

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

FORM 8-K

CURRENT REPORT

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

Date of Report (Date of earliest event reported): May 08, 2024

Organovo Holdings, Inc.

(Exact name of Registrant as Specified in Its Charter)

Delaware  
(State or Other Jurisdiction  
of Incorporation)

001-35996  
(Commission File Number)

27-1488943  
(IRS Employer  
Identification No.)

11555 Sorrento Valley Rd  
Suite 100  
San Diego, California  
(Address of Principal Executive Offices)

92121  
(Zip Code)

Registrant's Telephone Number, Including Area Code: (858) 224-1000

(Former Name or Former Address, if Changed Since Last Report)

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

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

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

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

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

Emerging growth company

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

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

On May 8, 2024, Organovo Holdings, Inc. (the “Company”) priced a best efforts public offering (the “Offering”) of: (i) 1,562,500 shares of its common stock, par value \$0.001 per share (“Common Stock”), and accompanying common warrants (“Common Warrants”) to purchase up to 1,562,500 shares of Common Stock at a combined public offering price of \$0.80 per share and accompanying Common Warrant to purchase one share of common stock and (ii) pre-funded warrants (“Pre-Funded Warrants”) to purchase 5,000,000 shares of Common Stock and accompanying Common Warrants to purchase up to 5,000,000 shares of Common Stock at a combined public offering price of \$0.799 per Pre-Funded Warrant and accompanying Common Warrant to purchase one share of Common Stock.

The per share exercise price for the Pre-Funded Warrants is \$0.001, subject to adjustment as provided therein. The Pre-Funded Warrants are exercisable immediately and will expire when exercised in full. Each holder of a Pre-Funded Warrant will not have the right to exercise any portion of its Pre-Funded Warrant if the holder, together with its affiliates, would beneficially own more than 9.99% (or, at the election of the purchaser, 4.99%) of the number of shares of the Common Stock outstanding immediately after giving effect to such exercise (the “Pre-Funded Warrant Beneficial Ownership Limitation”); provided, however, that upon 61 days’ prior notice to the Company, the holder may increase the Pre-Funded Warrant Beneficial Ownership Limitation, but not to above 9.99%. The exercise price and number of shares of Common Stock issuable upon the exercise of the Pre-Funded Warrants will be subject to adjustment in the event of any stock dividend, stock split, reverse stock split, recapitalization, reorganization or similar transaction, as described in the Pre-Funded Warrants. The holders may exercise the Pre-Funded Warrants by means of a “cashless exercise.”

The per share exercise price for the Common Warrants is \$0.80, subject to adjustment as provided therein. The Common Warrants will be exercisable immediately and will expire on the date that is five years following the original issuance date. Each holder of a Common Warrant will not have the right to exercise any portion of its Common Warrant if the holder, together with its affiliates, would beneficially own more than 4.99% (or, at the election of the purchaser, 9.99%) of the number of shares of the Common Stock outstanding immediately after giving effect to such exercise (the “Common Warrant Beneficial Ownership Limitation”); provided, however, that upon 61 days’ prior notice to the Company, the holder may increase the Common Warrant Beneficial Ownership Limitation, but not to above 9.99%. The exercise price and number of shares of Common Stock issuable upon the exercise of the Common Warrants will be subject to adjustment in the event of any stock dividend, stock split, reverse stock split, recapitalization, reorganization or similar transaction, as described in the Common Warrants. If a registration statement covering the issuance of the shares of Common Stock issuable upon exercise of the Common Warrants is not available for the issuance, then the holders may exercise the Common Warrants by means of a “cashless exercise.”

In connection with the Offering, the Company entered into a Placement Agency Agreement (the “Placement Agency Agreement”) on May 8, 2024 with JonesTrading Institutional Services LLC (the “Placement Agent”), as the placement agent in connection with the Offering. As compensation to the Placement Agent, the Company paid the Placement Agent a cash fee of 5.0% of the aggregate gross proceeds raised in the Offering.

In connection with the Offering, the Company entered into Securities Purchase Agreements (the “Purchase Agreements”) with certain purchasers on May 8, 2024. The Purchase Agreements contain customary representations and warranties and agreements of the Company and the purchaser and customary indemnification rights and obligations of the parties.

The shares of Common Stock, the Pre-Funded Warrants and Common Warrants described above and the shares of Common Stock underlying the Pre-Funded Warrants and Common Warrants were offered pursuant to the Registration Statement on Form S-1, as amended (File No. 333-278668), which was declared effective by the Securities and Exchange Commission on May 8, 2024.

The Company received net proceeds of approximately \$4.7 million from the Offering, after deducting the estimated offering expenses payable by the Company, including the Placement Agent fees. The Company intends to use the net proceeds from the Offering for working capital and general corporate purposes, which could include capital expenditures, research and development expenditures, regulatory affairs expenditures, clinical trial expenditures, legal expenditures, including intellectual property protection and maintenance expenditures, acquisitions of new technologies and investments, business combinations and the repurchase of capital stock. The closing of the Offering occurred on May 13, 2024.

The foregoing summaries of the Placement Agency Agreement, Purchase Agreements, the Common Warrant and the Pre-Funded Warrant do not purport to be complete and are subject to, and qualified in their entirety by, the forms of such documents attached hereto as Exhibits 10.1, 10.2, 4.1 and 4.2, respectively, to this Current Report on Form 8-K, which are incorporated by reference.

The representations, warranties and covenants contained in the Purchase Agreements, the Placement Agency Agreement, the Pre-Funded Warrants and the Common Warrants were made only for purposes of such agreements and as of specific dates, were solely for the benefit of the parties to the Purchase Agreements, the Placement Agency Agreement, the Pre-Funded Warrants and the Common Warrants, respectively, and may be subject to limitations agreed upon by the contracting parties. Accordingly, the Purchase Agreements, the Placement Agency Agreement, the Pre-Funded Warrants and the Common Warrants are incorporated herein by reference only to provide investors with information regarding the terms of the Purchase Agreements, the Placement Agency

Agreement, the Pre-Funded Warrants and the Common Warrants, and not to provide investors with any other factual information regarding the Company or its business, and should be read in conjunction with the disclosures in the Company's periodic reports and other filings with the Securities and Exchange Commission.

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

The Company issued a press release announcing the pricing of the Offering on May 8, 2024. A copy of the press release is attached hereto as Exhibit 99.1 and is incorporated by reference into this Item 8.01 of this Current Report on Form 8-K.

#### **Item 9.01 Financial Statements and Exhibits.**

##### **(d) Exhibits.**

<u>Number</u>	<u>Description</u>
4.1	<a href="#">Form of Common Warrant.</a>
4.2	<a href="#">Form of Pre-Funded Warrant.</a>
10.1	<a href="#">Placement Agency Agreement, dated May 8, 2024, between the Company and JonesTrading Institutional Services LLC.</a>
10.2*	<a href="#">Form of Securities Purchase Agreement, dated May 8, 2024.</a>
99.1	<a href="#">Press Release, dated May 8, 2024.</a>
104	Cover Page Interactive Data File, formatted in Inline Extensible Business Reporting Language (iXBRL).

\*Non-material schedules and exhibits have been omitted pursuant to Item 601(a)(5) of Regulation S-K. The Company hereby undertakes to furnish supplemental copies of any of the omitted schedules and exhibits upon request by the Securities and Exchange Commission.

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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.

Organovo Holdings, Inc.

Date: May 13, 2024

By: /s/ Keith Murphy

Name: Keith Murphy

Title: Executive Chairman

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## ORGANOVO HOLDINGS, INC.

## WARRANT TO PURCHASE COMMON STOCK

Warrant No.: \_\_\_\_\_  
Number of Shares of Common Stock: \_\_\_\_\_  
Date of Issuance: May 13, 2024 (“**Issuance Date**”)

Organovo Holdings, Inc., a Delaware corporation (the “**Company**”), hereby certifies that, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, [ ● ], the registered holder hereof 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, upon surrender of this Warrant to Purchase Common Stock (including any Warrants to Purchase Common Stock issued in exchange, transfer or replacement hereof, this “**Warrant**”), at any time or times 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), subject to adjustment as provided herein (the “**Warrant Shares**”). Except as otherwise defined herein, capitalized terms in this Warrant shall have the meanings set forth in Section 16.

**1. EXERCISE OF WARRANT.**

**(a) Mechanics of Exercise.** Subject to the terms and conditions hereof, this Warrant may be exercised by the Holder at any time on or after the Issuance Date, in whole or in part, by (i) delivery of a written notice, in the form attached hereto as Exhibit A (the “**Exercise Notice**”), of the Holder’s election to exercise this Warrant and (ii) (A) payment to the Company of an amount equal to the applicable Exercise Price multiplied by the number of Warrant Shares as to which this Warrant is being exercised (the “**Aggregate Exercise Price**”) in cash or by wire transfer of immediately available funds or (B) provided that the conditions for cashless exercise set forth in Section 1(c) are satisfied, by notifying the Company that this Warrant is being exercised pursuant to a Cashless Exercise (as defined in Section 1(c)). The Holder shall not be required to deliver the original Warrant in order to effect an exercise hereunder. 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. On or before the first (1st ) Trading Day following the date on which the Company has received each of the applicable Exercise Notice and the Aggregate Exercise Price (or notice of a Cashless Exercise) (collectively, the “**Exercise Delivery Documents**”), the Company shall transmit by electronic mail an acknowledgment of receipt of the Exercise Delivery Documents in the form attached to the Exercise Notice to the Holder. On or before the third (3rd) Trading Day following the date on which the Company has received all of the Exercise Delivery Documents (the “**Share Delivery Date**”), the Company shall cause the Warrant Shares to be issued in the name of and shall deliver to the Holder written confirmation that the Warrant Shares have been issued in the name of the Holder, and within three Trading Days after the Share Delivery Date, a new warrant of like tenor to purchase the number of Warrant Shares that may be purchased pursuant to the portion, if any, of this Warrant not exercised by the Holder. No fractional shares of Common Stock are to be issued upon the exercise of this Warrant, but rather the number of Warrant Shares are to be issued shall be rounded down to the nearest whole number.

**(b) Exercise Price.** For purposes of this Warrant, “**Exercise Price**” means \$0.80 per share of Common Stock, subject to adjustment as provided herein.

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**(c) Cashless Exercise.** Notwithstanding anything contained herein to the contrary, if a registration statement covering the issuance or resale of the Warrant Shares is not available for the issuance or resale, as applicable, of the Warrant Shares, the Holder may exercise this Warrant in whole or in part and, 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, elect instead to receive 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= the arithmetic average of the Closing Sale Prices of the shares of Common Stock for the five (5) consecutive Trading Days ending on the Trading Day immediately preceding the date of the Exercise Notice.

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

For sake of clarity, regardless of whether an effective registration statement or an exemption from registration is or is not available, there is no circumstance that requires the Company to effect a net cash settlement of the Warrants.

**(d) Rule 144.** For purposes of Rule 144(d) promulgated under the Securities Act, as in effect on the date hereof, it is intended that the Warrant Shares issued in a Cashless Exercise shall be deemed to have been acquired by the Holder, and the holding period for the Warrant Shares shall be deemed to have commenced, on the Issuance Date.

**(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 all such disputes shall be resolved pursuant to Section 13.

**(f) Beneficial Ownership.** The Company shall not effect the exercise of any portion of this Warrant, and the Holder shall not have the right to exercise any portion this Warrant, to the extent that after giving effect to such exercise, the Holder (together with the Holder’s Affiliates, and any other Persons acting as a group together with the Holder or any of the Holder’s Affiliates “**Attribution Parties**”) would beneficially own in excess of [4.99][9.99]% (the “**Maximum Percentage**”) of the number of shares of Common Stock outstanding immediately after giving effect to such exercise (including in connection with any Fundamental Transaction (as defined below)). For purposes of the foregoing sentence, the aggregate number of shares of Common Stock beneficially owned by the Holder and its Affiliates and Attribution Parties shall include the number of shares of Common Stock issuable upon exercise of this Warrant with respect to which the determination of such sentence is being made, but shall exclude shares of Common Stock which would be issuable upon (i) exercise of the remaining, unexercised portion of this Warrant beneficially owned by the Holder and or any of its Affiliates or Attribution Parties and (ii) exercise or conversion of the unexercised or unconverted portion of any other securities of the Company beneficially owned by such Holder or any of its Affiliates or Attribution Parties (including, without limitation, any convertible notes or convertible preferred stock or warrants) subject to a limitation on conversion or exercise analogous to the limitation contained herein. Except as set forth in the preceding sentence, for purposes of this paragraph, beneficial ownership shall be calculated in accordance with Section 13(d) of

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the Securities Exchange Act of 1934, as amended. 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 Securities and Exchange Commission, as the case may be, (2) a more recent public announcement by the Company or (3) any other written notice by the Company or the Company's transfer agent setting forth the number of shares of Common Stock outstanding. To the extent that the limitation contained in this Section 1(f) applies, the determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder) and of which a portion of this Warrant is exercisable shall be in the sole discretion of, and shall be the sole responsibility of, the Holder, and the submission of an Exercise Notice shall be deemed to be each Holder's determination of whether this Warrant is exercisable (in relation to other securities owned by such Holder) and of which portion of this Warrant is exercisable, in each case subject to the Maximum Percentage, and the Company shall have no obligation to verify or confirm the accuracy of such determination and shall have no liability for purported or actual exercises of this Warrant that are not in compliance with the Maximum Percentage (other than to the extent that information on the number of outstanding shares of Common Stock of the Company is provided by the Company and relied upon by the Holder). In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder and the Company shall have no obligation to verify or confirm the accuracy of such determination and shall have no liability for purported or actual exercises of this Warrant that are not in compliance with the Maximum Percentage (other than to the extent that information on the number of outstanding shares of Common Stock of the Company is provided by the Company and relied upon by the Holder). For any reason at any time, upon the written or oral 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. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder and its Affiliates and Attribution Parties since the date as of which such number of outstanding shares of Common Stock was reported. 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 9.99% specified in such notice; *provided* that (i) any such increase will not be effective until the sixty-first (61st) day after such notice is delivered to the Company, and (ii) any such increase or decrease will apply only to the Holder. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 1(f) to correct this paragraph (or any portion hereof) which may be defective or inconsistent with the intended beneficial ownership limitation herein contained or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph shall apply to a successor holder of this Warrant. If the Warrant is unexercisable as a result of the Holder's Maximum Percentage, no alternate consideration shall be owing to the Holder.

**2. ADJUSTMENT OF EXERCISE PRICE AND NUMBER OF WARRANT SHARES.** The Exercise Price and the number of Warrant Shares shall be adjusted from time to time as follows:

**(a) Adjustment upon Subdivision or Combination of Common Stock.** If the Company at any time while this Warrant is outstanding subdivides (by any stock split, stock dividend, recapitalization, reorganization, scheme, arrangement or otherwise) one or more classes of its outstanding shares of Common Stock into a greater number of shares, the Exercise Price in effect immediately prior to such subdivision will be proportionately reduced and the number of Warrant Shares will be proportionately increased, such that the aggregate Exercise Price of this Warrant shall remain unchanged, subject to the limitation on fractional shares in Section 1(a). If the Company at any time on or after while this Warrant is outstanding combines (by any stock split, stock dividend, recapitalization, reorganization, scheme, arrangement or otherwise) one or more classes of its outstanding shares of Common Stock into a smaller number of shares, the Exercise Price in effect immediately prior to such combination will be proportionately

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increased and the number of Warrant Shares will be proportionately decreased, such that the aggregate Exercise Price of this Warrant shall remain unchanged, subject to the limitation on fractional shares in Section 1(a). Any adjustment under this Section 2(a) shall become effective at the close of business on the date the subdivision or combination becomes effective.

**(b) Other Events.** If any event occurs 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), then the Company's Board of Directors will make an appropriate adjustment in the Exercise Price and the number of Warrant Shares so as to protect the rights of the Holder; provided that no such adjustment pursuant to this Section 2(b) will increase the Exercise Price or decrease the number of Warrant Shares as otherwise determined pursuant to this Section 2.

**3. RIGHTS UPON DISTRIBUTION OF ASSETS.** If the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to all holders of shares of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, stock or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction) (a "**Distribution**"), at any time after the issuance of this Warrant, then, in each such case the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein 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 such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, however, that to the extent that the Holder's right to participate in any such Distribution 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 Distribution to such extent (and shall not be entitled to beneficial ownership of such shares of Common Stock as a result of such Distribution (and beneficial ownership) to such extent) and the portion of such Distribution 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 Distribution (and any Distributions declared or made on such initial Distribution or on any subsequent Distribution held similarly in abeyance) to the same extent as if there had been no such limitation).

#### **4. PURCHASE RIGHTS; FUNDAMENTAL TRANSACTIONS.**

**(a) Purchase Rights.** In addition to any adjustments pursuant to Section 2 above, if at any time after the Issuance Date and prior to the Expiration Date, the Company grants, issues or sells any rights, warrants or options to subscribe for or purchase shares of Common Stock (other than options granted by the Company to the Company's directors, officers and/or employees), stock or securities directly or indirectly convertible into or exercisable or exchangeable for shares of Common Stock or rights to purchase stock, warrants, securities or other property pro rata to the record holders of any class of shares 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 on the exercise of this Warrant) 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 shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights; provided, however, 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

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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.

**(b) Fundamental Transactions.** The Company shall not enter into or be party to a Fundamental Transaction unless the Successor Entity assumes this Warrant in accordance with the provisions of this Section 4(b), including agreements to deliver to the Holder in exchange for this Warrant a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Warrant, including, without limitation, an adjusted exercise price equal to the value for the shares of Common Stock reflected by the terms of such Fundamental Transaction, and exercisable for a corresponding number of shares of capital stock equivalent to the shares of Common Stock acquirable and receivable upon exercise of this Warrant (without regard to any limitations on the exercise of this Warrant) prior to such Fundamental Transaction, and satisfactory to the Holder. Upon the occurrence of any Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Warrant referring to the “Company” shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant with the same effect as if such Successor Entity had been named as the Company herein. Upon consummation of the Fundamental Transaction, the Successor Entity shall deliver to the Holder confirmation that there shall be issued upon exercise of this Warrant at any time after the consummation of the Fundamental Transaction, in lieu of the shares of the Common Stock (or other securities, cash, assets or other property) purchasable upon the exercise of this Warrant prior to such Fundamental Transaction, such shares of stock, securities, cash, assets or any other property whatsoever (including warrants or other purchase or subscription rights) which the Holder would have been entitled to receive upon the happening of such Fundamental Transaction had this Warrant been exercised immediately prior to such Fundamental Transaction, as adjusted in accordance with the provisions of this Warrant. In addition to and not in substitution for any other rights hereunder, prior to the consummation of any Fundamental Transaction pursuant to which holders of shares of Common Stock are entitled to receive securities or other assets with respect to or in exchange for shares of Common Stock (a “**Corporate Event**”), the Company shall make appropriate provision to insure that the Holder will thereafter have the right to receive upon an exercise of this Warrant at any time after the consummation of the Fundamental Transaction but prior to the Expiration Date, in lieu of the shares of the Common Stock (or other securities, cash, assets or other property) purchasable upon the exercise of the Warrant prior to such Fundamental Transaction, such shares of stock, securities, cash, assets or any other property whatsoever (including warrants or other purchase or subscription rights) which the Holder would have been entitled to receive upon the happening of such Fundamental Transaction had the Warrant been exercised immediately prior to such Fundamental Transaction. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the Holder shall be given the same choice as to the consideration it receives upon any exercise of this Warrant following such Fundamental Transaction. The provisions of this Section 4 shall apply similarly and equally to successive Fundamental Transactions and Corporate Events and shall be applied without regard to any limitations on the exercise of this Warrant. Notwithstanding anything to the contrary, in the event of a Fundamental Transaction, the Company or any Successor Entity (as defined below) shall, at the Holder’s option, exercisable at any time concurrently with, or within 30 days after, the consummation of the Fundamental Transaction (or, if later, the date of the public announcement of the applicable Fundamental Transaction), purchase this Warrant from the Holder by paying to the Holder an amount of cash equal to the Black Scholes Value (as defined below) of the remaining unexercised portion of this Warrant on the date of the

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consummation of such Fundamental Transaction; provided, however, that, if the Fundamental Transaction is not within the Company's control, including not approved by the Company's Board of Directors, the Holder shall only be entitled to receive from the Company or any Successor Entity the same type or form of consideration (and in the same proportion), valued at the Black Scholes Value of the unexercised portion of this Warrant, that is being offered and paid to the holders of Common Stock of the Company in connection with the Fundamental Transaction, whether that consideration be in the form of cash, stock or any combination thereof, or whether the holders of Common Stock are given the choice to receive from among alternative forms of consideration in connection with the Fundamental Transaction; provided, further, that if holders of Common Stock of the Company are not offered or paid any consideration in such Fundamental Transaction, such holders of Common Stock will be deemed to have received common stock of the Successor Entity (which Successor Entity may be the Company following such Fundamental Transaction) in such Fundamental Transaction. "**Black Scholes Value**" means the value of this Warrant based on the Black-Scholes Option Pricing Model obtained from the "OV" function on Bloomberg, L.P. ("**Bloomberg**") determined as of the day of consummation of the applicable Fundamental Transaction for pricing purposes and reflecting (A) a risk-free interest rate corresponding to the U.S. Treasury rate for a period equal to the time between the date of the public announcement of the applicable contemplated Fundamental Transaction and the Termination Date, (B) an expected volatility equal to the greater of (1) the 30 day volatility, (2) the 100 day volatility or (3) the 365 day volatility, each of clauses (1)-(3) as obtained from the HVT function on Bloomberg (determined utilizing a 365 day annualization factor) as of the Trading Day immediately following the public announcement of the applicable contemplated Fundamental Transaction, (C) the underlying price per share used in such calculation shall be the highest VWAP during the period beginning on the Trading Day immediately preceding the public announcement of the applicable contemplated Fundamental Transaction (or the consummation of the applicable Fundamental Transaction, if earlier) and ending on the Trading Day of the Holder's request pursuant to this Section 3(d), (D) a remaining option time equal to the time between the date of the public announcement of the applicable contemplated Fundamental Transaction and the Termination Date and (E) a zero cost of borrow. The payment of the Black Scholes Value will be made by wire transfer of immediately available funds (or such other consideration) within five (5) Business Days of the Holder's election (or, if later, on the date of consummation of the Fundamental Transaction).

