, and the conformity to authentic original documents of all documents submitted to us as copies (including pdfs). As to all matters of fact, we have relied on the representations and statements of fact made in the documents so reviewed, and we have not independently established the facts so relied on. This opinion letter is given, and all statements herein are made, in the context of the foregoing.

This opinion letter is based as to matters of law solely on the Delaware General Corporation Law, as amended. We express no opinion herein as to any other statutes, rules or regulations.

Based upon, subject to and limited by the foregoing, we are of the opinion that:

1. Following (i) issuance of the Shares pursuant to the terms of the Underwriting Agreement and (ii) receipt by the Company of the consideration for the Shares specified in the resolutions of the Board of Directors or the Finance Committee of the Board of Directors, the Shares will be validly issued, fully paid and nonassessable.
2. Following (i) execution and delivery by the Company of the Warrants pursuant to the terms of the Underwriting Agreement and the Warrant Agent Agreement, and (ii) receipt by the Company of the consideration for the Warrants specified in the Warrants and resolutions of the Board of Directors or Finance Committee of the Board of Directors, the Warrants will constitute valid and binding obligations of the Company.
3. The Warrant Shares have been duly authorized for issuance and, when issued, delivered and paid for upon exercise in accordance with the provisions of the Warrants and the Warrant Agent Agreement, will be validly issued, fully paid, and nonassessable. The Board of Directors of the Company or a duly authorized committee thereof has duly adopted resolutions reserving the Warrant Shares.

This opinion letter has been prepared for use in connection with the Registration Statement. We assume no obligation to advise of any changes in the foregoing subsequent to the effective date of the Registration Statement.

We hereby consent to the filing of this opinion letter as Exhibit 5.1 to the Company's Current Report on Form 8-K to be filed with the Securities and Exchange Commission on the date hereof and to the reference to this firm under the caption "Legal Matters" in the Prospectus constituting a part of the Registration Statement. In giving this consent, we do not thereby admit that we are an "expert" within the meaning of the Act.

Very truly yours,

/s/ HOGAN LOVELLS US LLP

HOGAN LOVELLS US LLP



## **Optinose Announces Proposed Public Offering of Common Stock and Warrants**

**YARDLEY, Pa., November 21, 2022** – Optinose (NASDAQ:OPTN), a pharmaceutical company focused on patients treated by ear, nose and throat (ENT) and allergy specialists, today announced that it intends to offer and sell shares of its common stock and accompanying warrants to purchase shares of common stock in an underwritten public offering. All shares of common stock and accompanying warrants to be sold in the offering will be sold by Optinose. In addition, Optinose is expected to grant the underwriters an option for a period of 30 days to purchase up to an additional 15% of the total number of shares of common stock and/or warrants to purchase shares of common stock to be offered at the public offering price, less the underwriting discount. The public offering price has not yet been determined. The offering is subject to market and other conditions, and there can be no assurance as to whether or when the offering may be completed.

Optinose intends to use the net proceeds of the offering for working capital and general corporate purposes, including the commercialization of XHANCE and the pursuit of a follow-on indication for XHANCE for the treatment of chronic sinusitis.

Piper Sandler is acting as the lead book-running manager on behalf of the underwriters for the offering, with BMO Capital Markets and Cantor also serving as bookrunners.

The securities described above are being offered by Optinose pursuant to a shelf registration statement on Form S-3 (No. 333-258707) previously filed with the Securities and Exchange Commission (SEC) on August 11, 2021 and declared effective by the SEC on August 31, 2021.

The securities will be offered by means of a prospectus supplement and accompanying prospectus relating to the offering that form a part of the registration statement. A preliminary prospectus supplement and the accompanying prospectus relating to and describing the terms of the offering will be filed with the SEC and will be available on the SEC's website at <http://www.sec.gov>. Copies of the final prospectus supplement, when available, and accompanying prospectus relating to the offering may be obtained from: Piper Sandler & Co., Attention: Prospectus Department, 800 Nicollet Mall, J12S03, Minneapolis, Minnesota 55402, by email at [prospectus@psc.com](mailto:prospectus@psc.com), or by phone at (800) 747-3924.

This press release shall not constitute an offer to sell or the solicitation of an offer to buy, 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 of these securities under the securities laws of any such state or jurisdiction.

### **About Optinose**

Optinose is a specialty pharmaceutical company focused on serving the needs of patients cared for by ear, nose and throat (ENT) and allergy specialists.

### **Cautionary Note on Forward-Looking Statements**

This press release contains forward-looking statements within the meaning of the U.S. Private Securities Litigation Reform Act of 1995. All statements that are not historical facts are hereby identified as forward-looking statements for this purpose and include, among others, statements regarding the terms of the proposed public offering, Optinose's expectations with respect to granting the underwriters a 30-day option to purchase additional shares

and/or warrants, the completion and timing of the proposed public offering and the expected use of proceeds from the proposed offering. Forward-looking statements are based upon management's current expectations and assumptions and are subject to a number of risks, uncertainties and other factors that could cause actual results and events to differ materially and adversely from those indicated by such forward-looking statements including, among others: satisfaction of the customary closing conditions of the offering; delays in obtaining required stock exchange or other regulatory approvals; stock price volatility and risks and uncertainties related to market conditions; the impact of general business and economic conditions; and the risks, uncertainties and other factors discussed under the caption "Item 1A. Risk Factors" and elsewhere in Optinose's most recent Form 10-K and Form 10-Q filings with the Securities and Exchange Commission - which are available at [www.sec.gov](http://www.sec.gov). As a result, you are cautioned not to place undue reliance on any forward-looking statements. Any forward-looking statements made in this press release speak only as of the date of this press release, and Optinose undertakes no obligation to update such forward-looking statements, whether as a result of new information, future developments or otherwise.