**5. NONCIRCUMVENTION.** The Company hereby covenants and agrees that the Company will not, by amendment of its Certificate of Incorporation, Bylaws or through any reorganization, transfer of assets, consolidation, merger, scheme of 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 the provisions of this Warrant and take all action as may be required 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 this Warrant is outstanding, take all action 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 this Warrant, 100% of the number of shares of Common Stock issuable upon exercise of this Warrant then outstanding (without regard to any limitations on exercise).

**6. 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,

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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.

## 7. REISSUANCE OF WARRANTS.

**(a) Transfer of Warrant.** If this Warrant is to be transferred, the Holder shall surrender this Warrant to the Company together with a written assignment of this Warrant in the form attached hereto as Exhibit B duly executed by the Holder or its agent or attorney and, if required, funds sufficient to pay any transfer taxes payable upon the making of such transfer. Upon surrender and, if required, such payment the Company will, subject to compliance with any applicable securities laws, issue and deliver upon the order of the Holder a new Warrant (in accordance with Section 7(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 7(d)) to the Holder representing the right to purchase the number of Warrant Shares not being transferred.

**(b) Lost, Stolen or Mutilated Warrant.** Upon receipt by the Company of evidence reasonably satisfactory to the Company of the loss, theft, destruction or mutilation of this Warrant, and, in the case of loss, theft or destruction, of any indemnification undertaking by the Holder to the Company in customary form and, in the case of mutilation, upon surrender and cancellation of this Warrant, the Company shall execute and deliver to the Holder a new Warrant (in accordance with Section 7(d)) representing the right to purchase the Warrant Shares then underlying this Warrant.

**(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 7(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; provided, however, that no Warrants for fractional shares of Common Stock shall be given.

**(d) Issuance of New Warrants.** Whenever the Company is required to issue a new Warrant pursuant to the terms of this Warrant, 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 7(a) or Section 7(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.

## 8. [Reserved].

**9. NOTICES.** 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. Whenever notice is required to be given under this Warrant, unless otherwise provided herein, such notice shall be given in writing, will be mailed (a) if within the domestic United States by first-class registered or certified mail, or nationally recognized overnight express courier, postage prepaid, or by electronic mail or

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(b) if delivered from outside the United States, by International Federal Express or electronic mail, and (c) will be deemed given (i) if delivered by first-class registered or certified mail domestic, three Business Days after so mailed, (ii) if delivered by nationally recognized overnight carrier, one Business Day after so mailed, (iii) if delivered by International Federal Express, two Business Days after so mailed and (iv) if delivered by electronic mail, on the date of transmission, if delivered by electronic mail to each of the email addresses specified in this Section 9 prior to 5:00 p.m. (New York time) on a Trading Day, or the next Trading Day after the date of transmission, if delivered by electronic mail to each of the email addresses specified in this Section 9 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:

(a) if to the Company, to:

Organovo Holdings, Inc.  
11555 Sorrento Valley Road, Suite 100  
San Diego, CA 92121  
Attention: Executive Chairman  
Email: kemurph@organovo.com

with copies to:

Paul Hastings LLP  
1117 S. California Avenue  
Palo Alto, CA 94304  
Attention: Samantha H. Eldredge, Esq.  
Email: samanthaeldredge@Paulhastings.com

(b) if to the Holder, to:

[INSERT NAME AND ADDRESS]  
Attn:  
Facsimile:

with copies to:

[ ]  
Attn:  
Email:

or to Holder's address on any Exercise Notice delivered to the Company in the form attached as Exhibit A hereto, or at such other address or addresses as may have been furnished to the Company in writing.

**10. AMENDMENT AND WAIVER.** Except as otherwise provided herein, the provisions of this Warrant may be amended or waived only with the written consent of the Company and the Holder, and the Company may take any action herein prohibited, or omit to perform any act herein required to be performed by it, only with the written consent of the Holder.

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**11. GOVERNING LAW.** This Agreement and the relationship of the parties hereto shall be governed by and construed in accordance with the internal laws of the State of New York.

**12. CONSTRUCTION; HEADINGS.** 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.

**13. 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 electronic mail within two (2) Business Days of receipt of the Exercise Notice 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 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 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 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.

**14. 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.

**15. TRANSFER.** Subject to compliance with any applicable securities laws, this Warrant may be offered for sale, sold, transferred or assigned without the consent of the Company.

**16. CERTAIN DEFINITIONS.** For purposes of this Warrant, the following terms shall have the following meanings:

(a) "**Affiliate**" means, with respect to any Person, any other Person that directly or indirectly controls, is controlled by, or is under common control with, such Person, it being understood for purposes of this definition that "control" of a Person means the power directly or indirectly either to vote 10% or more of the stock having ordinary voting power for the election of directors of such Person or direct or cause the direction of the management and policies of such Person whether by contract or otherwise.

(b) "**Bloomberg**" means Bloomberg Financial Markets.

(c) "**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.

(d) [Reserved]

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(e) “**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 “pink sheets” by Pink Sheets LLC (formerly the National Quotation Bureau, 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 determined by the Board of Directors of the Company in the exercise of its good faith judgment. All such determinations to be appropriately adjusted for any stock dividend, stock split, stock combination or other similar transaction during the applicable calculation period.

(f) “**Common Stock**” means (i) the Company’s shares of Common Stock, par value \$0.001 per share, and (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.

(g) “**Eligible Market**” means the Principal Market, The New York Stock Exchange, Inc., NYSE American, The Nasdaq Global Select Market, The Nasdaq Global Market or OTC Bulletin Board.

(h) “**Expiration Date**” means the date five (5) years following the Issuance Date or, if such date falls on a day other than a Business Day or on which trading does not take place on the Principal Market (a “**Holiday**”), the next date that is not a Holiday.

(i) “**Fundamental Transaction**” means that the Company shall, directly or indirectly, in one or more related transactions, (i) consolidate or merge with or into (whether or not the Company is the surviving corporation) another Person, or (ii) sell, assign, transfer, convey or otherwise dispose of all or substantially all of the properties or assets of the Company to another Person, or (iii) allow another Person to make a purchase, tender or exchange offer that is accepted by the holders of more than the 67% of the outstanding shares of Common Stock (not including any shares of Common Stock held by the Person or Persons making or party to, or associated or affiliated with the Persons making or party to, such purchase, tender or exchange offer), or (iv) consummate a stock 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 the 67% 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 purchase agreement or other business combination), (v) reorganize, recapitalize or reclassify its Common Stock, or (vi) any “person” or “group” (as these terms are used for purposes of Sections 13(d) and 14(d) of the Exchange Act) is or shall become the “beneficial owner” (as defined in Rule 13d-3 under the Exchange Act), directly or indirectly, of 67% of the aggregate ordinary voting power represented by issued and outstanding Common Stock.

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(j) “**Parent Entity**” of a Person means an entity that, directly or indirectly, controls the applicable Person and 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 Parent Entity, the Person or Parent Entity with the largest public market capitalization as of the date of consummation of the Fundamental Transaction.

(k) “**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.

(l) “**Principal Market**” means the Nasdaq Capital Market.

(m) “**Successor Entity**” means the Person (or, if so elected by the Holder, the Parent Entity) formed by, resulting from or surviving any Fundamental Transaction or the Person (or, if so elected by the Holder, the Parent Entity) with which such Fundamental Transaction shall have been entered into.

(n) “**Trading Day**” means any day on which shares of Common Stock are 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 or electronic quotations system on which the shares of Common Stock are then traded; *provided* that “Trading Day” shall not include any day on which the Common Stock is scheduled to trade on such exchange, market or system for less than 4.5 hours or any day that the Common Stock is suspended from trading during the final hour of trading on such exchange, market or system (or if such exchange, market or system does not designate in advance the closing time of trading on such exchange, market or system, then during the hour ending at 4:00 p.m., New York time).

[Signature Page Follows]

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**IN WITNESS WHEREOF**, the parties have caused this Warrant to Purchase Common Stock to be duly executed and delivered as of the Issuance Date set out above.

**ORGANOVO HOLDINGS, INC.**

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

**[HOLDER]**

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

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EXERCISE NOTICE

TO BE EXECUTED BY THE REGISTERED HOLDER TO EXERCISE THIS  
WARRANT TO PURCHASE COMMON STOCK

ORGANOVO HOLDINGS, INC.

The undersigned holder hereby exercises the right to purchase \_\_\_\_\_ of the shares of Common Stock (“**Warrant Shares**”) of Organovo Holdings, Inc., a Delaware corporation (the “**Company**”), evidenced by the attached Warrant to Purchase Common Stock (the “**Warrant**”). Capitalized terms used herein and not otherwise defined shall have the respective meanings set forth in the Warrant.

1. **Form of Exercise Price.** The Holder intends that payment of the Exercise Price shall be made as:

\_\_\_\_\_ a “Cash Exercise” with respect to \_\_\_\_\_ Warrant Shares; and/or

\_\_\_\_\_ a “Cashless Exercise” with respect to \_\_\_\_\_ Warrant Shares (provided the conditions for cashless exercise set forth in Section 1(d) of the Warrant are satisfied).

2. **Payment of Exercise Price.** In the event that the holder has elected 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 \_\_\_\_\_ Warrant Shares in the name of the undersigned holder or in the name of \_\_\_\_\_ in accordance with the terms of the Warrant or by physical delivery of a certificate to:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date: \_\_\_\_\_, \_\_\_\_\_

\_\_\_\_\_  
Name of Registered Holder

By:

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

Title:

\_\_\_\_\_

**ACKNOWLEDGMENT**

The Company hereby acknowledges this Exercise Notice and hereby directs [●] to issue the above indicated number of shares of Common Stock in accordance with the Transfer Agent Instructions dated [ ], 2024 from the Company and acknowledged and agreed to [●].

**ORGANOVO HOLDINGS, INC**

By:

\_\_\_\_\_

Name:

Title:

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**ASSIGNMENT FORM**

(To assign the foregoing warrant, execute this form and supply required information. Do not use this form to exercise the warrant.)

FOR VALUE RECEIVED, all of or [\_\_\_\_\_] shares of the foregoing Warrant and all rights evidenced thereby are hereby assigned to

\_\_\_\_\_ whose address is  
\_\_\_\_\_  
\_\_\_\_\_.

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

Holder's Signature:

Holder's Address:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signature Guaranteed: \_\_\_\_\_

**NOTE:** The signature to this Assignment Form must correspond with the name as it appears on the face of the Warrant, without alteration or enlargement or any change whatsoever, and must be guaranteed by a bank or trust company. Officers of corporations and those acting in a fiduciary or other representative capacity should file proper evidence of authority to assign the foregoing Warrant.

\_\_\_\_\_

**PRE-FUNDED WARRANT  
TO PURCHASE SHARES OF COMMON STOCK**

**ORGANOVO HOLDINGS, INC.**

Warrant Shares: \_\_\_\_\_

Initial Exercise Date: May 13, 2024

THIS PRE-FUNDED WARRANT TO PURCHASE SHARES OF COMMON STOCK (this "Warrant") certifies that, for value received, \_\_\_\_\_ or its assigns (the "Holder") is entitled, upon the terms and subject to the limitations on exercise and the conditions hereinafter set forth, at any time on or after the date hereof (the "Initial Exercise Date") until this Warrant is exercised in full (the "Termination Date") but not thereafter, to subscribe for and purchase from **ORGANOVO HOLDINGS, INC.**, a Delaware corporation (the "Company"), up to \_\_\_\_\_ shares of Common Stock, par value \$0.001 per share (the "Common Stock"), of the Company (as subject to adjustment hereunder, the "Warrant Shares"). The purchase price of one Warrant Share under this Warrant shall be equal to the Exercise Price, as defined in Section 2(b).

1. Definitions. Capitalized terms used and not otherwise defined herein shall have the meanings set forth in that certain Securities Purchase Agreement (the "Securities Purchase Agreement"), dated May 8, 2024, among the Company and the purchasers signatory thereto.

2. Exercise.

(a) Exercise of Warrant. Exercise of the purchase rights represented by this Warrant may be made, in whole or in part, at any time or times on or after the Initial Exercise Date and on or before the Termination Date by delivery to the Company of a duly executed facsimile copy or PDF copy submitted by e-mail (or e-mail attachment) of the Notice of Exercise in the form attached hereto as Exhibit A (the "Notice of Exercise"). Within the earlier of (i) two (2) Trading Days and (ii) the number of Trading Days comprising the Standard Settlement Period (as defined in Section 2(d)(i) herein) following the date of exercise as aforesaid, the Holder shall deliver the aggregate Exercise Price for the Warrant Shares specified in the applicable Notice of Exercise by wire transfer or cashier's check drawn on a United States bank unless the cashless exercise procedure specified in Section 2(c) below is specified in the applicable Notice of Exercise. The Company shall have no obligation to inquire with respect to or otherwise confirm the authenticity of the signature(s) contained on any Notice of Exercise nor the authority of the person so executing such Notice of Exercise. No ink-original Notice of Exercise shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Exercise be required. Notwithstanding anything herein to the contrary, the Holder shall not be required to physically surrender this Warrant to the Company until the Holder has purchased all of the Warrant Shares available hereunder and this Warrant has been exercised in full, in which case, the Holder shall surrender this Warrant to the Company for cancellation within three (3) Trading Days of the date on which the final Notice of Exercise is delivered to the Company. Partial exercises of this Warrant resulting in purchases of a portion of the total number of Warrant Shares available hereunder shall have the effect of lowering the outstanding number of Warrant Shares purchasable hereunder in an amount equal to the applicable number of Warrant Shares purchased. The Holder and the Company shall maintain records showing the number of Warrant Shares purchased and the date of such purchases. The Company shall deliver any objection to any Notice of Exercise within one (1) Business Day of receipt of such notice. Notwithstanding the foregoing, with respect to any Notice(s) of Exercise delivered on or prior to 12:00 p.m. (New York City time) on the Initial Exercise Date, which may be delivered at any time after the time of execution of the Securities Purchase Agreement, the Company agrees to deliver, or cause to be delivered, the Warrant Shares subject to such notice(s) by 4:00 p.m. (New York City time) on the Initial Exercise Date, and the Initial Exercise Date shall be the Warrant Share Delivery Date (as defined below) for purposes hereunder, provided that payment of the aggregate Exercise Price (other than in the case of a cashless exercise) is received by such Warrant Share Delivery Date. **The Holder and any assignee, by acceptance of this Warrant, acknowledge and agree that, by reason of the provisions of this paragraph, following the purchase of a portion of the Warrant Shares hereunder, the number of Warrant Shares available for purchase hereunder at any given time may be less than the amount stated on the face hereof.**

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For the avoidance of doubt, there is no circumstance that would require the Company to net cash settle this Warrant.

(b) Exercise Price. The aggregate exercise price of this Warrant, except for a nominal exercise price of \$0.001 per Warrant Share, was pre-funded to the Company on or prior to the Initial Exercise Date and, consequently, no additional consideration (other than the nominal exercise price of \$0.001 per Warrant Share) shall be required to be paid by the Holder to any Person to effect any exercise of this Warrant. The Holder shall not be entitled to the return or refund of all, or any portion, of such pre-paid aggregate exercise price under any circumstance or for any reason whatsoever, including in the event this Warrant shall not have been exercised prior to the Termination Date. The remaining unpaid exercise price per Warrant Share under this Warrant shall be \$0.001, subject to adjustment hereunder (the "Exercise Price").

(c) Cashless Exercise. This Warrant may be exercised, in whole or in part, at such time by means of a "cashless exercise" in which the Holder shall be entitled to receive a number of Warrant Shares equal to the quotient obtained by dividing [(A-B) (X)] by (A), where:

(A)= as applicable: (i) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise if such Notice of Exercise is (1) both executed and delivered pursuant to Section 2(a) hereof on a day that is not a Trading Day or (2) both executed and delivered pursuant to Section 2(a) hereof on a Trading Day prior to the opening of "regular trading hours" (as defined in Rule 600(b) of Regulation NMS promulgated under the federal securities laws) on such Trading Day, (ii) at the option of the Holder, either (x) the VWAP on the Trading Day immediately preceding the date of the applicable Notice of Exercise or (y) the Bid Price of the Common Stock on the principal Trading Market as reported by Bloomberg L.P. ("Bloomberg") as of the time of the Holder's execution of the applicable Notice of Exercise if such Notice of Exercise 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 2(a) hereof or (iii) the VWAP on the date of the applicable Notice of Exercise if the date of such Notice of Exercise is a Trading Day and such Notice of Exercise is both executed and delivered pursuant to Section 2(a) hereof after the close of "regular trading hours" on such Trading Day;

(B) = the Exercise Price, as adjusted hereunder; and

(X) = the number of Warrant Shares that would be issuable upon exercise of this Warrant in accordance with the terms of this Warrant if such exercise were by means of a cash exercise rather than a cashless exercise.

If Warrant Shares are issued in such a cashless exercise, the parties acknowledge and agree that in accordance with Section 3(a)(9) of the Securities Act, the Warrant Shares shall take on the registered characteristics of this Warrant. The Company agrees not to take any position contrary to this Section 2(c).

"Bid Price" means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the bid price of the Common Stock for the time in question (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if OTCQB or OTCQX is not a Trading Market, the VWAP of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX as applicable, (c) if the Common Stock is not then listed or quoted for trading on OTCQB or OTCQX and if prices for the Common Stock are then reported on The Pink Open Market (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Purchasers of a majority in interest of the Securities then outstanding and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

"VWAP" means, for any date, the price determined by the first of the following clauses that applies: (a) if the Common Stock is then listed or quoted on a Trading Market, the daily volume weighted average price of the Common Stock for such date (or the nearest preceding date) on the Trading Market on which the Common Stock is then listed or quoted as reported by Bloomberg (based on a Trading Day from 9:30 a.m. (New York City time) to 4:02 p.m. (New York City time)), (b) if OTCQB or OTCQX is not a Trading Market, the volume weighted average price of the Common Stock for such date (or the nearest preceding date) on OTCQB or OTCQX as applicable, (c) if the

Common Stock is not then listed or quoted for trading on OTCQB or OTCQX and if prices for the Common Stock are then reported on The Pink Open Market (or a similar organization or agency succeeding to its functions of reporting prices), the most recent bid price per share of Common Stock so reported, or (d) in all other cases, the fair market value of a share of Common Stock as determined by an independent appraiser selected in good faith by the Purchasers of a majority in interest of the Securities then outstanding and reasonably acceptable to the Company, the fees and expenses of which shall be paid by the Company.

(d) Mechanics of Exercise

(i) Delivery of Warrant Shares Upon Exercise. The Company shall cause the Warrant Shares purchased hereunder to be transmitted to the Holder by crediting the account of the Holder's or its designee's balance account with The Depository Trust Company through its Deposit or Withdrawal at Custodian system ("DWAC") if the Company is then a participant in such system and either (A) there is an effective registration statement permitting the issuance of the Warrant Shares to, or resale of the Warrant Shares by, the Holder or (B) this Warrant is being exercised via cashless exercise, and otherwise by physical delivery of the Warrant Shares, registered in the Company's share register in the name of the Holder or its designee, for the number of Warrant Shares to which the Holder is entitled pursuant to such exercise to the address specified by the Holder in the Notice of Exercise by the date that is the earliest of (i) two (2) Trading Days after the delivery to the Company of the Notice of Exercise, (ii) one (1) Trading Day after delivery of the aggregate Exercise Price to the Company, and (iii) the number of Trading Days comprising the Standard Settlement Period after the delivery to the Company of the Notice of Exercise (such date, the "Warrant Share Delivery Date"). Upon delivery of the Notice of Exercise, the Holder shall be deemed for all corporate purposes to have become the holder of record of the Warrant Shares with respect to which this Warrant has been exercised, irrespective of the date of delivery of the Warrant Shares, provided that payment of the aggregate Exercise Price (other than in the case of a cashless exercise) is received within the earlier of (i) two (2) Trading Days and (ii) the number of Trading Days comprising the Standard Settlement Period following delivery of the Notice of Exercise; provided that payment of the aggregate Exercise Price (other than in the case of a cashless exercise) is received by such date. If the Company fails for any reason to deliver to the Holder the Warrant Shares subject to a Notice of Exercise by the Warrant Share Delivery Date applicable to such exercise, the Holder may, upon written demand to the Company, require the Company to pay to the Holder, in cash, as liquidated damages and not as a penalty, for each \$1,000 of Warrant Shares subject to such exercise (based on the VWAP of the Common Stock on the date of the applicable Notice of Exercise), \$10 per Trading Day (increasing to \$20 per Trading Day on the fifth Trading Day after the Warrant Share Delivery Date) for each Trading Day after such Warrant Share Delivery Date until such Warrant Shares are delivered or Holder rescinds such exercise. The Company agrees to maintain a registrar (which may be the Transfer Agent) that is a participant in the FAST program so long as this Warrant remains outstanding and exercisable. As used herein, "Standard Settlement Period" means the standard settlement period, expressed in a number of Trading Days, on the Company's primary Trading Market with respect to the Common Stock as in effect on the date of delivery of the Notice of Exercise.

(ii) Delivery of New Warrants Upon Exercise. If this Warrant shall have been exercised in part, the Company shall, at the request of a Holder and upon surrender of this Warrant certificate, at the time of delivery of the Warrant Shares, deliver to the Holder a new Warrant evidencing the rights of the Holder to purchase the unpurchased Warrant Shares called for by this Warrant, which new Warrant shall in all other respects be identical with this Warrant.