**Optinose Investor Contact**

Jonathan Neely

[jonathan.neely@optinose.com](mailto:jonathan.neely@optinose.com)

267.521.0531

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## Optinose Announces Pricing of Public Offering of Common Stock and Warrants

**YARDLEY, Pa., November 21, 2022** – Optinose (NASDAQ:OPTN), a pharmaceutical company focused on patients treated by ear, nose and throat (ENT) and allergy specialists, today announced the pricing of an underwritten public offering of 26,320,000 shares of its common stock and warrants to purchase 26,320,000 shares of its common stock at a combined public offering price of \$1.90 per share and accompanying warrant, for gross proceeds of approximately \$50 million to Optinose, before deducting underwriting discounts and commissions and offering expenses payable by Optinose. All shares of common stock and accompanying warrants in the offering are being offered by Optinose. The offering is expected to close on or about November 23, 2022, subject to the satisfaction of customary closing conditions.

The shares of common stock and warrants will be issued separately but can only be purchased together in the offering. The warrants have an exercise price of \$2.565 per share, are exercisable immediately upon issuance, and will expire five years following the date of issuance. In addition, Optinose has granted the underwriters an option for a period of 30 days to purchase up to an additional 3,948,000 shares of common stock at the public offering price of \$1.89 per share and/or warrants to purchase up to an additional 3,948,000 shares of common stock at the public offering price \$0.01 per warrant, in each case, less the underwriting discount.

Optinose intends to use the net proceeds of the offering for working capital and general corporate purposes, including the commercialization of XHANCE, and the pursuit of a follow-on indication for XHANCE for the treatment of chronic sinusitis.

Piper Sandler is acting as the lead book-running manager on behalf of the underwriters for the offering, with BMO Capital Markets and Cantor also serving as bookrunners.

The securities described above are being offered by Optinose pursuant to a shelf registration statement on Form S-3 (No. 333-258707) previously filed with the Securities and Exchange Commission (SEC) on August 11, 2021 and declared effective by the SEC on August 31, 2021.

The securities are being offered by means of a prospectus supplement and accompanying prospectus relating to the offering that form a part of the registration statement. A preliminary prospectus supplement relating to the offering was filed with the SEC on November 21, 2022 and is available on the SEC's website at <http://www.sec.gov>. The final prospectus supplement relating to and describing the terms of the offering will be filed with the SEC and will also be available on the SEC's website. Before investing in the offering, you should read each of the prospectus supplement and the accompanying prospectus relating to the offering in their entirety as well as the other documents that Optinose has filed with the SEC that are incorporated by reference in the prospectus supplement and the accompanying prospectus relating to the offering, which provide more information about Optinose and the offering. Copies of the final prospectus supplement, when available, and accompanying prospectus relating to the offering may be obtained from: Piper Sandler & Co., Attention: Prospectus Department, 800 Nicollet Mall, J12S03, Minneapolis, Minnesota 55402, by email at [prospectus@psc.com](mailto:prospectus@psc.com), or by phone at (800) 747-3924.

This press release shall not constitute an offer to sell or the solicitation of an offer to buy, 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 of these securities under the securities laws of any such state or jurisdiction.

**About Optinose**

Optinose is a specialty pharmaceutical company focused on serving the needs of patients cared for by ear, nose and throat (ENT) and allergy specialists.

**Cautionary Note on Forward-Looking Statements**

This press release contains forward-looking statements within the meaning of the U.S. Private Securities Litigation Reform Act of 1995. All statements that are not historical facts are hereby identified as forward-looking statements for this purpose and include, among others, statements regarding the closing of the public offering and the expected proceeds and use of proceeds from the public offering. Forward-looking statements are based upon management's current expectations and assumptions and are subject to a number of risks, uncertainties and other factors that could cause actual results and events to differ materially and adversely from those indicated by such forward-looking statements including, among others: satisfaction of the customary closing conditions of the offering; delays in obtaining required stock exchange or other regulatory approvals; stock price volatility and risks and uncertainties related to market conditions; the impact of general business and economic conditions; and the risks, uncertainties and other factors discussed under the caption "Item 1A. Risk Factors" and elsewhere in Optinose's most recent Form 10-K and Form 10-Q filings with the Securities and Exchange Commission - which are available at [www.sec.gov](http://www.sec.gov). As a result, you are cautioned not to place undue reliance on any forward-looking statements. Any forward-looking statements made in this press release speak only as of the date of this press release, and Optinose undertakes no obligation to update such forward-looking statements, whether as a result of new information, future developments or otherwise.

**Optinose Investor Contact**

Jonathan Neely

[jonathan.neely@optinose.com](mailto:jonathan.neely@optinose.com)

267.521.0531

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