(iii) Rescission Rights. If the Company fails to cause the Transfer Agent to transmit to the Holder the Warrant Shares pursuant to Section 2(d)(i) by the Warrant Share Delivery Date, then the Holder will have the right to rescind such exercise.

(iv) Compensation for Buy-In on Failure to Timely Deliver Warrant Shares Upon Exercise. In addition to any other rights available to the Holder, if the Company fails to cause the Transfer Agent to transmit to the Holder the Warrant Shares in accordance with the provisions of Section

2(d)(i) above pursuant to an exercise on or before the Warrant Share Delivery Date (other than such failure that is solely due to any action or inaction by the Holder with respect to such exercise), 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, but did not timely 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 this 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 shares of Common Stock having a total purchase price of \$11,000 to cover a Buy-In with respect to an attempted exercise of Warrants 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 indicating the amounts payable to the Holder in respect of the Buy-In and, upon request of the Company, evidence of the amount of such loss. Nothing herein shall limit a Holder's right to pursue any other remedies available to it hereunder, at law or in equity including, without limitation, 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 this Warrant as required pursuant to the terms hereof.

(v) No Fractional Shares or Scrip. No fractional shares or scrip representing fractional shares shall be issued upon the exercise of this Warrant. As to any fraction of a share which the Holder would otherwise be entitled to purchase upon such exercise, the Company shall, at its election, either pay a cash adjustment in respect of such final fraction in an amount equal to such fraction multiplied by the Exercise Price or round up to the next whole share of Common Stock.

(vi) Charges, Taxes and Expenses. The issuance and delivery of Warrant Shares shall be made without charge to the Holder for any issue or transfer tax or other incidental expense in respect of the issuance of such Warrant Shares, all of which taxes and expenses shall be paid by the Company, and such Warrant Shares shall be issued in the name of the Holder or in such name or names as may be directed by the Holder; provided, however, that, in the event that Warrant Shares are to be issued in a name other than the name of the Holder, this Warrant when surrendered for exercise shall be accompanied by the Assignment Form attached hereto as Exhibit B (the "Assignment Form") duly executed by the Holder and the Company may require, as a condition thereto, the payment of a sum sufficient to reimburse it for any transfer tax incidental thereto. The Company shall pay all Transfer Agent fees required for same-day processing of any Notice of Exercise and all fees to the Depository Trust Company (or another established clearing corporation performing similar functions) required for same-day electronic delivery of the Warrant Shares.

(vii) Closing of Books. The Company will not close its stockholder books or records in any manner which prevents the timely exercise of this Warrant, pursuant to the terms hereof.

(viii) Holder's Exercise Limitations. The Company shall not effect any exercise of this Warrant, and a Holder shall not have the right to exercise any portion of this Warrant, pursuant to Section 2 or otherwise, to the extent that after giving effect to such issuance after exercise as set forth on the applicable Notice of Exercise, the Holder (together with (i) the Holder's Affiliates, (ii) any other Persons acting as a group together with the Holder or any of the Holder's Affiliates, and (iii) any other Persons whose beneficial ownership of shares of Common Stock would or could be aggregated with the Holder's for the purposes of Section 13(d) (such Persons, "Attribution Parties")), would beneficially own in excess of the Beneficial Ownership Limitation (as defined below). For purposes of the foregoing sentence, the number of shares of Common Stock beneficially

owned by the Holder and its Affiliates and Attribution Parties shall include the number of Warrant Shares issuable upon exercise of this Warrant with respect to which such determination is being made, but shall exclude the number of Warrant Shares which would be issuable upon (i) exercise of the remaining, nonexercised portion of this Warrant beneficially owned by the Holder or any of its Affiliates or Attribution Parties and (ii) exercise or conversion of the unexercised or nonconverted portion of any other securities of the Company (including, without limitation, any other Common Stock Equivalents) subject to a limitation on conversion or exercise analogous to the limitation contained herein beneficially owned by the Holder or any of its Affiliates or Attribution Parties. Except as set forth in the preceding sentence, for purposes of this Section 2(e), beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder, it being acknowledged by the Holder that the Company is not representing to the Holder that such calculation is in compliance with Section 13(d) of the Exchange Act and the Holder is solely responsible for any schedules required to be filed in accordance therewith. To the extent that the limitation contained in this Section 2(e) applies, the determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable shall be in the sole discretion of, and shall be the sole responsibility of, the Holder, and the submission of a Notice of Exercise shall be deemed to be the Holder's determination of whether this Warrant is exercisable (in relation to other securities owned by the Holder together with any Affiliates and Attribution Parties) and of which portion of this Warrant is exercisable, in each case subject to the Beneficial Ownership Limitation, and the Company shall have no obligation to verify or confirm the accuracy of such determination and shall have no liability for exercises of this Warrant that are not in compliance with the Beneficial Ownership Limitation. In addition, a determination as to any group status as contemplated above shall be determined in accordance with Section 13(d) of the Exchange Act and the rules and regulations promulgated thereunder, and the Company shall have no obligation to verify or confirm the accuracy of such determination and shall have no liability for exercises of this Warrant that are not in compliance with the Beneficial Ownership Limitation. For purposes of this Section 2(e), in determining the number of outstanding shares of Common Stock, a Holder may rely on the number of outstanding shares of Common Stock as reflected in (A) the Company's most recent periodic or annual report filed with the Securities and Exchange Commission (the "Commission"), as the case may be, (B) a more recent public announcement by the Company or (C) a more recent written notice by the Company or the Transfer Agent setting forth the number of shares of Common Stock outstanding. Upon the written or oral request of a Holder, the Company shall within one Trading Day confirm orally and in writing to the Holder the number of shares of Common Stock then outstanding. In any case, the number of outstanding shares of Common Stock shall be determined after giving effect to the conversion or exercise of securities of the Company, including this Warrant, by the Holder or its Affiliates or Attribution Parties since the date as of which such number of outstanding shares of Common Stock was reported. The "Beneficial Ownership Limitation" shall be [4.99/9.99]% of the number of shares of Common Stock outstanding immediately after giving effect to the issuance of the Warrant Shares issuable upon exercise of this Warrant. The Holder, upon notice to the Company, may increase or decrease the Beneficial Ownership Limitation provisions of this Section 2(e), provided that the Beneficial Ownership Limitation in no event exceeds 9.99% of the number of shares of Common Stock outstanding immediately after giving effect to the issuance of Warrant Shares upon exercise of this Warrant held by the Holder and the provisions of this Section 2(e) shall continue to apply. Any increase in the Beneficial Ownership Limitation will not be effective until the 61st day after such notice is delivered to the Company. The provisions of this paragraph shall be construed and implemented in a manner otherwise than in strict conformity with the terms of this Section 2(e) to correct this paragraph (or any portion hereof) which may be defective or inconsistent with the intended Beneficial Ownership Limitation herein contained or to make changes or supplements necessary or desirable to properly give effect to such limitation. The limitations contained in this paragraph shall apply to a successor holder of this Warrant. If this Warrant is unexercisable as a result of the Holder's Beneficial Ownership Limitation, no alternate consideration shall be owing to the Holder.



### 3. Certain Adjustments.

(a) Stock Dividends and Splits. If the Company, at any time while this Warrant is outstanding: (i) pays a stock dividend or otherwise makes a distribution or distributions on shares of Common Stock or any other equity or equity equivalent securities payable in shares of Common Stock (which, for avoidance of doubt, shall not include any Warrant Shares issued by the Company upon exercise of this Warrant), (ii) subdivides outstanding shares of Common Stock into a larger number of shares, (iii) combines (including by way of stock share split) outstanding shares of Common Stock into a smaller number of shares, or (iv) issues by reclassification of shares of Common Stock any shares of capital stock of the Company, then in each case the Exercise Price shall be multiplied by a fraction of which the numerator shall be the number of shares of Common Stock (excluding treasury shares, if any) outstanding immediately before such event and of which the denominator shall be the number of shares of Common Stock outstanding immediately after such event, and the number of shares issuable upon exercise of this Warrant shall be proportionately adjusted such that the aggregate Exercise Price of this Warrant remains unchanged. Any adjustment made pursuant to this Section 3(a) shall become effective immediately after the record date for the determination of stockholders entitled to receive such dividend or distribution and shall become effective immediately after the effective date in the case of a subdivision, combination or reclassification.

(b) [RESERVED]

(c) Subsequent Rights Offerings. In addition to any adjustments pursuant to Section 3(a) above, if at any time that this Warrant is outstanding the Company grants, issues or sells any securities of the Company which would entitle the holder thereof to acquire Common Stock or rights to purchase stock, warrants, securities or other property pro rata to the record holders of all of the shares 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 on exercise hereof, including without limitation, the Beneficial Ownership Limitation) 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 shares of Common Stock are to be determined for the grant, issue or sale of such Purchase Rights (provided, however, that, to the extent that the Holder's right to participate in any such Purchase Right would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Purchase Right to such extent (or beneficial ownership of such shares of Common Stock as a result of such Purchase Right to such extent) and such Purchase Right to such extent shall be held in abeyance for the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

(d) Pro Rata Distributions. During such time as this Warrant is outstanding, if the Company shall declare or make any dividend or other distribution of its assets (or rights to acquire its assets) to holders of stock of Common Stock, by way of return of capital or otherwise (including, without limitation, any distribution of cash, shares or other securities, property or options by way of a dividend, spin off, reclassification, corporate rearrangement, scheme of arrangement or other similar transaction and excluding a stock split) (a "Distribution"), at any time after the issuance of this Warrant, then, in each such case, the Holder shall be entitled to participate in such Distribution to the same extent that the Holder would have participated therein if the Holder had held the number of shares of Common Stock acquirable upon complete exercise of this Warrant (without regard to any limitations on exercise hereof, including without limitation, the Beneficial Ownership Limitation) immediately before the date of which a record is taken for such Distribution, or, if no such record is taken, the date as of which the record holders of shares of Common Stock are to be determined for the participation in such Distribution (provided, however, that, to the extent that the Holder's right to participate in any such Distribution would result in the Holder exceeding the Beneficial Ownership Limitation, then the Holder shall not be entitled to participate in such Distribution to such extent (or in the beneficial ownership of any shares of Common Stock as a result of such Distribution to such extent) and the portion of such Distribution shall be held in abeyance for the benefit of the Holder until such time, if ever, as its right thereto would not result in the Holder exceeding the Beneficial Ownership Limitation).

(e) Fundamental Transaction. If, at any time while this Warrant is outstanding, (i) the Company, directly or indirectly, in one or more related transactions effects any merger or consolidation of the Company with or into another Person and the Company is not the surviving entity (other than reincorporation in a different state or a similar transaction pursuant to which the surviving company remains a public company), (ii) the Company (and all of its Subsidiaries, taken as a whole), directly or indirectly, effects any sale, lease, license, assignment, transfer, conveyance or other disposition of all or substantially all of the Company's (including its Subsidiaries, taken as a whole) assets 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 holders of Common Stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of more than 50% of the voting power of the common equity of the Company, (iv) the Company, directly or indirectly, in one or more related transactions effects any reclassification, reorganization or recapitalization 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 a stock split), 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, merger or scheme of arrangement) with another Person or group of Persons whereby such other Person or group acquires more than 50% of the voting power of the common equity of the Company, (each, a "Fundamental Transaction"), then, upon any subsequent exercise of this Warrant, the Holder shall have the right to receive, for each Warrant Share that would have been issuable upon such exercise immediately prior to the occurrence of such Fundamental Transaction, at the option of the Holder (without regard to any limitation in Section 2(e) on the exercise of this Warrant), the number of shares of Common Stock of the successor or acquiring corporation or of the Company, if it is the surviving corporation, and any additional consideration (the "Alternate Consideration") receivable as a result of such Fundamental Transaction by a holder of the number of shares of Common Stock for which this Warrant is exercisable immediately prior to such Fundamental Transaction (without regard to any limitation in Section 2(e) on the exercise of this Warrant). For purposes of any such exercise, the determination of the Exercise Price shall be appropriately adjusted to apply to such Alternate Consideration based on the amount of Alternate Consideration issuable in respect of one share of Common Stock in such Fundamental Transaction, and the Company shall apportion the Exercise Price among the Alternate Consideration in a reasonable manner reflecting the relative value of any different components of the Alternate Consideration. If holders of Common Stock are given any choice as to the securities, cash or property to be received in a Fundamental Transaction, then the Holder shall be given the same choice as to the Alternate Consideration it receives upon any exercise of this Warrant following such Fundamental Transaction. The Company shall cause any successor entity in a Fundamental Transaction in which the Company is not the survivor (the "Successor Entity") to assume in writing all of the obligations of the Company under this Warrant and the other Transaction Documents in accordance with the provisions of this Section 3(e) pursuant to written agreements in form and substance reasonably satisfactory to the Holder prior to such Fundamental Transaction and shall, at the option of the Holder, deliver to the Holder in exchange for this Warrant a security of the Successor Entity evidenced by a written instrument substantially similar in form and substance to this Warrant which is exercisable for a corresponding number of shares of capital stock of such Successor Entity (or its parent entity) equivalent to the shares of Common Stock acquirable and receivable upon exercise of this Warrant (without regard to any limitations on the exercise of this Warrant) prior to such Fundamental Transaction, and with an exercise price which applies the exercise price hereunder to such shares of capital stock (but taking into account the relative value of the shares of Common Stock pursuant to such Fundamental Transaction and the value of such shares of capital stock, such number of shares of capital stock and such exercise price being for the purpose of protecting the economic value of this Warrant immediately prior to the consummation of such Fundamental Transaction), and which is reasonably satisfactory in form and substance to the Holder. Upon the occurrence of any such Fundamental Transaction, the Successor Entity shall succeed to, and be substituted for (so that from and after the date of such Fundamental Transaction, the provisions of this Warrant and the other Transaction Documents referring to the "Company" shall refer instead to the Successor Entity), and may exercise every right and power of the Company and shall assume all of the obligations of the Company under this Warrant and the other Transaction Documents with the same effect as if such Successor Entity had been named as the Company herein.

(f) [RESERVED]

(g) Calculations. All calculations under this Section 3 shall be made to the nearest cent or the nearest 1/100th of a share of Common Stock, as the case may be. For purposes of this Section 3, the number of shares of Common Stock deemed to be issued and outstanding as of a given date shall be the sum of the number of shares of Common Stock (excluding treasury shares, if any) issued and outstanding.

(h) Notice to Holder.

(i) Adjustment to Exercise Price. Whenever the Exercise Price is adjusted pursuant to any provision of this Section 3, the Company shall promptly deliver to the Holder by facsimile or email a notice setting forth the Exercise Price after such adjustment and any resulting adjustment to the number of Warrant Shares and setting forth a brief statement of the facts requiring such adjustment.

(ii) Notice to Allow Exercise by Holder. If, while this Warrant is outstanding, (A) the Company declares a dividend (or any other distribution in whatever form (other than a stock split)) on the shares of Common Stock, (B) the Company declares a special nonrecurring cash dividend on, or a redemption of, the shares of Common Stock, (C) the Company authorizes the granting to all holders of the shares of Common Stock rights or warrants to subscribe for or purchase any shares of capital stock of any class or of any rights, (D) the approval of any stockholders of the Company is required in connection with a Fundamental Transaction, or (E) the Company authorizes the voluntary or involuntary dissolution, liquidation or winding up of the affairs of the Company, then, in each case, the Company shall cause to be delivered by facsimile or email to the Holder at its last facsimile number or email address as it shall appear upon the Warrant Register of the Company, at least 20 calendar days prior to the applicable record or effective date hereinafter specified, a notice stating (x) the date on which a record is to be taken for the purpose of such dividend, distribution, redemption, rights or warrants, or if a record is not to be taken, the date as of which the holders of shares of Common Stock of record to be entitled to such dividend, distributions, redemption, rights or warrants are to be determined or (y) the date on which such reclassification, consolidation, merger, sale, transfer or share exchange is expected to become effective or close, and the date as of which it is expected that holders of the shares of Common Stock of record shall be entitled to exchange their shares of Common Stock for securities, cash or other property deliverable upon such reclassification, consolidation, merger, sale, transfer or share exchange; provided 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 and provided, further that no notice shall be required if the information is disseminated in a press release or document filed with the Securities and Exchange Commission. To the extent that any notice provided in this Warrant constitutes, or contains, material, non-public information regarding the Company or any of the Subsidiaries, the Company shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. The Holder shall remain entitled to exercise this Warrant during the period commencing on the date of such notice to the effective date of the event triggering such notice except as may otherwise be expressly set forth herein.

(i) Voluntary Adjustment By Company. Subject to the rules and regulations of the Trading Market, the Company may at any time during the term of this Warrant, subject to the prior written consent of the Holder, reduce the then current Exercise Price to any amount and for any period of time deemed appropriate by the board of directors of the Company.

#### 4. Transfer of Warrant.

(a) Transferability. This Warrant and all rights hereunder (including, without limitation, any registration rights) 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 Form duly executed by the Holder or its agent or attorney and funds sufficient to pay any transfer taxes payable upon the making of such transfer. Upon such surrender and, if required, such payment, the Company shall execute and deliver 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. Notwithstanding anything herein to the contrary, the Holder

shall not be required to physically surrender this Warrant to the Company unless the Holder has assigned this Warrant in full, in which case, the Holder shall surrender this Warrant to the Company within three (3) Trading Days of the date on which the Holder delivers an assignment form to the Company assigning this Warrant in full. This 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.

(b) New Warrants. This Warrant may be divided or combined with other Warrants upon presentation hereof at the aforesaid office of the Company, together with a written notice specifying the names and denominations in which new Warrants are to be issued, signed by the Holder or its agent or attorney. Subject to compliance with Section 4(a), as to any transfer which may be involved in such division or combination, the Company shall execute and deliver a new Warrant or Warrants in exchange for this Warrant or the Warrants to be divided or combined in accordance with such notice. All Warrants issued on transfers or exchanges shall be dated the initial issuance date of this Warrant and shall be identical with this Warrant except as to the number of Warrant Shares issuable pursuant thereto.

(c) Warrant Register. The Company shall register this Warrant, upon records to be maintained by the Company for that purpose (the "Warrant Register"), in the name of the record Holder hereof from time to time. The Company 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.

#### 5. Miscellaneous.

(a) Currency. Unless otherwise indicated, all dollar amounts referred to in this Warrant are in United States Dollars ("U.S. Dollars"). All amounts owing under this Warrant shall be paid in U.S. Dollars. All amounts denominated in other currencies shall be converted in the U.S. Dollar equivalent amount in accordance with the Exchange Rate on the date of calculation. "Exchange Rate" means, in relation to any amount of currency to be converted into U.S. Dollars pursuant to this Warrant, the U.S. Dollar exchange rate as published in the Wall Street Journal (NY edition) on the relevant date of calculation.

(b) No Rights as Stockholder Until Exercise; No Settlement in Cash. This Warrant does not entitle the Holder to any voting rights, dividends or other rights as a stockholder of the Company prior to the exercise hereof as set forth in Section 2(d)(i), except as expressly set forth in Section 3. Without limiting any rights of a Holder to receive Warrant Shares on a "cashless exercise" pursuant to Section 2(c) or to receive cash payments pursuant to Section 2(d)(i) and Section 2(d)(iv) herein, in no event shall the Company be required to net cash settle an exercise of this Warrant.

(c) Loss, Theft, Destruction or Mutilation of Warrant. The Company covenants that upon receipt by the Company of evidence reasonably satisfactory to it of the loss, theft, destruction or mutilation of this Warrant or any stock certificate relating to the Warrant Shares, and in case of loss, theft or destruction, of indemnity or security reasonably satisfactory to it (which, in the case of this Warrant, shall not include the posting of any bond), and upon surrender and cancellation of such Warrant or stock certificate, if mutilated, the Company will make and deliver a new Warrant or stock certificate of like tenor and dated as of such cancellation, in lieu of such Warrant or stock certificate.

(d) Saturdays, Sundays, Holidays, etc. If the last or appointed day for the taking of any action or the expiration of any right required or granted herein shall not be a Trading Day, then such action may be taken or such right may be exercised on the next succeeding Trading Day.

(e) Authorized Shares. The Company covenants that, during the period this Warrant is outstanding, it will reserve from its authorized and unissued shares of Common Stock a sufficient number of shares to provide for the issuance of the Warrant Shares underlying this Warrant. The Company further covenants that its issuance of this Warrant shall constitute full authority to its officers who are charged with the duty of issuing the necessary Warrant Shares upon the exercise of the purchase rights under this Warrant. The Company will take all such reasonable action as may be necessary to assure that such Warrant Shares may be issued and delivered, as provided herein without violation of any applicable law or regulation, or of any requirements of the Trading Market upon which the Common Stock may be listed. The Company covenants that all Warrant Shares which may be issued upon the exercise of the

purchase rights represented by this Warrant will, upon exercise of the purchase rights represented by this Warrant and payment for such Warrant Shares in accordance herewith, be duly authorized, validly issued, fully paid and nonassessable and free from all taxes, liens and charges created by the Company in respect of the issue thereof (other than taxes in respect of any transfer occurring contemporaneously with such issue).

Except and to the extent as waived or consented to by the Holder, the Company shall not by any action, including, without limitation, amending its certificate of incorporation or through any reorganization, transfer of assets, consolidation, merger, dissolution, issue 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, but will at all times in good faith assist in the carrying out of all such terms and in the taking of all such actions as may be necessary or appropriate to protect the rights of Holder as set forth in this Warrant against impairment. Without limiting the generality of the foregoing, the Company will (i) not increase the par value of any shares of Common Stock above the amount payable therefor upon such exercise immediately prior to such increase in par value, (ii) take all such action 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) use commercially reasonable efforts to obtain all such authorizations, exemptions or consents from any public regulatory body having jurisdiction thereof, as may be, necessary to enable the Company to perform its obligations under this Warrant.

Before taking any action which would result in an adjustment in the number of Warrant Shares for which this Warrant is exercisable or in the Exercise Price, the Company shall obtain all such authorizations or exemptions thereof, or consents thereto, as may be necessary from any public regulatory body or bodies having jurisdiction thereof.

(f) Jurisdiction. All questions concerning the construction, validity, enforcement and interpretation of this Warrant shall be determined in accordance with the provisions of the Securities Purchase Agreement.

(g) 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, will have restrictions upon resale imposed by state, federal or foreign securities laws.

(h) Nonwaiver and Expenses. No course of dealing or any delay or failure to exercise any right hereunder on the part of Holder shall operate as a waiver of such right or otherwise prejudice the Holder's rights, powers or remedies. Without limiting any other provision of this Warrant or the Securities Purchase Agreement, if the Company willfully and knowingly fails to comply with any provision of this Warrant, which results in any material damages to the Holder, the Company shall pay to the Holder such amounts as shall be sufficient to cover any costs and expenses including, but not limited to, reasonable attorneys' fees, including those of appellate proceedings, incurred by the Holder in collecting any amounts due pursuant hereto or in otherwise enforcing any of its rights, powers or remedies hereunder.

(i) Notices. Any notice, request or other document required or permitted to be given or delivered by the Holder to the Company shall be delivered, mailed or sent to the Company at 11555 Sorrento Valley Road, Suite 100, San Diego, CA 92121, Attention: Executive Chairman, Email: kemurph@organovo.com. Any notice, request or other document required or permitted to be given or delivered by the Company to the Holder shall be delivered, mailed or sent to the Holder at the address or email address of such Holder appearing on the books of the Company.

(j) Limitation of Liability. No provision hereof, in the absence of any affirmative action by the Holder to exercise this Warrant to purchase Warrant Shares, and no enumeration herein of the rights or privileges of the Holder, shall give rise to any liability of the Holder for the purchase price of any shares of Common Stock or as a stockholder of the Company, whether such liability is asserted by the Company or by creditors of the Company.

(k) Remedies. The Holder, in addition to being entitled to exercise all rights granted by law, including recovery of damages, will be entitled to specific performance of its rights under this Warrant. The Company agrees that monetary damages would not be adequate compensation for any loss incurred by reason of a breach by it of the provisions of this Warrant and hereby agrees to waive and not to assert the defense in any action for specific performance that a remedy at law would be adequate.

(l) Successors and Assigns. Subject to applicable securities laws, this Warrant and the rights and obligations evidenced hereby shall inure to the benefit of and be binding upon the successors and permitted assigns of the Company and the successors and permitted assigns of Holder. The provisions of this Warrant are intended to be for the benefit of any Holder from time to time of this Warrant and shall be enforceable by the Holder or holder of Warrant Shares.

(m) Amendment. This Warrant may be modified or amended or the provisions hereof waived with the written consent of the Company and the Holder.

(n) Severability. Wherever possible, each provision of this Warrant shall be interpreted in such manner as to be effective and valid under applicable law, but if any provision of this Warrant shall be prohibited by or invalid under applicable law, such provision shall be ineffective to the extent of such prohibition or invalidity, without invalidating the remainder of such provisions or the remaining provisions of this Warrant.

(o) Headings. The headings used in this Warrant are for the convenience of reference only and shall not, for any purpose, be deemed a part of this Warrant.

\*\*\*\*\*

(Signature Page Follows)

IN WITNESS WHEREOF, the Company has caused this Warrant to be executed by its officer thereunto duly authorized as of the date first above indicated.

**ORGANOVO HOLDINGS, INC.**

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

*[Signature Page to Pre-Funded Warrant]*

**EXHIBIT A**

**NOTICE OF EXERCISE**

TO: **ORGANOVO HOLDINGS, INC.**

(1) The undersigned hereby elects to purchase \_\_\_\_\_ Warrant Shares of the Company pursuant to the terms of the attached Warrant (only if exercised in full), and tenders herewith payment of the exercise price in full, together with all applicable transfer taxes, if any.

(2) Payment shall take the form of (check applicable box):

in lawful money of the United States; or

if permitted the cancellation of such number of Warrant Shares as is necessary, in accordance with the formula set forth in subsection 2(c), to exercise this Warrant with respect to the maximum number of Warrant Shares purchasable pursuant to the cashless exercise procedure set forth in subsection 2(c).

(3) Please issue said Warrant Shares in the name of the undersigned or in such other name as is specified below:

The Warrant Shares shall be delivered to the following DWAC Account Number:

[SIGNATURE OF HOLDER]

Name of Investing Entity:

*Signature of Authorized Signatory of Investing Entity:*

Name of Authorized Signatory:

Title of Authorized Signatory:

Date:

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**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:

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**PLACEMENT AGENCY AGREEMENT**

May 8, 2024

JonesTrading Institutional Services LLC  
325 Hudson Street, 6<sup>th</sup> Floor  
New York, New York 10013

Ladies and Gentlemen:

**Introductory.** Organovo Holdings, Inc., a Delaware corporation (the “**Company**”), proposes to issue and sell to certain purchasers (collectively, the “**Purchasers**”) an amount of its shares (the “**Shares**”) of Common Stock, par value \$0.001 (the “**Common Stock**”) and/or pre-funded warrants to purchase Common Stock (the “**Pre-Funded Warrants**”) and warrants to purchase shares of Common Stock (the “**Common Warrants**”) and together with the Pre-Funded Warrants, the “**Warrants**”) pursuant to the Company’s registration statement on Form S-1 (File No. 333-278668) (the “**Registration Statement**”) under the Securities Act of 1933, as amended, and the rules and regulations of the Securities and Exchange Commission (the “**Commission**”) thereunder (collectively, the “**Securities Act**”) (the “**Placement**”). JonesTrading Institutional Services LLC (“**JonesTrading**”) has agreed to act as placement agent (the “**Placement Agent**”) in connection with the Placement, subject to the terms, conditions and other provisions of this Agreement.

The Shares, Pre-Funded Warrants and Warrants are to be sold to the Purchasers pursuant to a Securities Purchase Agreement (the “**Purchase Agreement**”) to be entered into by the Company and the Purchasers. The Warrants issued pursuant to the Purchase Agreement against payment therefor will be exercisable into duly and validly issued, fully paid and non-assessable shares (such shares, the “**Warrant Shares**”) and together with the Shares, Pre-Funded Warrants and Warrants, the “**Securities**”) of Common Stock on the terms, and subject to the conditions, set forth in the Form of Pre-Funded Warrant (the “**Form of Pre-Funded Warrant**”) and the Form of Warrant (the “**Form of Warrant**”) and attached as Exhibit B and C to the Purchase Agreement, respectively.

This Agreement, the Purchase Agreement, the Form of Warrant, the Form of Pre-Funded Warrant are referred to herein collectively as the “**Transaction Documents**”, and the transactions contemplated hereby and thereby are referred to herein collectively as the “**Transactions**”.

The Company hereby confirms its agreement with the Placement Agent as follows:

**Section 1. Representations, Warranties and Agreements of the Company.** Each of the representations and warranties (together with any related disclosure schedules thereto) and covenants made by the Company to the Purchasers in the Purchase Agreement in connection with the Placement, is hereby incorporated herein by reference into this Agreement (as though fully restated herein) and is, as of the date of this Agreement and as of the Closing Date (as defined below), hereby made to, and in favor of, the Placement Agent. In addition to the foregoing, the Company represents and warrants that there are no affiliations with any Financial Industry Regulatory Authority Inc. (“**FINRA**”) member firm participating in the Placement among the

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Company's executive officers, directors or, to the knowledge of the Company, any five percent (5.0%) or greater stockholder of the Company.

## **Section 2. Engagement of Placement Agent; Fees; Expenses.**

(a) *Engagement of JonesTrading.* The Company hereby engages JonesTrading as the Placement Agent, and the Company hereby authorizes JonesTrading to act as such in connection with the Placement. On the basis of the representations, warranties and agreements of the Company contained in this Agreement and subject to, and in accordance with, the terms, conditions and other provisions hereof, JonesTrading agrees to act as Placement Agent to place the Securities as contemplated by this Agreement. The Placement Agent will act on a reasonable best efforts basis and the Company acknowledges that the Placement Agent's engagement hereunder does not constitute any firm commitment or undertaking, express or implied, on the part of the Placement Agent to purchase or place any of the Securities and does not constitute any representation, warranty or agreement that any financing will be available to the Company. The Placement Agent shall act solely as the Company's agent and not as principal. The Placement Agent shall have no authority to bind the Company with respect to a prospective offer to purchase Securities and the Company shall have the sole right to accept offers to purchase Securities and may reject any such offer, in whole or in part.

(b) *Placement Agent's Fees and Expenses.* Subject to the terms and conditions hereof, payment of the purchase price for, and delivery of, the Securities shall be made at the closing (the "**Closing**" and the date on which the Closing occurs, a "**Closing Date**"). The Closing of the issuance of the Securities shall occur via "Delivery Versus Payment", i.e., on the Closing Date, the Company shall issue the Securities directly to the account designated by the Placement Agent and, upon receipt of such Securities, the Placement Agent shall electronically deliver such Securities to the applicable Purchaser and payment shall be made by the Placement Agent (or its clearing firm) by wire transfer to the Company. The Company acknowledges and agrees that it will be responsible for and shall pay:

(i) a fee equal to five percent (5%) of the aggregate gross proceeds received by the Company at the Closing;

(ii)(A) all costs and expenses incident to the purchase, sale and delivery of Securities in the Transaction, including, without limitation, all fees and expenses of filing with the Commission and FINRA, (B) all Blue Sky fees and expenses; all fees and disbursements of counsel and accountants for the Company, (C) all printing costs, (D) all costs of background investigations, (E) all "roadshow" costs (regardless of the form in which the roadshow is conducted), and (F) all costs of the Placement Agent and Company personnel, including, but not limited to, commercial coach class air travel and local hotel accommodations and transportation; and

(iii) all actual, reasonable and documented out-of-pocket fees and expenses, including but not limited to, actual, reasonable and documented fees and disbursements of counsel (up to a maximum aggregate amount of up to \$75,000 if the Placement is consummated and \$40,000 if no Placement is consummated).

(c) *Placement Agent as Independent Contractor.* The Company hereby acknowledges that, in connection with the Transactions, (i) the Placement, including the determination of the offering price of the Securities and any related discounts, commissions and fees, shall be an arm's-length commercial transaction between the Company and the Purchasers, (ii) the Placement Agent will be acting as an independent contractor and will not be the agent or fiduciary of the Company or its stockholders, creditors, employees, the Purchasers or any other party, (iii) the Placement Agent shall not assume an advisory or fiduciary responsibility in favor of the Company (irrespective of whether the Placement Agent has advised or is currently advising the Company on other matters) and the Placement Agent shall have no obligation to the Company with respect to the Transactions except as may be set forth expressly herein, (iv) the Placement Agent and its affiliates may be engaged in a broad range of transactions that involve interests that differ from those of the Company and (v) the Placement Agent shall not provide any legal, accounting, regulatory or tax advice with respect to the Transactions and the Company shall consult its own legal, accounting, regulatory and tax advisors to the extent it deems appropriate.

(d) *Notification of Potential Purchasers.* In order to allow proper coordination of the proposed Placement, during the term of this engagement, the Company will promptly notify the Placement Agent of any potential purchasers known to the Company to be interested in purchasing any of the Securities, and the Company will keep the Placement Agent fully and promptly informed of the status of any discussions or negotiations between the Company and any such potential purchasers.

(e) *Confidentiality.* The Company agrees that any information or advice rendered by the Placement Agent or any of its representatives in connection with this engagement is for the confidential use of the Company only and the Company will not, and will not permit any third party to, disclose or otherwise refer to such advice or information, or to the Placement Agent, in any manner without the Placement Agent's prior written consent. The Placement Agent agrees not to use any confidential information concerning the Company provided to the Placement Agent by the Company for any purposes other than those contemplated under this Agreement.

(f) The term of the Placement Agent's engagement shall be until the earlier of (i) the Closing Date and (ii) May 15, 2024 (in the case of (ii), provided no Purchase Agreement has been executed by the Company).

**Section 3. Additional Covenants and Agreements of the Company.** The Company further covenants and agrees with the Placement Agent as follows:

(a) *Registration Statement Matters.* The Company will advise the Placement Agent promptly after it receives notice thereof of the time when any amendment to the Registration Statement has been filed or becomes effective or any supplement to the Prospectus has been filed and will furnish the Placement Agent with copies thereof. The Company will file promptly all reports and any definitive proxy or information statements required to be filed by the Company with the Commission pursuant to Section 13(a), 14 or 15(d) of the Exchange Act subsequent to the date of the Prospectus, as may be supplemented, and for so long as the delivery of a prospectus is required in connection with the offering. The Company will advise the Placement Agent, promptly after it receives notice thereof (i) of any request by the Commission to amend the Registration Statement or to amend or supplement any Prospectus or for additional information,

and (ii) of the issuance by the Commission of any stop order suspending the effectiveness of the Registration Statement or any post-effective amendment thereto or any order directed at any document incorporated therein (each, an “**Incorporated Document**” and collectively, the “**Incorporated Documents**”), if any, or any amendment or supplement thereto or any order preventing or suspending the use of any Prospectus or any amendment or supplement thereto or any post-effective amendment to the Registration Statement, of the suspension of the qualification of the Securities for offering or sale in any jurisdiction, of the institution or threatened institution of any proceeding for any such purpose, or of any request by the Commission for the amending or supplementing of the Registration Statement or the Prospectus or for additional information. The Company shall use its reasonable best efforts to prevent the issuance of any such stop order or prevention or suspension of such use. If the Commission shall enter any such stop order or order or notice of prevention or suspension at any time prior to the completion of the offering, the Company will use its reasonable best efforts to obtain the lifting of such order at the earliest possible moment, or will file a new registration statement and use its reasonable best efforts to have such new registration statement declared effective as soon as practicable. Additionally, the Company agrees that in connection with the offering, it shall comply with the provisions of Rules 424(b), 430A, 430B and 430C, as applicable, under the Securities Act, including with respect to the timely filing of documents thereunder, and will use its reasonable efforts to confirm that any filings made by the Company under such Rule 424(b) are received in a timely manner by the Commission.

(b) *Marketing.* The Company shall participate, and cause its officers and representatives to participate, in the Placement, including in the marketing of the Securities and meeting with prospective purchasers of any of the Securities, and afford prospective purchasers the opportunity to conduct customary due diligence and make inquiries relevant to their investment decisions regarding the Securities.

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

(d) *Amendments and Supplements to a Prospectus and Other Matters.* The Company will comply with the Securities Act and the Exchange Act, and the rules and regulations of the Commission thereunder, so as to permit the completion of the distribution of the Securities as contemplated in this Agreement, the Incorporated Documents and any Prospectus. If during the period in which a prospectus is required by law to be delivered in connection with the distribution of Securities contemplated by the Incorporated Documents or any Prospectus, any event shall occur as a result of which, in the judgment of the Company or in the reasonable opinion of the Placement Agent or counsel for the Placement Agent, it becomes necessary to amend or supplement the Incorporated Documents or any Prospectus in order to make the statements therein, in the light of the circumstances under which they were made, as the case may be, not misleading, or if it is necessary at any time to amend or supplement the Incorporated Documents or any Prospectus or to file under the Exchange Act any Incorporated Document to comply with any law, the Company will promptly prepare and file with the Commission, and furnish at its own expense to the Placement Agent and to dealers, an appropriate amendment to the Registration Statement or supplement to the Registration Statement, the Incorporated Documents or any Prospectus that is necessary in order to make the statements in the Incorporated Documents and any Prospectus as so amended or supplemented, in the light of the circumstances under which they were made, as the case may be, not misleading, or so that the Registration Statement, the Incorporated Documents or any Prospectus, as so amended or supplemented, will comply with law. Before amending the Registration Statement or supplementing the Incorporated Documents or any Prospectus in connection with the Placement, the Company will furnish the Placement Agent with a copy of such proposed amendment or supplement and will not file any such amendment or supplement to which the Placement Agent reasonably objects within two (2) business days, provided that the Company may file any document or report reasonably determined by the Company to be required to be filed by the Company pursuant to the Securities Act or the Exchange Act or the rules and regulations promulgated thereunder within the time periods required for such filings, irrespective of any such objection of the Placement Agent.

(e) *Copies of any Amendments and Supplements to a Prospectus.* The Company will furnish the Placement Agent, without charge, during the period beginning on the date hereof and ending on the Closing Date, as many copies of the Incorporated Documents and any Prospectus and any amendments and supplements thereto (including any Incorporated Documents, if any) as the Placement Agent may reasonably request.

(f) *Free Writing Prospectus.* The Company covenants that it will not, unless it obtains the prior written consent of the Placement Agent, make any offer relating to the Securities that would constitute a “free writing prospectus” (as defined in Rule 405 of the Securities Act) required to be filed by the Company with the Commission or retained by the Company under Rule 433 of the Securities Act. In the event that the Placement Agent expressly consents in writing to any such free writing prospectus (a “**Permitted Free Writing Prospectus**”), the Company covenants that it shall comply with the requirements of Rule 164 and 433 of the Securities Act applicable to such Permitted Free Writing Prospectus, including in respect of timely filing with the Commission, legending and record keeping.

(g) *Transfer Agent.* The Company shall, so long as the Common Stock remains publicly traded, maintain, at its expense, a registrar and transfer agent for the shares of Common Stock and the Warrant Shares for at least the next five (5) years.

(h) *Lock-Up Agreements for Directors and Officers.* On or prior to the date hereof, the Company shall have furnished to the Placement Agent an agreement in the form of Exhibit A hereto from each director and officer of the Company, and such agreement shall be in full force and effect on the Closing Date.

(i) *Existing Lock-Up Agreement.* The Company will enforce all existing agreements between the Company and any of its security holders that prohibit the sale, transfer, assignment, pledge or hypothecation of any of the Company's securities in connection with the Placement. In addition, the Company will direct the Company's transfer agent to place stop transfer restrictions upon any such securities of the Company that are bound by such existing "lock-up" agreements for the duration of the periods contemplated in such agreements.

(j) *Investment Limitation.* The Company shall not invest, or otherwise use the proceeds received by the Company from its sale of the Securities in such a manner as would require the Company or any of its subsidiaries to register as an investment company under the Investment Company Act of 1940, as amended.

(k) *No Stabilization or Manipulation.* The Company will not take, directly or indirectly, any action designed to or that might be reasonably expected to cause or result in stabilization or manipulation (each as defined under Regulation M of the Exchange Act) of the price of the Securities or the underlying securities or any other reference security, whether to facilitate the sale or resale of the Securities or otherwise.

**Section 4. Conditions of the Placement Agent's Obligations.** The obligations of the Placement Agent as provided herein shall be subject to the accuracy of the representations, warranties and agreements of the Company set forth herein as of the date hereof and as of the Closing Date as though then made, to the timely performance by the Company of its covenants and other obligations hereunder, and to each of the following conditions:

(a) *Compliance with Registration Requirements; No Stop Order; No Objection from the FINRA.* Each Prospectus, as may be amended or supplemented (in accordance with Rule 424(b)) and "free writing prospectus" (as defined in Rule 405 of the Securities Act), if any, shall have been duly filed with the Commission, as appropriate; no stop order suspending the effectiveness of the Registration Statement or any part thereof shall have been issued and no proceeding for that purpose shall have been initiated or threatened by the Commission; no order preventing or suspending the use of any Prospectus shall have been issued and no proceeding for that purpose shall have been initiated or threatened by the Commission; no order having the effect of ceasing or suspending the distribution of the Securities or any other securities of the Company shall have been issued by any securities commission, securities regulatory authority or stock exchange and no proceedings for that purpose shall have been instituted or shall be pending or, to the knowledge of the Company, contemplated by any securities commission, securities regulatory authority or stock exchange; all requests for additional information on the part of the Commission shall have been complied with; and FINRA shall have raised no objection to the fairness and reasonableness of the placement terms and arrangements.

(b) *Corporate Proceedings.* All corporate proceedings and other legal matters in connection with this Agreement, the Registration Statement and each Prospectus, and the registration, sale and delivery of the Securities, shall have been completed or resolved in a manner reasonably satisfactory to the Placement Agent's counsel, and such counsel shall have been furnished with such papers and information as it may reasonably have requested to enable such counsel to pass upon the matters referred to in this Section 4.

(c) *No Material Adverse Change.* For the period from and after the date of this Agreement and prior to the Closing Date, in the judgment of the Placement Agent after consultation with the Company, there shall have not occurred any material adverse change.

(d) *Opinion of Counsel for the Company.* The Placement Agent shall have received on the Closing Date the favorable opinion of legal counsel to the Company, dated as of such Closing Date, including, without limitation, a negative assurance letter addressed to the Placement Agent and in form and substance reasonably satisfactory to the Placement Agent.

(e) *Officers' Certificate.* The Placement Agent shall have received on the Closing Date a certificate of the Company, dated as of the Closing Date, signed by the Chief Executive Officer and Chief Financial Officer of the Company, to the effect that the signers of such certificate have reviewed the Registration Statement, the Incorporated Documents, any Prospectus, and this Agreement and to the further effect that:

(i) The representations and warranties of the Company in this Agreement are true and correct, as if made on and as of the 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 the Closing Date;

(ii)(ii) No stop order suspending the effectiveness of the Registration Statement or the use of the Prospectus has been issued and no proceedings for that purpose have been instituted or are pending or, to the Company's knowledge, threatened under the Securities Act; no order having the effect of ceasing or suspending the distribution of the Securities or any other securities of the Company has been issued by any securities commission, securities regulatory authority or stock exchange in the United States and no proceedings for that purpose have been instituted or are pending or, to the knowledge of the Company, contemplated by any securities commission, securities regulatory authority or stock exchange in the United States;

(iii) When the Registration Statement became effective, at the time of sale, and at all times subsequent thereto up to the delivery of such certificate, the Registration Statement and the Incorporated Documents, if any, when such documents became effective or were filed with the Commission, and any Prospectus, contained all material information required to be included therein by the Securities Act and the Exchange Act and the applicable rules and regulations of the Commission thereunder, as the case may be, and in all material respects conformed to the requirements of the Securities Act and the Exchange Act, as applicable, and the applicable rules and regulations of the Commission thereunder, as the case may be, and the Registration Statement and the Incorporated Documents, if any, and any Prospectus, did not and do not include any untrue statement of



a material fact or omit to state a material fact required to be stated therein or necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading (provided, however, that the preceding representations and warranties contained in this paragraph (iii) shall not apply to any statements or omissions made in reliance upon and in conformity with information furnished in writing to the Company by the Placement Agent expressly for use therein) and, since the effective date of the Registration Statement, there has occurred no event required by the Securities Act and the rules and regulations of the Commission thereunder to be set forth in the Incorporated Documents which has not been so set forth; and

(iv) Subsequent to the respective dates as of which information is given in the Registration Statement, the Incorporated Documents and any Prospectus, there has not been: (a) any material adverse effect; (b) any transaction that is material to the Company and the subsidiaries taken as a whole, except transactions entered into in the ordinary course of business; (c) any obligation, direct or contingent, that is material to the Company and the subsidiaries taken as a whole, incurred by the Company or any subsidiary, except obligations incurred in the ordinary course of business; (d) any material change in the capital stock (except changes thereto resulting from the exercise of outstanding stock options, warrants or other securities which may be convertible into capital stock) or outstanding indebtedness of the Company or any subsidiary; (e) any dividend or distribution of any kind declared, paid or made on the capital stock of the Company; or (f) any loss or damage (whether or not insured) to the property of the Company or any subsidiary which has been sustained or will have been sustained which has a material adverse effect.

(f) *Stock Exchange Listing.* The Common Stock shall be registered under the Exchange Act and shall be listed on Nasdaq (as defined in the Purchase Agreement), and the Company shall not have taken any action designed to terminate, or likely to have the effect of terminating, the registration of the Common Stock under the Exchange Act or delisting or suspending from trading the Common Stock from Nasdaq, nor shall the Company have received any written notice suggesting that the Commission or Nasdaq is contemplating terminating such registration or listing.

(g) *Corporate Proceedings.* All corporate proceedings and other legal matters incident to the authorization, form and validity of the Transaction Documents and the Securities all other legal matters relating to the offering, issuance and sale, as applicable, of the Securities and the other Transactions shall be reasonably satisfactory in all material respects to the Placement Agent; and the Company shall have furnished to Duane Morris LLP, counsel to the Placement Agent, all documents and information that it may reasonably request to enable them to pass upon such matters.

(h) Subsequent to the execution and delivery of this Agreement, there shall not have occurred any of the following: (i) trading in securities generally on the New York Stock Exchange, The Nasdaq Stock Market LLC, the Nasdaq Global Select Market, the Nasdaq Global Market, the Nasdaq Capital Market, the NYSE American or in the over-the-counter market, or trading in any securities of the Company on any exchange or in the over-the-counter market, shall have been suspended or the settlement of such trading generally shall have been materially

disrupted or minimum prices shall have been established on any such exchange or such market by the Commission, by such exchange or by any other regulatory body or governmental authority having jurisdiction, (ii) a banking moratorium shall have been declared by Federal or state authorities of the United States, (iii) the United States shall have become engaged in hostilities, there shall have been a significant escalation in hostilities involving the United States or there shall have been a declaration of a national emergency or war by the United States or (iv) there shall have occurred any other calamity or crisis or any change in general domestic or international economic, political or financial conditions, including without limitation as a result of terrorist activities, or the effect of international conditions on the financial markets in the United States shall be such, as to make it, in the sole discretion of the Placement Agent, impracticable or inadvisable to proceed with the Placement or delivery of the Securities being delivered on the Closing Date on the terms and in the manner contemplated in the Purchase Agreement.

(i) Each of the Transaction Documents, other than this Agreement, shall be in form and substance reasonably satisfactory to the Placement Agent and shall have been duly executed and delivered by the Company and the other parties thereto.

(j) All conditions to closing of the Purchase Agreement shall be satisfied or, where applicable, waived.

(k) The sale of the Securities shall not be enjoined (temporarily or permanently) on the Closing Date.

(l) *Additional Documents.* On or before the Closing Date, the Placement Agent shall have received such information and documents as it may reasonably require in order to evidence the accuracy of any of the representations and warranties, or the satisfaction of any of the conditions or agreements, herein contained.

#### **Section 5. Indemnification.**

(a) The Company shall indemnify the Placement Agent and hold it harmless against any and all losses, claims, damages or liabilities to which the Placement Agent may become subject arising in any manner out of or in connection with the rendering of services by the Placement Agent hereunder or the rendering of additional services by the Placement Agent as requested by the Company that are related to the services rendered hereunder, which derives from the Company's breach of this Agreement, its non-compliance with the relevant applicable legislation, or any activity the Company undertakes in connection with the Transaction, unless it is finally judicially determined that such losses, claims, damages or liabilities resulted from any untrue statement or alleged intentional untrue statement contained in any documents related to a transaction, or any omission or alleged omission therefrom, made in reliance upon and in conformity with information relating to the Placement Agent and furnished to the Company by the Placement Agent expressly for use therein; and

(b) The Company shall reimburse the Placement Agent promptly for any actual, reasonable and documented legal or other expenses reasonably incurred by it in connection with investigating, preparing to defend or defending, or providing evidence in or preparing to serve or serving as a witness with respect to, or otherwise relating to, any lawsuits, investigations, claims or other proceedings arising in any manner out of or in connection with the rendering of services by the Placement Agent hereunder or the rendering of additional services by the Placement Agent as requested by the Company that are related to the services rendered hereunder (including, without limitation, in connection with the enforcement of this Agreement and the indemnification obligations set forth herein), only to the extent the above mentioned reimbursement directly derives from the Company's breach of this Agreement, its non-compliance with the relevant applicable legislation, or any activity the Company undertakes in connection with the Transactions; provided, however, that in the event a final judicial determination is made adverse to the Placement Agent to the effect specified at the conclusion of clause (a) above, the Placement Agent will remit to the Company any amounts reimbursed under this clause (b). The Placement Agent agrees that if a claim for whatever reason shall be brought or asserted against an Indemnified Person (as defined below), such Indemnified Person shall promptly notify the Company, and the Company shall be entitled to assume the defense thereof, including the employment of counsel and the payment of all reasonable fees and expenses.

(c) The Company agrees that the indemnification and reimbursement commitments set forth in this Section 5 shall apply regardless of whether the Company or the Placement Agent is a formal party to any such lawsuits, investigations, claims or other proceedings and that such commitments shall extend upon the terms set forth in this paragraph to any controlling person, affiliate, director, officer, employee or consultant of the Placement Agent (each, with the Placement Agent, an "**Indemnified Person**"). The Company further agrees that, without the Placement Agent's prior written consent (which shall not be unreasonably withheld, conditioned or delayed), it will not enter into any settlement of a lawsuit, claim or other proceeding arising out of the transactions contemplated by this Agreement (whether or not the Placement Agent or any other Indemnified Person is an actual or potential party to such lawsuit, claim or proceeding) and any such settlement shall include an explicit and unconditional release from the party bringing such lawsuit, claim or other proceeding of all Indemnified Persons. The Company shall not be required to indemnify any Indemnified Person for any amount paid or payable by such party in the settlement or compromise of any claim or action against such Indemnified Person without the Company's express prior written consent.

(d) The Company further agrees that the Indemnified Persons are entitled to retain (at their own expense) separate counsel of their choice in connection with any of the matters in respect of which indemnification, reimbursement or contribution may be sought under this Agreement.

## **Section 6. Contribution**

(a) To the extent the indemnification provided for in Section 5 is unavailable to an Indemnified Person or insufficient in respect of any losses, claims, damages or liabilities referred to therein, then each indemnifying party under such Section, in lieu of indemnifying such Indemnified Person thereunder, shall contribute to the amount paid or payable by such Indemnified Person as a result of such losses, claims, damages or liabilities (i) in such proportion as is

appropriate to reflect the relative benefits received by the Company on the one hand and the Placement Agent on the other hand from the offering of the Securities pursuant to this Agreement or (ii) if the allocation provided by Section 5(a)(i) above is not permitted by applicable law, in such proportion as is appropriate to reflect not only the relative benefits referred to in this Section 6(a)(i) above but also the relative fault of the Company on the one hand and of the Placement Agent on the other hand 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 Placement Agent on the other hand in connection with the offering of the Securities shall be deemed to be in the same respective proportions as the net proceeds from the offering of the Securities (after deducting the Placement Agent's fee but before deducting expenses) received by the Company and the fee received by the Placement Agent, in each case as set forth in the table on the cover of the Prospectus, bear to the aggregate Per Share Purchase Price of the Securities. The relative fault of the Company on the one hand and the Placement Agent on the other hand 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 by the Placement Agent and the parties' relative intent, knowledge, access to information and opportunity to correct or prevent such statement or omission.

(b) The Company and the Placement Agent agree that it would not be just or equitable if contribution pursuant to this Section 6 were determined by *pro rata* allocation or by any other method of allocation that does not take account of the equitable considerations referred to in Section 6(a). The amount paid or payable by an Indemnified Person as a result of the losses, claims, damages and liabilities referred to in Section 6(a) shall be deemed to include, subject to the limitations set forth above, any legal or other expenses reasonably incurred by such Indemnified Person in connection with investigating or defending any such action or claim. Notwithstanding the provisions of this Section 6(b), the Placement Agent shall not be required to contribute any amount in excess of the amount by which the aggregate Per Share Purchase Price of the Securities sold in the Transactions exceeds the amount of any damages that the Placement Agent has otherwise been required to pay by reason of such untrue or alleged untrue statement or omission or alleged omission. No person guilty of fraudulent misrepresentation (within the meaning of Section 11(f) of the Securities Act) shall be entitled to contribution from any person who was not guilty of such fraudulent misrepresentation. The remedies provided for in this Section 6(b) are not exclusive and shall not limit any rights or remedies which may otherwise be available to any Indemnified Person at law or in equity.

(c) The indemnity and contribution provisions contained in Section 5 and this Section 6(c) and the representations, warranties and other statements of the Company contained in this Agreement shall remain operative and in full force and effect regardless of (i) any termination of this Agreement, (ii) any investigation made by or on behalf of the Placement Agent, any person controlling the Placement Agent or any affiliate of the Placement Agent or by or on behalf of the Company, its officers or directors or any person controlling the Company and (iii) acceptance of and payment for any of the Securities.

#### **Section 7. Effectiveness of this Agreement; Termination; and Survival.**

(a) This Agreement shall become effective upon signing by the parties hereto.

(b) The Placement Agent may resign at any time and the Company may terminate the Placement Agent's services at any time, each by giving at least five days' prior written notice to the other. If the Placement Agent resigns because of a good faith diligence issue or because of the failure of any condition specified in Section 4 to be satisfied when and as required (whether or not the Company's fault directly or indirectly) or the Company terminates the Placement Agent's services for any reason, the Placement Agent and its counsel shall be entitled to receive all of the amounts due pursuant to Section 2(b) hereof up to, and including, the effective date of such expiration, termination or resignation, as the case may be.

(c) The respective indemnities, agreements, representations, warranties and other statements of the Company or any person controlling the Company, of its officers, and of the Placement Agent set forth in or made pursuant to this Agreement will remain in full force and effect, regardless of any investigation made by or on behalf of the Placement Agent, the Company, or any of its or their partners, officers or directors or any controlling person, as the case may be, and will survive delivery of and payment for the Securities to be sold in the proposed Placement and any termination of this Agreement. A successor to a Placement Agent, or to the Company, its directors or officers or any person controlling the Company, shall be entitled to the benefits of the indemnity, contribution and reimbursement agreements contained in this Agreement.

**Section 8. Notices.** Whenever notice is required to be given under this Agreement, unless otherwise provided herein, such notice shall be given in writing, will be mailed (a) if within the domestic United States by first-class registered or certified mail, or nationally recognized overnight express courier, postage prepaid, or by electronic mail or (b) if delivered from outside the United States, by International Federal Express electronic mail, and (c) will be deemed given (i) if delivered by first-class registered or certified mail domestic, three business days after so mailed, (ii) if delivered by nationally recognized overnight carrier, one business day after so mailed, (iii) if delivered by International Federal Express, two business days after so mailed and (iv) if delivered by electronic mail, on the date of transmission, if delivered by electronic mail to each of the email addresses specified in this Section 8 prior to 5:00 p.m. (New York time) on a Trading Day, or the next Trading Day after the date of transmission, if delivered by electronic mail to each of the email addresses specified in this Section 8 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:

If to the Placement Agent:

JonesTrading Institutional Services LLC  
900 Island Park Drive, Suite 200  
Daniel Island, SC 29492  
Attention: Burke Cook  
Email: [Burke@jonestrading.com](mailto:Burke@jonestrading.com)

with a copy to:

Duane Morris LLP  
1540 Broadway  
New York, NY 10036  
Attention: Dean M. Colucci  
Telephone: (973) 424-2020  
Email: dmcolucci@duanemorris.com

If to the Company:

Organovo Holdings, Inc.  
11555 Sorrento Valley Road, Suite 100  
San Diego, CA 92121  
Attention: Executive Chairman  
Email: kemurph@organovo.com

with a copy to:

Paul Hastings LLP  
1117 S. California Avenue  
Palo Alto, CA 94304  
Attention: Samantha H. Eldredge, Esq.  
Email: samanthaeldredge@paulhastings.com

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

**Section 9. Successors.** This Agreement will inure to the benefit of and be binding upon the parties hereto, and to the benefit of the employees, officers and directors and controlling persons referred to in Section 5, and in each case their respective successors, and personal representatives, and no other person will have any right or obligation hereunder. The term “successors” shall not include any Purchaser.

**Section 10. Partial Unenforceability.** The invalidity or unenforceability of any Section, paragraph or provision of this Agreement shall not affect the validity or enforceability of any other Section, paragraph or provision hereof. If any Section, paragraph or provision of this Agreement is for any reason determined to be invalid or unenforceable, there shall be deemed to be made such minor changes (and only such minor changes) as are necessary to make it valid and enforceable.

**Section 11. Governing Law Provisions.** All questions concerning the construction, validity, enforcement and interpretation of this Agreement shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of law thereof to the extent such principals would result in the application in the laws of another jurisdiction. Each party agrees that all legal proceedings concerning the interpretations, enforcement and defense of the transactions contemplated by this (whether brought against a party hereto or its respective affiliates, directors, officers, shareholders, employees or

agents) shall be commenced exclusively in the state and federal courts sitting in the State of New York. Each party hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in the State of New York for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein, and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is improper or is an inconvenient venue for such proceeding. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by law. If either party shall commence an action or proceeding to enforce any provisions of this Agreement, then the prevailing party in such action or proceeding shall be reimbursed by the other party for its reasonable attorneys' fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding.

**Section 12. General Provisions.** This Agreement constitutes the entire agreement of the parties to this Agreement and supersedes all prior written or oral and all contemporaneous oral agreements, understandings and negotiations with respect to the subject matter hereof. This Agreement may be executed in two or more counterparts, each one of which shall be an original, with the same effect as if the signatures thereto and hereto were upon the same instrument. This Agreement may not be amended or modified unless in writing by all of the parties hereto, and no condition herein (express or implied) may be waived unless waived in writing by each party whom the condition is meant to benefit. The failure by any party to exercise any right or remedy under this Agreement or otherwise, or delay by a party in exercising such right or remedy, shall not operate as a waiver thereof. The Section headings herein are for the convenience of the parties only and shall not affect the construction or interpretation of this Agreement.

Each of the parties hereto acknowledges that it is a sophisticated business person who was adequately represented by counsel during negotiations regarding the provisions hereof, including, without limitation, the indemnification provisions of Section 5 and the contribution provisions of Section 6, and is fully informed regarding said provisions.

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

Very truly yours,

**ORGANOVO HOLDINGS, INC.**

By: /s/ Keith Murphy

Name: Keith Murphy

Title: President

The foregoing Placement Agency Agreement is hereby confirmed and accepted by the Placement Agent in New York, New York as of the date first above written.

**JONESTRADING INSTITUTIONAL SERVICES LLC**

By: /s/ Burke Cook

Name: Burke Cook

Title: General Counsel & Secretary

*[Signature Page to Placement Agency Agreement]*

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**EXHIBIT A**  
**Form of Lock-Up**

April \_\_, 2024

Organovo Holdings, Inc.  
11555 Sorrento Valley Road, Suite 100  
San Diego, CA 92121

Re: Securities Purchase Agreement, dated as of \_\_, 2024 (the "Purchase Agreement"), between Organovo Holdings, Inc. (the "Company") and the purchasers signatory thereto

Ladies and Gentlemen:

Defined terms not otherwise defined in this letter agreement (the "Letter Agreement") shall have the meanings set forth in the Purchase Agreement. Pursuant to Section 2.2(a) of the Purchase Agreement and in satisfaction of a condition of the Company's obligations under the Purchase Agreement, the undersigned irrevocably agrees with the Company that, from the date hereof until forty-five (45) days following the Closing Date (such period, the "Restriction Period"), the undersigned will not offer, sell, contract to sell, hypothecate, pledge or otherwise dispose of (or enter into any transaction which is designed to, or might reasonably be expected to, result in the disposition (whether by actual disposition or effective economic disposition due to cash settlement or otherwise) by the undersigned or any Affiliate of the undersigned or any person in privity with the undersigned or any Affiliate of the undersigned), directly or indirectly, or establish or increase a put equivalent position or liquidate or decrease a call equivalent position within the meaning of Section 16 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), with respect to, any share of Common Stock of the Company or securities convertible, exchangeable or exercisable into, Common Stock of the Company beneficially owned, held or hereafter acquired by the undersigned (the "Securities"). Beneficial ownership shall be calculated in accordance with Section 13(d) of the Exchange Act. In order to enforce this covenant, the Company shall impose irrevocable stop-transfer instructions preventing the transfer agent of the Company from effecting any actions in violation of this Letter Agreement.

Notwithstanding the foregoing, and subject to the conditions below, the undersigned may transfer the Securities provided that (1) the Company receives a signed lock-up letter agreement (in the form of this Letter Agreement) for the balance of the Restriction Period from each donee, trustee, distributee, or transferee, as the case may be, prior to such transfer (2) any such transfer shall not involve a disposition for value, (3) such transfer is not required to be reported with the Securities and Exchange Commission in accordance with the Exchange Act and no report of such transfer shall be made voluntarily, and (4) neither the undersigned nor any donee, trustee, distributee or transferee, as the case may be, otherwise voluntarily effects any public filing or report regarding such transfers, with respect to transfer:

- i) as a *bona fide* gift or gifts, charitable contribution or for *bona fide* estate planning purposes;

- ii) to any immediate family member or to any trust for the direct or indirect benefit of the undersigned or the immediate family of the undersigned (for purposes of this Letter Agreement, “immediate family” shall mean any relationship by blood, marriage or adoption, not more remote than first cousin);
- iii) to any corporation, partnership, limited liability company, or other business entity all of the equity holders of which consist of the undersigned and/or the immediate family of the undersigned;
- iv) if the undersigned is a corporation, partnership, limited liability company, trust or other business entity (a) to another corporation, partnership, limited liability company, trust or other business entity that is an Affiliate of the undersigned or (b) in the form of a distribution to limited partners, limited liability company members or stockholders of the undersigned;
- v) if the undersigned is a trust, to the beneficiary of such trust;
- vi) by will, other testamentary document or intestate succession to the legal representative, heir, beneficiary or a member of the immediate family of the undersigned;
- vii) by operation of law, such as pursuant to a qualified domestic order or decree of any court or governmental agency or body, domestic or foreign, having jurisdiction over the undersigned or any of the undersigned’s properties or assets, or in connection with a divorce decree;
- viii) pursuant to a bona fide third-party tender offer, merger, consolidation or other similar transaction for the transfer of shares of Common Stock, options, warrants, convertible securities or other rights to acquire Common Stock, that is approved by the Board of Directors of the Company and made to all holders of the Company’s capital stock the result of which is that any “person” (as defined in Section 13(d)(3) of the Exchange Act), or group of persons, becomes the beneficial owner (as defined in Rules 13d-3 and 13d-5 of the Exchange Act) of more than 50% of total voting power of the voting stock of the Company or the surviving entity;
- ix) to the Company in a transaction exempt from Section 16(b) of the Exchange Act upon an exercise or a vesting event of the Securities or upon the exercise of options, restricted stock, restricted stock unit awards or warrants to purchase Common Stock on a “cashless” or “net exercise” basis or settlement of restricted stock units (“RSUs”) or to cover tax withholding obligations of the undersigned in connection with such vesting, exercise or settlement (but for the avoidance of doubt, excluding all manners of exercise that would involve a sale in the open market of any securities relating to such options or warrants, whether to cover the applicable aggregate exercise price, withholding tax obligations or otherwise); provided that any filing under Section 16(a) of the Exchange Act in connection with such transfer shall indicate, to the extent permitted by such Section and the related rules and regulations, the reason for such disposition and that such transfer of Securities was solely to the Company, and provided, further that any

Securities issued upon such exercise shall be subject to the restrictions set forth in this Letter Agreement;

- x) to the Company in connection with the termination of employment or other termination of a service provider whereby the Company has the option to repurchase such shares or securities;
- xi) in connection with sales of the undersigned's Securities made pursuant to a 10b5-1 trading plan that is designed to comply with Rule 10b5-1 under the Exchange Act (as such rule was in effect at the time any such trading plan was adopted) that has been entered into by the undersigned prior to the date of this agreement and provided to the Purchasers and their counsel, *provided* that to the extent a public announcement or filing under the Exchange Act, if any, is required of the undersigned or the Company regarding any such sales, such announcement or filing shall include a statement to the effect that any sales were effected pursuant to such 10b5-1 trading plan and no other public announcement shall be made voluntarily in connection with such sales; or
- xii) acquired by the undersigned in open market transactions after the date hereof, provided that no filing under Section 16(a) of the Exchange Act shall be required or shall be made voluntarily in connection with subsequent sales of Securities acquired in such open market transactions.

In addition, notwithstanding the foregoing, this Letter Agreement shall not restrict the delivery of shares of Common Stock to the undersigned upon (i) exercise any options or settlement of RSUs granted under any employee benefit plan of the Company; provided that any share of Common Stock or Securities acquired in connection with any such exercise will be subject to the restrictions set forth in this Letter Agreement, or (ii) the exercise of warrants; provided that such Common Stock delivered to the undersigned in connection with such exercise are subject to the restrictions set forth in this Letter Agreement.

Furthermore, the undersigned may enter into any new plan established in compliance with Rule 10b5-1 of the Exchange Act; provided that (i) such plan may only be established if no public announcement or filing with the Securities and Exchange Commission, or other applicable regulatory authority, is made in connection with the establishment of such plan during the Restriction Period and (ii) no sale of shares of Common Stock are made pursuant to such plan during the Restriction Period.

The undersigned acknowledges that the execution, delivery and performance of this Letter Agreement is a material inducement to the Company to complete the transactions contemplated by the Purchase Agreement and the Company shall be entitled to specific performance of the undersigned's obligations hereunder. The undersigned hereby represents that the undersigned has the power and authority to execute, deliver and perform this Letter Agreement, that the undersigned has received adequate consideration therefor and that the undersigned will indirectly benefit from the closing of the transactions contemplated by the Purchase Agreement.

This Letter Agreement may not be amended or otherwise modified in any respect without the written consent of each of the Company and the undersigned. This Letter Agreement shall be construed and enforced in accordance with the laws of the State of New York without regard to the principles of conflict of laws. The undersigned hereby irrevocably submits to the exclusive jurisdiction of the United States District Court sitting in the Southern District of New York and the courts of the State of New York located in Manhattan, for the purposes of any suit, action or proceeding arising out of or relating to this Letter Agreement, and hereby waives, and agrees not to assert in any such suit, action or proceeding, any claim that (i) it is not personally subject to the jurisdiction of such court, (ii) the suit, action or proceeding is brought in an inconvenient forum, or (iii) the venue of the suit, action or proceeding is improper. The undersigned hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by receiving a copy thereof sent to the Company at the address in effect for notices to it under the Purchase Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. The undersigned hereby waives any right to a trial by jury. Nothing contained herein shall be deemed to limit in any way any right to serve process in any manner permitted by law.

This Letter Agreement shall be binding on successors and assigns of the undersigned with respect to the Securities and any such successor or assign shall enter into a similar agreement for the benefit of the Company. This Lock-Up Agreement is intended for the benefit of the parties hereto and their respective successors and permitted assigns and is not for the benefit of, nor may any provisions hereof be enforced by, any other person. This Letter Agreement may be delivered via facsimile, electronic mail (including pdf or any electronic signature complying with the U.S. federal ESIGN Act of 2000, e.g., [www.docusign.com](http://www.docusign.com) or [www.echosign.com](http://www.echosign.com)) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

The undersigned understands that, if: (i) either the Company, on the one hand, or the Purchasers, on the other hand, notifies the other party in writing prior to the execution of the Purchase Agreement that it does not intend to proceed with the offering contemplated pursuant to the Purchase Agreement, (ii) the Purchase Agreement does not become effective by May 15, 2024, or (iii) the Purchase Agreement (other than the provisions thereof which survive termination) shall terminate or be terminated prior to payment for and delivery of the Securities to be sold thereunder, the undersigned shall be released from all obligations under this Letter Agreement.

\*\*\* SIGNATURE PAGE FOLLOWS\*\*\*

This Letter Agreement may be executed in two or more counterparts, all of which when taken together may be considered one and the same agreement.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Position in Company, if any

Address for Notice:  
\_\_\_\_\_  
\_\_\_\_\_

By signing below, the Company agrees to enforce the restrictions on transfer set forth in this Letter Agreement.

**ORGANOVO HOLDINGS, INC.**

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

## SECURITIES PURCHASE AGREEMENT

This Securities Purchase Agreement (this “*Agreement*”) is dated as of May 8, 2024 (the “*Effective Date*”), among Organovo Holdings, Inc., a Delaware corporation (the “*Company*”), and each purchaser identified on **Exhibit A** attached hereto (each a “*Purchaser*” and, collectively, the “*Purchasers*”).

WHEREAS, subject to the terms and conditions set forth in this Agreement and pursuant to an effective registration statement under the Securities Act (as defined below), the Company desires to issue and sell to each Purchaser, and each Purchaser, severally and not jointly, desires to purchase from the Company, securities of the Company as more fully described in this Agreement;

WHEREAS, the Purchasers, severally and not jointly, wish to purchase from the Company, and the Company wishes to sell and issue to the Purchasers, upon the terms and subject to the conditions stated in this Agreement, shares (the “*Shares*”) of the Company’s Common Stock, par value \$0.001 per share (the “*Common Stock*”), and/or pre-funded warrants to purchase Common Stock in the form attached hereto as **Exhibit B** (the “*Pre-Funded Warrants*”), and warrants to purchase Common Stock in the form attached hereto as **Exhibit C** (the “*Common Warrants*” and, together with the Pre-Funded Warrants, the “*Warrants*”); and

**NOW, THEREFORE**, in consideration of the mutual covenants contained in this Agreement, and for other good and valuable consideration the receipt and adequacy of which are hereby acknowledged, the Company and each Purchaser, severally and not jointly, agree as follows:

## 1. DEFINITIONS

**1.1 Definitions.** In addition to the terms defined elsewhere in this Agreement, the following terms have the meanings set forth in this **Section 1.1**:

“*Affiliate*” means, with respect to any Person, any other Person which directly or indirectly through one or more intermediaries controls, is controlled by, or is under common control with such Person, as such terms are used in and construed under Rule 405 under the Securities Act.

“*Aggregate Purchase Price*” means, as to each Purchaser, the aggregate amount to be paid for the Shares and Warrants purchased hereunder, in United States dollars and in immediately available funds, as set forth opposite the name of such Purchaser under the heading “Aggregate Purchase Price” on **Exhibit A** hereto (minus, if applicable, a Purchaser’s aggregate exercise price of the Pre-Funded Warrants, which amounts shall be paid as and when such Pre-Funded Warrants are exercised).

“*Closing*” means the closing of the purchase and sale of the Shares and the Warrants on the Closing Date pursuant to **Section 2.1** of this Agreement.

“*Closing Date*” means May 13, 2024.

“*Commission*” means the United States Securities and Exchange Commission.

“*Common Stock Equivalents*” means any securities of the Company or any Subsidiary which would entitle the holder thereof to acquire, at any time, Common Stock, including, without limitation, any debt, preferred stock, rights, options, warrants or other instrument that is, at any time, convertible into or exchangeable for, or otherwise entitles the holder thereof to receive, Common Stock or other securities that entitle the holder to receive, directly or indirectly, Common Stock.

“*Common Warrant Shares*” means the shares of Common Stock issuable upon exercise of the Common Warrants.

“*Company Deliverables*” has the meaning set forth in the **Section 2.2(b)**.

“*DWAC*” has the meaning set forth in **Section 2.2(a)**.

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“*Exchange Act*” means the Securities Exchange Act of 1934, as amended, and the rules and regulations promulgated thereunder.

“*Exempt Issuance*” means (a) the issuance of shares of Common Stock, restricted stock units, warrants, options or other equity awards to employees, officers, directors or consultants of the Company pursuant to any stock, equity or option plan duly adopted for such purpose, by a majority of the non-employee directors or a majority of the members of a committee of non-employee directors established for such purpose for services rendered to the Company; (b) the issuance of securities upon the exercise (whether such exercise is for cash or “cashless”) or exchange of, or conversion of, any securities exercisable or exchangeable for, or convertible into, shares of Common Stock issued and outstanding on the date of this Agreement (including the Warrants), provided that such securities have not been amended since the date of this Agreement to increase the number of such securities or to decrease the exercise price, exchange price or conversion price of such securities or to extend the term of such securities (other than pursuant to customary anti-dilution or similar provisions in effect on the date hereof); (c) the issuance of securities issued pursuant to acquisitions or any licensing, commercialization, joint venture, technology transfer, acquisition, development collaboration or partnership or other strategic transaction approved by a majority of the non-employee directors of the Company, acting in good faith, provided that such securities are issued (1) as “restricted securities” (as defined in Rule 144) and carry no registration rights that require or permit the filing of any registration statement in connection therewith during the prohibition period in **Section 4.11(a)** hereof, or (2) in a registered transaction, provided, in each case, that any such issuance shall only be to Person(s) or a venture arm of such Person (or to the equityholders of such Person(s)) which is, itself or through its subsidiaries, is an operating company or an owner of an asset that the majority of the non-employee directors, acting in good faith, have deemed to be synergistic with the business of the Company and shall provide to the Company additional benefits in addition to the investment of funds, but shall not include a transaction in which the Company is issuing securities primarily for the purpose of raising capital or to an entity whose primary business is investing in securities; and (d); the filing by the Company of any registration statement on Form S-8 or a successor form thereto relating to any Company stock or option plan described in the SEC Reports; and (f) the filing of any amendments or supplements to any existing resale registration statements contained in the SEC Reports.

“*Investment Company Act*” means the Investment Company Act of 1940, as amended.

“*Lock-Up Agreements*” means, collectively, the Lock-Up Agreements, dated as of the date hereof, by and among the Company and the directors and officers, in the form of **Exhibit D** attached hereto.

“*Material Adverse Effect*” means a material adverse effect on (i) the performance of this Agreement or the timely consummation of any of the transactions contemplated hereby or (ii) the condition (financial or otherwise), earnings, results of operations, business, prospects or properties of the Company and the Subsidiaries (as defined below) taken as a whole.

“*Nasdaq*” means the Nasdaq Capital Market.

“*Per Share Purchase Price*” means \$0.80 (inclusive of the purchase price per Common Warrant to purchase one share of Common Stock), *provided that* the purchase price per Pre-Funded Warrant (inclusive of the purchase price per Common Warrant to purchase one share of Common Stock) shall be \$0.80 minus \$0.001.

“*Person*” means an individual, corporation, partnership, limited liability company, trust, business trust, association, joint stock company, joint venture, sole proprietorship, unincorporated organization, governmental authority or any other form of entity not specifically listed herein.

“*Pre-Funded Warrant Shares*” means the shares of Common Stock issuable upon exercise of the Pre-Funded Warrants.

“*Preliminary Prospectus*” means any preliminary prospectus included in the Registration Statement, as originally filed or as part of any amendment thereto, or filed with the Commission pursuant to Rule 424(a) of the rules and regulations of the Commission under the Securities Act, including all information, documents and exhibits filed with or incorporated by reference into such preliminary prospectus.

“**Pricing Prospectus**” means (i) the Preliminary Prospectus relating to the Securities that was included in the Registration Statement immediately prior to 2:00 p.m. (New York City time) on the date hereof and (ii) any free writing prospectus (as defined in the Securities Act) identified on **Schedule A** hereto, taken together.

“**Principal Trading Market**” means any of the following markets or exchanges on which the Common Stock is listed or quoted for trading on the date in question: the NYSE American, the Nasdaq Capital Market, the Nasdaq Global Market, the Nasdaq Global Select Market or the New York Stock Exchange (or any successors to any of the foregoing).

“**Prospectus**” means the final prospectus filed pursuant to the Registration Statement, including all information, documents and exhibits filed with or incorporated by reference into such final prospectus.

“**Registration Statement**” means the effective registration statement on Form S-1 (File No. 333-278668) filed with the Commission, including all information, documents and exhibits filed with or incorporated by reference into such registration statement, as amended from time to time, which registers the sale and issuance of the Securities to the Purchasers, and includes any Rule 462(b) Registration Statement.

“**Rule 144**” means Rule 144 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same effect as such Rule.

“**Rule 424**” means Rule 424 promulgated by the Commission pursuant to the Securities Act, as such Rule may be amended or interpreted from time to time, or any similar rule or regulation hereafter adopted by the Commission having substantially the same purpose and effect as such Rule.

“**Rule 462(b) Registration Statement**” means any registration statement prepared by the Company registering additional Securities, which was filed with the Commission on or prior to the time at which sales of the Shares and the Warrants were confirmed and became automatically effective pursuant to Rule 462(b) promulgated by the Commission pursuant to the Securities Act.

“**SEC Reports**” means collectively all reports, schedules, forms, statements and other documents filed by the Company under the Exchange Act, including pursuant to Section 13(a) or 15(d) thereof, since April 1, 2023 (including the exhibits thereto and documents incorporated by reference therein).

“**Securities**” means the Shares, the Warrants and the Warrant Shares.

“**Securities Act**” means the Securities Act of 1933, as amended, and the rules and regulations promulgated thereunder.

“**Subsidiaries**” means any subsidiary of the Company.

“**Trading Day**” means a day on which the Common Stock is traded on Principal Trading Market.

“**Transaction Documents**” means this Agreement, including the schedules and exhibits attached hereto, the Pre-Funded Warrants, the Common Warrants, the Irrevocable Transfer Agent Instructions (as defined below) and any other documents or agreements executed and delivered to the Purchasers in connection with the transactions contemplated hereunder.

“**Variable Rate Transaction**” has the meaning set forth in **Section 4.11(b)**.

“**Warrant Shares**” means the shares of Common Stock issuable upon exercise of the Warrants.



## 2. PURCHASE AND SALE

### 2.1 Closing.

(a) At the Closing, upon the terms and subject to the conditions set forth herein, the Company hereby agrees to issue and sell to each Purchaser, and each Purchaser agrees to purchase from the Company, severally and not jointly, the number of Shares and Common Warrants set forth opposite such Purchaser's name on **Exhibit A** hereto, at a purchase price equal to \$0.80 per Share and accompanying Common Warrants; provided, however, that to the extent that a Purchaser determines, in its sole discretion, that such Purchaser (together with such Purchaser's Affiliates, and any Person acting as a group together with such Purchaser or any of such Purchaser's Affiliates) would beneficially own in excess of the Beneficial Ownership Limitation, or as such Purchaser may otherwise choose, in lieu of purchasing Shares, such Purchaser may elect to purchase a Pre-Funded Warrant to purchase the number of Pre-Funded Warrant Shares set forth opposite the name of such Purchaser under the heading "Number of Pre-Funded Warrant Shares Underlying Pre-Funded Warrant" on **Exhibit A** hereto, if any, at a purchase price equal to \$0.799 per Pre-Funded Warrant Share and accompanying Common Warrants (subject to adjustment as set forth therein). The "**Beneficial Ownership Limitation**" shall be 4.99% (or, at the election of each Purchaser made prior to the Closing, 9.99%) of the number of shares of Common Stock outstanding immediately after giving effect to the issuance of the Securities on the Closing Date. After the Closing, a Purchaser may, upon notice to the Company, increase or decrease the Beneficial Ownership Limitation, provided that the Beneficial Ownership Limitation in no event exceeds 9.99% of the number of shares of the Common Stock outstanding at such time, provided that any increase in the Beneficial Ownership Limitation will not be effective until the 61st day after such notice is delivered to the Company.

(b) At the Closing, each Purchaser shall deliver to the Company via wire transfer of immediately available funds in accordance with wire instructions provided prior to the Closing Date by the Company to the Purchasers equal to the Aggregate Purchase Price and the Company shall deliver to each Purchaser its respective Shares and Warrants in the amount set forth opposite such Purchaser's name on **Exhibit A** hereto, deliverable at the Closing on the Closing Date, in accordance with **Section 2.2** of this Agreement. The Closing shall take place remotely via the exchange of executed documents and funds at 10:00 a.m. (New York City Time) on the Closing Date or such other time and location as the parties shall mutually agree.

### 2.2 Deliveries.

(a) At or prior to the Closing, the Company will deliver or cause to be delivered to each Purchaser (the "**Company Deliverables**"):

(i) this Agreement, duly executed by the Company;

(ii) a legal opinion of the Company's counsel, directed to the Placement Agent and the Purchasers, in form and substance reasonably acceptable to the Placement Agent and Purchasers

(iii) duly executed Irrevocable Transfer Agent Instructions (as defined below) as set forth in **Section 4.9** hereto instructing the Company's transfer agent to deliver on an expedited basis via The Depository Trust Company Deposit or Withdrawal at Custodian system ("**DWAC**") the number of shares of Common Stock equal to such Purchaser's Shares;

(iv) if applicable, for each Purchaser of Pre-Funded Warrants pursuant to **Section 2.1(a)**, a Pre-Funded Warrant registered in the name of such Purchaser to purchase up to a number of shares of Common Stock equal to the portion of such Purchaser's Aggregate Purchase Price applicable to Pre-Funded Warrants divided by the Per Share Purchase Price minus \$0.001, with an exercise price equal to \$0.001, subject to adjustment therein (for avoidance of doubt, such original Pre-Funded Warrants may be delivered within five Trading Days of the Closing Date);

(v) a Common Warrant registered in the name of each Purchaser to purchase up to a number of shares of Common Stock equal to such Purchaser's Shares and Pre-Funded Warrant Shares (if applicable), with an exercise price equal to \$0.80 per share of Common Stock, subject to adjustments as set forth therein (for avoidance of doubt, such original Common Warrants may be delivered within five Trading Days of the Closing Date);

(vi) the Company shall have provided each Purchaser in writing with the Company's wire instructions, on Company letterhead and executed by the Chief Executive Officer or Chief Financial Officer;

(vii) on the date hereof, the duly executed Lock-Up Agreements;

(viii) a certificate evidencing the good standing of the Company in Delaware issued by the Secretary of State of Delaware, as of a date within five business days of the Closing Date; and

(ix) the Prospectus (which may be delivered in accordance with Rule 172 under the Securities Act).

(b) At or prior to the Closing, each Purchaser will deliver or cause to be delivered to the Company (the "**Purchaser Deliverables**"):

(i) this Agreement, duly executed by such Purchaser; and

(ii) such Purchaser's Aggregate Purchase Price in accordance with **Section 2.1**.

### **2.3 Closing Conditions.**

(a) The obligation of each Purchaser to purchase and acquire Securities at the Closing is subject to the fulfillment to such Purchaser's satisfaction, on or prior to the Closing Date, of each of the following conditions, any of which may be waived in writing by such Purchaser (as to itself only):

(i) the representations and warranties of the Company contained herein shall be true and correct in all material respects (except for those representations and warranties which are qualified as to materiality or Material Adverse Effect, in which case such representations and warranties shall be true and correct in all respects) as of the date when made and as of the Closing Date, as though made on and as of such date, except for such representations and warranties that speak as of a specific date which shall be true and correct in all material respects (except for those representations and warranties which are qualified as to materiality or Material Adverse Effect, in which case such representations and warranties shall be true and correct in all respects) as of such date;

(ii) all obligations, covenants and agreements of the Company (with respect to the obligations of the Purchasers) required to be performed at or prior to the Closing Date shall have been performed, satisfied and complied with in all material respects;

(iii) no statute, rule, regulation, executive order, decree, ruling or injunction shall have been enacted, entered, promulgated or endorsed by any court or governmental authority of competent jurisdiction that prohibits the consummation of any of the transactions contemplated by the Transaction Documents;

(iv) the Company shall have obtained in a timely fashion any and all consents, permits, approvals, registrations and waivers necessary for consummation of the purchase and sale of the Securities, all of which shall be and remain so long as necessary in full force and effect;

(v) the Company shall have delivered the Company Deliverables in accordance with **Section 2.2(a)**; and

(vi) since the date hereof, no event or circumstance or series of events or circumstances shall have occurred that has had or would reasonably be expected to have a Material Adverse Effect.

(b) The Company's obligation to sell and issue the Securities at the Closing to each Purchaser is subject to the fulfillment to the satisfaction of the Company on or prior to the Closing Date of the following conditions, any of which may be waived by the Company:

(i) the representations and warranties made by such Purchaser contained herein shall be true and correct in all material respects (except for those representations and warranties which are qualified as to materiality, in which case such representations and warranties shall be true and correct in all respects) as of the date when made, and as of the Closing Date as though made on and as of such date, except for representations and warranties that speak as of a specific date;

(ii) all obligations, covenants and agreements of such Purchaser required to be performed at or prior to the Closing Date shall have been performed, satisfied and complied with in all material respects;

(iii) no statute, rule, regulation, executive order, decree, ruling or injunction shall have been enacted, entered, promulgated or endorsed by any court or governmental authority of competent jurisdiction that prohibits the consummation of any of the transactions contemplated by the Transaction Documents; and

(iv) such Purchaser shall have delivered the Purchaser Deliverables in accordance with **Section 2.2(b)**.

### **3. REPRESENTATIONS AND WARRANTIES**

(a) The Registration Statement has become effective; no stop order suspending the effectiveness of the Registration Statement is in effect, and no proceedings for such purpose or pursuant to Section 8A under the Securities Act are pending before or, to the Company's knowledge, threatened by the Commission.

(b) (i) Each document, if any, filed or to be filed pursuant to the Exchange Act and incorporated by reference in the Pricing Prospectus or the Prospectus complied or will comply when so filed in all material respects with the Exchange Act and the applicable rules and regulations of the Commission thereunder, (ii) the Registration Statement, when it became effective, did not contain and, as amended or supplemented, if applicable, 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, (iii) the Registration Statement and the Prospectus comply and, as amended or supplemented, if applicable, will, as of the date of such amendment or supplement, comply in all material respects with the Securities Act and the applicable rules and regulations of the Commission thereunder, (iv) the Pricing Prospectus does not, and at the time of each sale of the Securities in connection with the offering when the Prospectus is not yet available to prospective purchasers and at the Closing Date, the Pricing Prospectus, as then amended or supplemented by the Company, if applicable, will not, contain, as of the date of such amendment or supplement, any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading, (v) each broadly available road show, if any, when considered together with the Pricing Prospectus, does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading and (vi) the Prospectus does not contain and, as amended or supplemented, if applicable, will not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements therein, in the light of the circumstances under which they were made, not misleading.

(c) The Company is not an "ineligible issuer" in connection with the offering pursuant to Rules 164, 405 and 433 under the Securities Act. Any 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 applicable requirements of the Securities Act and the applicable rules and regulations of the Commission thereunder. Each free writing prospectus, if any, 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, if filed after the effective time of this Agreement, will comply as of the date of such filing in all material respects with the requirements of the Securities Act and the applicable rules and regulations of the Commission thereunder.

(d) The Company has been duly incorporated, is validly existing as a corporation in good standing under the laws of the jurisdiction of its incorporation, has the corporate power and authority to own or lease its property and to conduct its business as described in each of the Registration Statement, the Pricing Prospectus and the Prospectus and is duly qualified to transact business and is in good standing in each jurisdiction in which the conduct of its business or its ownership or leasing of property requires such qualification, except to the extent that the failure to be so qualified or be in good standing would not reasonably be expected to, singly or in the aggregate, have a material adverse effect on the Company and its subsidiaries, taken as a whole.

(e) Each subsidiary of the Company has been duly incorporated, organized or formed, is validly existing as a corporation or other business entity in good standing under the laws of the jurisdiction of its incorporation, organization or formation, has the corporate or other business entity power and authority to own or lease its property and to conduct its business as described in each of the Registration Statement, the Pricing Prospectus and the

Prospectus and is duly qualified to transact business and is in good standing in each jurisdiction in which the conduct of its business or its ownership or leasing of property requires such qualification, except to the extent that the failure to be so qualified or be in good standing would not reasonably be expected to, singly or in the aggregate, have a material adverse effect on the Company and its subsidiaries, taken as a whole; all of the issued shares of capital stock or other equity interests of each subsidiary of the Company have been duly and validly authorized and issued, are fully paid and non-assessable and are owned directly or indirectly by the Company, free and clear of all liens, encumbrances, equities or claims.

(f) The Transaction Documents have been duly authorized, executed and delivered by the Company.

(g) The authorized capital stock of the Company conforms as to legal matters to the description thereof contained in each of the Registration Statement, the Pricing Prospectus and the Prospectus.

(h) The shares of Common Stock outstanding prior to the issuance of the Shares have been duly authorized and are validly issued, fully paid and non-assessable.

(i) The Shares have been duly authorized and, when issued, delivered and paid for in accordance with the terms of this Agreement, will be validly issued, fully paid and non-assessable, and the issuance of the Shares will not be subject to any preemptive or similar rights that have not been validly waived. The Warrants 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, and the issuance and sale of the Warrants is not subject to any preemptive rights or similar rights not validly waived to subscribe for or purchase the Warrants. The Warrant Shares have been duly authorized and validly reserved for issuance upon the exercise of the Warrants in accordance therein in a number sufficient to meet the current exercise requirements. The Warrant Shares, when issued and delivered upon exercise of the Warrants in accordance therewith, will be validly issued, fully paid and non-assessable, and the issuance of the Warrant Shares will not be subject to any preemptive rights or similar rights not validly waived to subscribe for or purchase the Warrant Shares.

(j) The execution and delivery by the Company of, and the performance by the Company of its obligations under, this Agreement will not contravene any provision of (i) applicable law, (ii) the certificate of incorporation or by-laws of the Company, (iii) any agreement or other instrument binding upon the Company or any of its subsidiaries that is material to the Company and its subsidiaries, taken as a whole, or (iv) any judgment, order or decree of any governmental body, agency or court having jurisdiction over the Company or any subsidiary, except, in the cases of clauses (i), (iii) and (iv), as would not, individually or in the aggregate, reasonably be expected to have a material adverse effect on the Company and its subsidiaries, taken as a whole, or adversely affect the ability of the Company to perform its obligations under this Agreement, and no consent, approval, authorization or order of, or qualification with, any governmental body, agency or court is required for the performance by the Company of its obligations under this Agreement, except such as may be required by the securities or Blue Sky laws of the various states or the rules and regulations of the Financial Industry Regulatory Authority in connection with the offer and sale of the Securities.

(k) There has not occurred any material adverse change, or any development involving a prospective material adverse change, in the condition, financial or otherwise, or in the earnings, business or operations of the Company and its subsidiaries, taken as a whole, from that set forth in the Pricing Prospectus.

(l) There are no legal or governmental proceedings pending or, to the knowledge of the Company, threatened to which the Company or any of its subsidiaries is a party or to which any of the properties of the Company or any of its subsidiaries is subject (i) other than proceedings accurately described in all material respects in each of the Registration Statement, the Pricing Prospectus and the Prospectus and proceedings that would not reasonably be expected to, singly or in the aggregate, have a material adverse effect on the Company and its subsidiaries, taken as a whole, or on the power or ability of the Company to perform its obligations under this Agreement or to consummate the transactions contemplated by each of the Registration Statement, the Pricing Prospectus and the Prospectus or (ii) that are required to be described in all material respects in the Registration Statement, the Pricing Prospectus or the Prospectus and are not so described; and there are no statutes, regulations, contracts or other documents that are required to be described in all material respects in the Registration Statement, the Pricing Prospectus or the Prospectus or to be filed as exhibits to the Registration Statement that are not described in all material respects or filed as required.

(m) Each preliminary prospectus filed as part of the Registration Statement as originally filed or as part of any amendment thereto, or filed pursuant to Rule 424 under the Securities Act, complied when so filed in all material respects with the applicable requirements of the Securities Act and the applicable rules and regulations of the Commission thereunder.

(n) The Company is not, and after giving effect to the offering and sale of the Securities and the application of the proceeds thereof as described in each of the Registration Statement, the Pricing Prospectus and the Prospectus will not be, required to register as an “investment company” as such term is defined in the Investment Company Act of 1940, as amended.

(o) The Company and each of its subsidiaries (i) are in compliance with any and all applicable foreign, federal, state and local laws and regulations relating to the protection of human health and safety, the environment or hazardous or toxic substances or wastes, pollutants or contaminants (“**Environmental Laws**”), (ii) have received all permits, licenses or other approvals required of them under applicable Environmental Laws to conduct their respective businesses and (iii) are in compliance with all terms and conditions of any such permit, license or approval, except where such noncompliance with Environmental Laws, failure to receive required permits, licenses or other approvals or failure to comply with the terms and conditions of such permits, licenses or approvals would not, singly or in the aggregate, be reasonably expected to have a material adverse effect on the Company and its subsidiaries, taken as a whole.

(p) There are no costs or liabilities associated with Environmental Laws (including, without limitation, any capital or operating expenditures required for clean-up, closure of properties or compliance with Environmental Laws or any permit, license or approval, any related constraints on operating activities and any potential liabilities to third parties) which would, singly or in the aggregate, be reasonably expected to have a material adverse effect on the Company and its subsidiaries, taken as a whole.

(q) There are no contracts, agreements or understandings between the Company and any person granting such person the right to require the Company to file a registration statement under the Securities Act with respect to any securities of the Company or to require the Company to include such securities with the Securities registered pursuant to the Registration Statement.

(r) (i) None of the Company or any of its subsidiaries or controlled affiliates, or any director, officer, or employee thereof, or, to the Company’s knowledge, any agent or representative of the Company or of any of its subsidiaries or controlled affiliates, has taken or will take any action in furtherance of an offer, payment, promise to pay, or authorization or approval of the payment, giving or receipt of money, property, gifts or anything else of value, directly or indirectly, to any government official (including any officer or employee of a government or government-owned or controlled entity or of a public international organization, or any person acting in an official capacity for or on behalf of any of the foregoing, or any political party or party official or candidate for political office) in order to influence official action, or to any person in violation of any applicable anti-corruption laws; (ii) the Company and each of its subsidiaries and controlled affiliates have conducted their businesses in compliance with applicable anti-corruption laws and have instituted and maintained and will continue to maintain policies and procedures reasonably designed to promote and achieve compliance with such laws and with the representations and warranties contained herein; and (iii) neither the Company nor any of its subsidiaries will use, directly or indirectly, the proceeds of the offering in furtherance of an offer, payment, promise to pay, or authorization of the payment or giving of money, or anything else of value, to any person in violation of any applicable anti-corruption laws.

(s) The operations of the Company and each of its subsidiaries are and have been conducted at all times in material compliance with all applicable financial recordkeeping and reporting requirements, including those of the Bank Secrecy Act, as amended by Title III of the Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 (USA PATRIOT Act), and the applicable anti-money laundering statutes of jurisdictions where the Company and each of its subsidiaries conduct business, the rules and regulations thereunder and any related or similar rules, regulations or guidelines, issued, administered or enforced by any governmental agency (collectively, the “**Anti-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 Anti-Money Laundering Laws is pending or, to the knowledge of the Company, threatened.

(t) (i) None of the Company, any of its subsidiaries, or any director, officer, or employee thereof, or, to the Company's knowledge, any agent, controlled affiliate or representative of the Company or any of its subsidiaries, is a Person that is, or is owned or controlled by one or more Persons that are:

(A) the subject of any sanctions administered or enforced by the U.S. Department of the Treasury's Office of Foreign Assets Control, the United Nations Security Council, the European Union, His Majesty's Treasury, or other relevant sanctions authority (collectively, "**Sanctions**"), or

(B) located, organized or resident in a country or territory that is the subject of Sanctions (including, without limitation, the so-called Donetsk People's Republic, the so-called Luhansk People's Republic, the Crimea Region of Ukraine and Cuba).

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

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

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

(iii) The Company and each of its subsidiaries have not knowingly engaged in, are not now knowingly engaged in, and will not knowingly engage in, any dealings or transactions with any Person, or in any country or territory, that at the time of the dealing or transaction is or was the subject of Sanctions.

(u) (i) The Company and its subsidiaries own or have a valid license to use all patents, inventions, copyrights, know how (including trade secrets and other unpatented and/or unpatentable proprietary or confidential information, systems or procedures), trademarks, service marks and trade names (collectively, "**Intellectual Property Rights**") used in or reasonably necessary to the conduct of their respective businesses as now conducted by them; (ii) the Intellectual Property Rights owned by the Company and its subsidiaries and, to the Company's knowledge, the Intellectual Property Rights licensed to the Company and its subsidiaries, are valid, subsisting and enforceable, and there is no pending or, to the Company's knowledge, threatened action, suit, proceeding or claim by others challenging the validity, scope or enforceability of any such Intellectual Property Rights; (iii) neither the Company nor any of its subsidiaries has received any written notice alleging any infringement, misappropriation or other violation of Intellectual Property Rights which, singly or in the aggregate, if the subject of an unfavorable decision, ruling or finding, would have a material adverse effect on the Company and its subsidiaries, taken as a whole; (iv) to the Company's knowledge, no third party is infringing, misappropriating or otherwise violating, or has infringed, misappropriated or otherwise violated, any Intellectual Property Rights owned by the Company; (v) to the Company's knowledge, neither the Company nor any of its subsidiaries infringes, misappropriates or otherwise violates, or has infringed, misappropriated or otherwise violated, any Intellectual Property Rights; (vi) all employees or contractors engaged in the development of Intellectual Property Rights on behalf of the Company or any subsidiary of the Company have executed an invention assignment agreement whereby such employees or contractors presently assign all of their right, title and interest in and to such Intellectual Property Rights to the Company or the applicable subsidiary, and to the Company's knowledge no such agreement has been breached or violated; and (vii) the Company and its subsidiaries use, and have used, commercially reasonable efforts to appropriately maintain all information intended to be maintained as a trade secret.

(v) (i) The Company and its subsidiaries use and have used any and all software and other materials distributed under a “copyleft,” “open source,” or similar licensing model (including but not limited to the MIT License, Apache License, GNU General Public License, GNU Lesser General Public License and GNU Affero General Public License) (“**Open Source Software**”) in compliance with all license terms applicable to such Open Source Software; and (ii) neither the Company nor any of its subsidiaries uses or distributes or has used or distributed any Open Source Software in any manner that requires or has required (A) the Company or any of its subsidiaries to permit reverse engineering of any software code or other technology owned by the Company or any of its subsidiaries or (B) any software code or other technology owned by the Company or any of its subsidiaries to be (1) disclosed or distributed in source code form, (2) licensed for the purpose of making derivative works or (3) redistributed at no charge.

(w) (i) The Company and each of its subsidiaries have for the past three (3) years complied and are presently in compliance with all internal and external privacy policies of the Company and its subsidiaries, contractual obligations, applicable binding industry standards, applicable laws, statutes, judgments, orders, rules and regulations of any court or arbitrator or other governmental or regulatory authority and any other applicable legal obligations, in each case, relating to the collection, use, transfer, import, export, storage, protection, disposal and disclosure by the Company or any of its subsidiaries of personal, personally identifiable, household, sensitive, confidential or regulated data (“**Data Security Obligations**”, and such data, “**Data**”); (ii) the Company has not received any written notification of or written complaint regarding and is unaware of any other facts that, individually or in the aggregate, would reasonably indicate non-compliance with any Data Security Obligation by the Company; and (iii) to the Company’s knowledge, there is no action, suit or proceeding by or before any court or governmental agency, authority or body pending or threatened alleging non-compliance by the Company with any Data Security Obligation.

(x) The Company and each of its subsidiaries have taken technical and organizational measures reasonably designed to protect the information technology systems and Data used in connection with the operation of the Company’s and its subsidiaries’ businesses. Without limiting the foregoing, the Company and its subsidiaries have used commercially reasonable efforts to establish and maintain, and have established, maintained, implemented and complied with, reasonable information technology, information security, cyber security and data protection controls, policies and procedures, including oversight, access controls, encryption, technological and physical safeguards and business continuity/disaster recovery and security plans that are designed to protect against and prevent breach, destruction, loss, unauthorized distribution, use, access, disablement, misappropriation or modification, or other compromise or misuse of or relating to any information technology system or Data used in connection with the operation of the Company’s and its subsidiaries’ businesses (“**Breach**”). There has been no such Breach that would be reasonably expected to have a material adverse effect on the Company and its subsidiaries, taken as a whole, and the Company and its subsidiaries have not been notified of and have no knowledge of any event or condition that would reasonably be expected to result in, any such Breach that would be reasonably expected to have a material adverse effect on the Company and its subsidiaries, taken as a whole.

(y) The Company and each of its subsidiaries have filed all federal, state, local and foreign tax returns required to be filed through the date of this Agreement or have requested extensions thereof (except where the failure to file would not, singly or in the aggregate, be reasonably expected to have a material adverse effect on the Company and its subsidiaries, taken as a whole) and have paid all taxes required to be paid thereon (except for cases in which the failure to file or pay would not, singly or in the aggregate, be reasonably expected to have a material adverse effect on the Company and its subsidiaries, taken as a whole, or, except as currently being contested in good faith and for which reserves required by generally accepted accounting principles (“**U.S. GAAP**”) have been created in the financial statements of the Company), and no tax deficiency has been determined adversely to the Company or any of its subsidiaries which, singly or in the aggregate, has had (nor does the Company nor any of its subsidiaries have any notice or knowledge of any tax deficiency which could reasonably be expected to be determined adversely to the Company or its subsidiaries and which could reasonably be expected to have) a material adverse effect on the Company and its subsidiaries, taken as a whole.

(z) The financial statements included or incorporated by reference in each of the Registration Statement, the Pricing Prospectus and the Prospectus, together with the related schedules and notes thereto, comply as to form in all material respects with the applicable accounting requirements of the Securities Act and present fairly in all material respects the consolidated financial position of the Company and its subsidiaries as of the dates shown and its results of operations and cash flows for the periods shown, and such financial statements have been prepared in conformity with U.S. GAAP applied on a consistent basis throughout the periods covered thereby except as may be expressly stated in

the related notes thereto and for any normal year-end adjustments in the Company's quarterly financial statements. The other financial information included in each of the Registration Statement, the Pricing Prospectus and the Prospectus has been derived from the accounting records of the Company and its consolidated subsidiaries and presents fairly in all material respects the information shown thereby. The statistical, industry-related and market-related data included in each of the Registration Statement, the Pricing Prospectus and the Prospectus are based on or derived from sources which the Company reasonably and in good faith believes are reliable and accurate and such data is consistent with the sources from which they are derived, in each case in all material respects.

(aa) Each of Mayer Hoffman McCann P.C. and Rosenberg Rich Baker Berman P.A., who has certified certain financial statements of the Company and its subsidiaries and, with respect to Mayer Hoffman McCann P.C., delivered its report with respect to the audited consolidated financial statements and schedules filed with the Commission as part of the Registration Statement and included in each of the Registration Statement, the Pricing Prospectus and the Prospectus, is an independent registered public accounting firm with respect to the Company within the meaning of the Securities Act and the applicable rules and regulations thereunder adopted by the Commission and the Public Company Accounting Oversight Board (United States).

(bb) The Company and each of its subsidiaries maintain a system of internal accounting controls sufficient to provide reasonable assurance that (i) transactions are executed in accordance with management's general or specific authorizations; (ii) transactions are recorded as necessary to permit preparation of financial statements in conformity with U.S. GAAP and to maintain asset accountability; (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 the 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 in the Registration Statement fairly presents the information called for in all material respects. Since the end of the Company's most recent audited fiscal year, there has been (i) no material weakness in the Company's internal control over financial reporting (whether or not remediated) and (ii) no change in the Company's internal control over financial reporting that has materially adversely affected, or is reasonably likely to materially adversely affect, the Company's internal control over financial reporting.

(cc) The interactive data in eXtensible Business Reporting Language included or incorporated by reference in 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.

(dd) As of the time of each sale of the Securities in connection with the offering when the Prospectus is not yet available to prospective purchasers, none of (A) the Pricing Prospectus and (B) any free writing prospectus, when considered together with the Pricing Prospectus, when considered together with the Pricing Prospectus, included, includes or will include an untrue statement of a material fact or omitted, omits or will omit to state a material fact necessary in order to make the statements therein, in the light of the circumstances under which they were made, not misleading.

(ee) The Company and the subsidiaries: (A) are and at all times have been in material compliance with all statutes, rules and regulations applicable to the ownership, testing, development, manufacture, packaging, processing, use, distribution, marketing, labeling, promotion, sale, offer for sale, storage, import, export or disposal of any product under development, manufactured or distributed by the Company or the subsidiaries ("**Applicable Laws**") except where such noncompliance could not reasonably be expected to have a material adverse effect, (B) have not received any Form 483 from the United States Food and Drug Administration ("**FDA**"), notice of adverse finding, warning letter, or other written correspondence or notice from the FDA, European Medicines Agency ("**EMA**"), or any other federal, state, local or foreign governmental or regulatory authority alleging or asserting material noncompliance with any Applicable Laws or with any licenses, certificates, approvals, clearances, authorizations, permits and supplements or amendments thereto required by any such Applicable Laws ("**Authorizations**"), which would, individually or in the aggregate, result in a material adverse effect; (C) possess all material Authorizations and such Authorizations are valid and in full force and effect and neither the Company nor the subsidiaries is in material violation of any term of any such Authorizations; (D) have not received written notice of any claim, action, suit, proceeding, hearing, enforcement, investigation, arbitration or other action from the FDA, the EMA, or any other federal, state, local or foreign governmental or regulatory authority or third party alleging that any Company product, operation or activity is in material violation of any Applicable Laws or Authorizations and have no knowledge that the FDA, the EMA, or



any other any federal, state, local or foreign governmental or regulatory authority or third party is considering any such claim, litigation, arbitration, action, suit, investigation or proceeding against the Company; (E) have not received written notice that the FDA, the EMA, or any other federal, state, local or foreign governmental or regulatory authority has taken, is taking or intends to take action to limit, suspend, modify or revoke any material Authorizations and have no knowledge that the FDA, the EMA, or any other federal, state, local or foreign governmental or regulatory authority is considering such action; and (F) have filed, obtained, maintained or submitted all reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments as required by any Applicable Laws or Authorizations except where the failure to file, obtain, maintain or submit such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments would not result in a material adverse effect, and that all such reports, documents, forms, notices, applications, records, claims, submissions and supplements or amendments were materially complete and correct on the date filed (or were corrected or supplemented by a subsequent submission) except such incompletions or errors as could not reasonably be expected to result in a material adverse effect.

(ff) All animal and other preclinical studies and clinical trials conducted by the Company or on behalf of the Company were, and, if still pending are, to the Company's knowledge, being conducted in compliance with all Applicable Laws and in accordance with experimental protocols, procedures and controls generally used by qualified experts in the preclinical study and clinical trials of new drugs, biologics, medical devices and drug-device combination products as applied to comparable products to those being developed by the Company, except for such noncompliance that would not reasonably be expected to result in a material adverse effect; the descriptions of the results of such preclinical studies and clinical trials contained in the Registration Statement, the Pricing Prospectus and the Prospectus are accurate in all material respects, and, except as set forth in the Registration Statement, the Pricing Prospectus and the Prospectus, the Company has no knowledge of any other clinical trials or preclinical studies, the results of which reasonably call into question the clinical trial or preclinical study results described or referred to in the Registration Statement, the Pricing Prospectus and the Prospectus when viewed in the context in which such results are described; and the Company has not received any written notices or correspondence from any domestic or foreign governmental agency requiring the termination or suspension of any preclinical studies or clinical trials conducted by or on behalf of the Company that are described in the Registration Statement, the Pricing Prospectus and the Prospectus or the results of which are referred to in the Registration Statement, the Pricing Prospectus and the Prospectus.

(gg) The Company has established and administers a compliance program applicable to the Company, to assist the Company and the officers and employees of the Company in complying with applicable regulatory guidelines (including, without limitation, those administered by the FDA, the EMA, and any other foreign, federal, state or local governmental or regulatory authority performing functions similar to those performed by the FDA or EMA); except where such noncompliance would not reasonably be expected to result in a material adverse effect.

(hh) The statistical, demographic and market-related data included in the Registration Statement, the Pricing Prospectus and the Prospectus, as of the date or dates to which they speak, are based on or derived from sources that the Company believes to be reliable and accurate or represent the Company's good faith estimates that are made on the basis of data derived from such sources.

#### 4. OTHER AGREEMENTS OF THE PARTIES

**4.1 Integration.** Except as contemplated by the terms of this Agreement, the Company shall not sell, offer for sale or solicit offers to buy or otherwise negotiate in respect of any security (as defined in Section 2 of the Securities Act) that would be integrated with the offer or sale of the Securities such that the rules of Nasdaq would require stockholder approval of the transactions contemplated hereby prior to the closing of such other transaction unless stockholder approval is obtained before the closing of such subsequent transaction.

**4.2 Securities Laws Disclosure; Publicity.** The Company shall, by 9:00 A.M., New York City time, on the first (1st) Trading Day immediately following the date of this Agreement (the "**Disclosure Time**"), issue a press release announcing the transactions contemplated hereby and file with the Commission a Current Report on Form 8-K (such Current Report, the "**Disclosure Document**") disclosing all material terms of this Agreement and the Transaction Documents and the transactions contemplated hereby and thereby, the transaction and including as exhibits to the Disclosure Document, this Agreement and the other Transaction Documents (in each case, without redaction). Upon

the issuance or filing of the Disclosure Document, no Purchaser, Purchaser's Affiliates, attorneys, agents and representatives shall be in possession of any material, non-public information received from the Company, any of its Subsidiaries or any of their respective representatives, Affiliates, officers, directors, or employees or agents, and including, without limitation, the Placement Agent, other than such Purchasers who have expressly consented to the receipt of material, non-public information other than in respect of the Transaction Documents and the transactions contemplated thereby or otherwise received such material, non-public information in such Purchaser's capacity as an officer or director of the Company or an Affiliate thereof, and agreed with the Company to keep such other information confidential after the Disclosure Time (any such Purchasers, the "*MNPI Accepting Purchasers*"). Subject to the foregoing, neither the Company nor any Purchaser shall issue any press releases or any other public statements with respect to the transactions contemplated hereby except as may be reviewed and approved by the Company and the Placement Agent. Notwithstanding anything contained in this Agreement to the contrary, and without implication that the contrary would otherwise be true, the Company hereby expressly acknowledges and agrees that, from and after the earlier of the Disclosure Time and the filing of the Disclosure Document, no Purchaser other than the MNPI Accepting Purchasers shall have (unless expressly agreed to by such Purchaser after the date hereof in a written definitive and binding agreement executed by the Company and such Purchaser or by reason of Purchaser's status as a Person subject to the Company's insider trading policies or an Affiliate of such Person) any duty of trust or confidence with respect to, or any duty not to trade in any securities while aware of, any material, non-public or any other information regarding the Company or any of its securities. The Company understands and confirms that the Purchaser and its Affiliates will rely on the foregoing representations in effecting transactions in securities of the Company. Notwithstanding anything in this Agreement to the contrary, the Company (i) shall not publicly disclose the name of Purchaser or any of its Affiliates or advisers, or include the name of Purchaser or any of its Affiliates or advisers in any press release, without the prior written consent of Purchaser and (ii) shall not publicly disclose the name of Purchaser or any of its Affiliates or advisers, or include the name of Purchaser or any of its Affiliates or advisers in any filing with the Commission or any regulatory agency or trading market, without the prior written consent of Purchaser, except (A) as required by the federal securities laws, rules or regulations and (B) to the extent such disclosure is required by other laws, rules or regulations, at the request of the staff of the Commission or regulatory agency or under the regulations of Nasdaq, in which case of clause (A) or (B), the Company shall provide Purchaser and the Placement Agent with prior written notice (including by e-mail) of such permitted disclosure, and shall reasonably consult with Purchaser and the Placement Agent regarding such disclosure.

**4.3 Non-Public Information.** Except with respect to the material terms and conditions of the transactions contemplated by the Transaction Documents, the Company covenants and agrees that neither it, nor any other Person acting on its behalf, including its representatives, Affiliates, officers, directors, employees or agents, including, without limitation, the Placement Agent, will provide any Purchaser or any of Purchaser's Affiliates, attorneys, agents or representatives with any information regarding the Company that constitutes, or that the Company reasonably believes constitutes, material non-public information regarding the Company or any of its Subsidiaries, unless prior thereto such Purchaser or any of Purchaser's Affiliates, attorneys, agents or representatives shall have previously consented in writing to the receipt of such information and agreed with the Company to keep such information confidential until such time as such information is publicly disclosed or such time as set forth in such written agreement or otherwise received such material, non-public information in such Purchaser's capacity as an officer or director of the Company or an Affiliate thereof. The Company understands and confirms that each Purchaser shall be relying on the foregoing covenant in effecting transactions in securities of the Company. To the extent that the Company delivers any material, non-public information to a Purchaser without such Purchaser's consent, the Company hereby covenants and agrees that such Purchaser shall not have any duty of confidentiality or trust to the Company or any of its officers, directors, agents, employees or Affiliates, or a duty to the Company or any of its officers, directors, agents, employees or Affiliates, not to trade while aware of such material, non-public information unless such material, non-public information was received by such Purchaser in its capacity as an officer or director of the Company or an Affiliate thereof. To the extent that any notice provided pursuant to any Transaction Document constitutes, or contains, material, non-public information regarding the Company or any of its Subsidiaries, the Company shall simultaneously file such notice with the Commission pursuant to a Current Report on Form 8-K. The Company understands and confirms that each Purchaser shall be relying on the foregoing covenant in effecting transactions in securities of the Company.

**4.4 Reservation of Common Stock.** As of the date hereof, the Company has reserved, and the Company shall continue to reserve and keep available at all times, free of preemptive rights, a sufficient number of shares of Common Stock for the purpose of enabling the Company to issue the Shares pursuant to this Agreement as well as the Warrant Shares upon exercise of any Warrants.

**4.5 Nasdaq Listing.** Prior to the Closing, the Company shall prepare and file with Nasdaq an additional shares listing notification form covering all of the Shares and Warrant Shares and shall use its commercially reasonable efforts to cause all of the Shares and Warrant Shares to be listed on Nasdaq at all times after the Closing. The Company further agrees, if the Company applies to have the Common Stock traded on any other trading market, it will then include in such application all of the Shares and Warrant Shares, and will use its commercially reasonable efforts to cause all of the Shares and Warrant Shares to be listed or quoted on such other trading market as promptly as possible. The Company will then take use its commercially reasonable efforts to continue the listing and trading of its Common Stock on a trading market and will comply in all respects with the Company's reporting, filing and other obligations under the bylaws or rules of the trading market. The Company agrees to maintain the eligibility of the Common Stock for electronic transfer through DTC or another established clearing corporation, including, without limitation, by timely payment of fees to the DTC or such other established clearing corporation in connection with such electronic transfer.

**4.6 Equal Treatment of Purchasers.** No Purchaser has received, or will receive, terms in respect of its purchase of the Securities that are more favorable than those of any other Purchaser, other than (i) the terms particular to the regulatory requirements of such Purchaser or its Affiliates or related funds (ii) terms concerning the publicity policies of such Purchaser, or (iii) terms required by Nasdaq Rule 5635(c).

**4.7 Indemnification of Purchasers.** Indemnification of Purchasers. Subject to the provisions of this **Section 4.7**, the Company will indemnify and hold each Purchaser and its directors, officers, stockholders, members, managers, partners, investment advisers, affiliates, employees and agents (and any other Persons with a functionally equivalent role of a Person holding such titles notwithstanding a lack of such title or any other title), each Person who controls such Purchaser (within the meaning of Section 15 of the Securities Act and Section 20 of the Exchange Act), and the directors, officers, stockholders, agents, members, managers, partners or employees (and any other Persons with a functionally equivalent role of a Person holding such titles notwithstanding a lack of such title or any other title) of such controlling persons (each, a "**Purchaser Party**") harmless from any and all losses, liabilities, obligations, claims, contingencies, damages, costs and expenses, including all judgments, amounts paid in settlements, court costs and reasonable attorneys' fees and costs of investigation that any such Purchaser Party may suffer or incur as a result of or relating to (a) any breach of any of the representations, warranties, covenants or agreements made by the Company in this Agreement or in the other Transaction Documents or (b) any action instituted against a Purchaser in any capacity, or any of them or their respective Affiliates, by any stockholder of the Company who is not an Affiliate of such Purchaser, with respect to any of the transactions contemplated by the Transaction Documents (unless such action is based upon a breach of such Purchaser's representations, warranties or covenants under the Transaction Documents or any agreements or understandings such Purchaser may have with any such stockholder or any violations by the Purchaser of state or federal securities laws or any conduct by such Purchaser which constitutes fraud, gross negligence, willful misconduct, bad faith or malfeasance). Promptly after receipt by any Purchaser Party (the "**Indemnified Person**") of notice of any demand, claim or circumstances which could reasonably be expected to give rise to a claim or the commencement of any action, proceeding or investigation in respect of which indemnity may be sought pursuant to this **Section 4.7**, such Indemnified Person shall promptly notify the Company in writing and the Company shall assume the defense thereof, including the employment of counsel reasonably satisfactory to such Indemnified Person, and shall assume the payment of all fees and expenses; provided, however, that the failure of any Indemnified Person so to notify the Company shall not relieve the Company of its obligations hereunder except to the extent that the Company is actually and materially prejudiced by such failure to notify. In any such proceeding, any Indemnified Person shall have the right to retain its own counsel, but the fees and expenses of such counsel shall be at the expense of such Indemnified Person unless: (i) the Company and the Indemnified Person shall have mutually agreed to the retention of such counsel; (ii) the Company shall have failed promptly to assume the defense of such proceeding and to employ counsel reasonably satisfactory to such Indemnified Person in such proceeding; or (iii) in the reasonable judgment of counsel to such Indemnified Person, representation of both parties by the same counsel would be inappropriate due to actual or potential differing interests between them; provided, however, that the Company shall not be responsible for the fees and expenses of more than one counsel for all Indemnified Persons. The Company shall not be liable for any settlement of any action, claim or proceeding effected without its prior written

consent, which consent shall not be unreasonably withheld, delayed or conditioned. Without the prior written consent of the Indemnified Person, which consent shall not be unreasonably withheld, delayed or conditioned, the Company shall not effect any settlement of any pending or threatened proceeding in respect of which any Indemnified Person is or could have been a party and indemnity could have been sought hereunder by such Indemnified Person, unless such settlement includes an unconditional release of such Indemnified Person from all liability arising out of such proceeding and does not include any admission to fault, culpability or failure to act on the part of such Indemnified Person.

**4.8 Irrevocable Transfer Agent Instructions.** The Company shall issue irrevocable instructions to its transfer agent, and any subsequent transfer agent to issue to the Purchasers (or in such nominee's name(s) as designated by a Purchaser) book-entry notations representing the Shares set forth under "Number of Shares" on **Exhibit A** hereto (the "**Irrevocable Transfer Agent Instructions**") and the Warrant Shares once such Warrants are exercised. The Company represents and warrants that no instruction other than the Irrevocable Transfer Agent Instructions referred to in this **Section 4.8** (or instructions that are consistent therewith) will be given by the Company to its transfer agent in connection with this Agreement and that the Shares and the Warrant Shares shall otherwise be freely transferable on the books and records of the Company as and to the extent provided in this Agreement and the other Transaction Documents and applicable law. The Company acknowledges that a breach by it of its obligations under this **Section 4.8** will cause irreparable harm to a Purchaser. Accordingly, the Company acknowledges that the remedy at law for a breach of its obligations under this **Section 4.8** will be inadequate and agrees, in the event of a breach by the Company of the provisions of this **Section 4.8**, that a Purchaser shall be entitled, in addition to all other available remedies, to an order and/or injunction restraining any breach and requiring immediate issuance and transfer, without the necessity of showing economic loss and without any bond or other security being required.

**4.9 Use of Proceeds.** The Company shall use the net proceeds from the sale of the Securities hereunder as set forth in the Pricing Prospectus and shall not use such proceeds: (a) for the satisfaction of any portion of the Company's debt (other than payment of trade payables in the ordinary course of the Company's business and prior practices), (b) for the redemption of any Common Stock or Common Stock Equivalents, (c) for the settlement of any outstanding litigation or (d) in violation of FCPA or OFAC regulations.

**4.10 Exercise Procedures.** The form of Notice of Exercise included in the Warrants set forth the totality of the procedures required of the Purchasers in order to exercise the Warrants. No additional legal opinion, other information or instructions shall be required of the Purchasers to exercise their Warrants. Without limiting the preceding sentences, no ink- original Notice of Exercise shall be required, nor shall any medallion guarantee (or other type of guarantee or notarization) of any Notice of Exercise form be required in order to exercise the Warrants. The Company shall honor exercises of the Warrants and shall deliver Warrant Shares in accordance with the terms, conditions and time periods set forth in the Transaction Documents.

#### **4.11 Subsequent Equity Sales.**

(a) From the date hereof until the later of sixty (60) days after the Closing Date, neither the Company nor any of its Subsidiaries shall (i) issue, enter into any agreement to issue or announce the issuance or proposed issuance of any Common Stock or Common Stock Equivalents, or (ii) file any registration statement or any amendment or supplement thereto, other than the Prospectus. Notwithstanding the foregoing, the restrictions set forth in this **Section 4.11(a)** shall not apply in respect of an Exempt Issuance, except that no Variable Rate Transaction shall be an Exempt Issuance.

(b) From the date hereof until the date that is the earlier of one hundred and eighty (180) days after the Closing Date and the date that no Common Warrants are outstanding, the Company shall be prohibited from effecting or entering into an agreement to effect any issuance by the Company of any Common Stock or Common Stock Equivalents (or a combination of units thereof) involving a Variable Rate Transaction. For purposes hereof, "Variable Rate Transaction" means a transaction in which the Company (i) issues or sells any debt or equity securities that are convertible into, exchangeable or exercisable for, or include the right to receive, additional shares of Common Stock either (A) at a conversion price, exercise price or exchange rate or other price that is based upon, and/or varies with, the trading prices of or quotations for the Common Stock at any time after the initial issuance of such debt or equity securities, or (B) with a conversion, exercise or exchange price that is subject to being reset at some future date after the initial issuance of such debt or equity security or upon the occurrence of specified or contingent events directly or indirectly related to the business of the Company or the market for the Common Stock, or (ii) enters into, or effects a transaction

under, any agreement, including, but not limited to, an equity line of credit, whereby the Company may issue securities at a future determined price; *provided that* on the date that is the earlier of (a) ninety (90) days after the Closing Date or (b) the date on which the closing price of the Company's Common Stock on the Principal Trading Market is at or above \$3.00 (subject to adjustments for stock dividends, stock splits, reverse stock splits, recapitalizations, reorganizations or similar transactions after the date of this Agreement), an issuance or sale of securities pursuant to the Sales Agreement shall not be deemed a "Variable Rate Transaction". The Purchaser shall be entitled to obtain injunctive relief against the Company to preclude any such issuance, which remedy shall be in addition to any right to collect damages.

## 5. MISCELLANEOUS

**5.1 Termination.** This Agreement may be terminated by any Purchaser, as to such Purchaser's obligations hereunder only and without any effect whatsoever on the obligations between the Company and the other Purchasers, by written notice to the other parties, if the Closing has not been consummated within ten (10) calendar days from the Effective Date through no fault of such Purchaser; provided, however, that no such termination will affect the right of any party to sue for any breach by the other party (or parties).

**5.2 Fees and Expenses.** Except as expressly set forth in the Transaction Documents to the contrary, each party shall pay the fees and expenses of its advisers, counsel, accountants and other experts, if any, and all other expenses incurred by such party incident to the negotiation, preparation, execution, delivery and performance of this Agreement. Notwithstanding the foregoing, the Company shall pay all transfer agent fees, stamp taxes and other taxes and duties levied in connection with the delivery of any Securities to the Purchasers.

**5.3 Entire Agreement.** The Transaction Documents, together with the exhibits and schedules thereto, the Pricing Prospectus and the Prospectus, contain the entire understanding of the parties with respect to the subject matter hereof and supersede all prior agreements and understandings, oral or written, with respect to such subject matter, which the parties acknowledge have been merged into such documents, exhibits and schedules.

**5.4 Notices.** Any and all notices or other communications or deliveries required or permitted to be provided hereunder shall be in writing and shall be deemed given and effective upon actual receipt via mail, courier or confirmed email by the party to whom such notice is required to be given. The address for such notices and communications shall be as set forth on the signature pages attached hereto.

**5.5 Amendments; Waivers.** No provision of this Agreement may be waived or amended except in a written instrument signed, in the case of an amendment, by (a) the Company and (b) (i) if prior to the Closing, all of the Purchasers, or (ii) following the Closing, Purchasers holding at least a majority of the Securities sold in the Closing and then-held by a Purchaser (in the case of each Warrant, calculated based upon the number of Warrant Shares thereunder) or, in the case of a waiver, by the party against whom enforcement of any such waived provision is sought; provided, that if any amendment, disproportionately and adversely impacts a Purchaser (or group of Purchasers) in any material respect, the consent of such disproportionately impacted Purchaser (or group of Purchasers) shall also be required. No waiver of any default with respect to any provision, condition or requirement of this Agreement shall be deemed to be a continuing waiver in the future or a waiver of any subsequent default or a waiver of any other provision, condition or requirement hereof, nor shall any delay or omission of any party to exercise any right hereunder in any manner impair the exercise of any such right. No consideration shall be offered or paid to any Purchaser to amend or consent to a waiver or modification of any provision of any Transaction Document unless the same consideration is also offered to all Purchasers who then hold Securities.

**5.6 Headings.** The headings herein are for convenience only, do not constitute a part of this Agreement and shall not be deemed to limit or affect any of the provisions hereof.

**5.7 Successors and Assigns.** This Agreement shall be binding upon and inure to the benefit of the parties and their permitted successors and assigns. The Company may not assign this Agreement or any rights or obligations hereunder without the prior written consent of each Purchaser (other than by merger or similar change of control transaction). Any Purchaser may assign its rights hereunder in whole or in part to any Affiliate and, with the prior written consent of the Company, to any Person, including upon an assignment or transfer of any Securities in compliance with the

Transaction Documents and applicable law, provided such transferee shall agree in writing to be bound, with respect to the transferred Securities, by the terms and conditions of the Transaction Documents that apply to the “Purchasers.”

**5.8 Third-Party Beneficiaries.** This Agreement is intended for the benefit of the parties hereto, and their respective permitted successors and assigns, and is not for the benefit of, nor may any provision hereof be enforced by, any other person, except as provided in **Section 5.9** hereto, and the Indemnified Persons are intended third party beneficiaries of the provisions of **Section 4.8**.

**5.9 Exculpation of the Placement Agent.** Each party hereto agrees for the express benefit of each of the Placement Agent, its Affiliates and representatives, in connection with this Agreement and the other Transaction Documents, that:

(a) Neither JonesTrading Institutional Services LLC (the “**Placement Agent**”) nor any of its Affiliates or any of its representatives (1) has any duties or obligations other than those specifically set forth herein or in the engagement letter, dated as January 9, 2024 among the Company and the Placement Agent (the “**Engagement Letter**”) or in the Placement Agency Agreement, dated as of the date hereof, by and between the Company and the Placement Agent; (2) shall be liable for any improper payment made in accordance with the information provided by the Company; (3) makes any representation or warranty, or has any responsibilities as to the validity, accuracy, value or genuineness of any information, certificates or documentation delivered by or on behalf of the Company pursuant to this Agreement or the Transaction Documents or in connection with any of the transactions contemplated hereby or thereby; or (4) shall be liable (x) for any action taken, suffered or omitted by any of them in good faith and reasonably believed to be authorized or within the discretion or rights or powers conferred upon it by this Agreement or any Transaction Document or (y) for anything which any of them may do or refrain from doing in connection with this Agreement or any Transaction Document, except for such party’s own gross negligence, willful misconduct or bad faith.

(b) The Placement Agent, its Affiliates and representatives shall be entitled to (1) rely on, and shall be protected in acting upon, any certificate, instrument, opinion, notice, letter or any other document or security delivered to any of them by or on behalf of the Company, (2) rely on the representations and warranties of the Company and the Purchaser as set forth in **Sections 3** and **4** hereto and (3) be indemnified by the Company for acting as Placement Agent, respectively, hereunder pursuant the indemnification provisions set forth in the Engagement Letter.

**5.10 Governing Law.** All questions concerning the construction, validity, enforcement and interpretation of the Transaction Documents shall be governed by and construed and enforced in accordance with the internal laws of the State of New York, without regard to the principles of conflicts of law thereof to the extent such principals would result in the application in the laws of another jurisdiction. Each party agrees that all legal proceedings concerning the interpretations, enforcement and defense of the transactions contemplated by this Agreement and any other Transaction Documents (whether brought against a party hereto or its respective Affiliates, directors, officers, stockholders, employees or agents) shall be commenced exclusively in the state and federal courts sitting in the State of New York. Each party hereby irrevocably submits to the exclusive jurisdiction of the state and federal courts sitting in the State of New York for the adjudication of any dispute hereunder or in connection herewith or with any transaction contemplated hereby or discussed herein (including with respect to the enforcement of any of the Transaction Documents), and hereby irrevocably waives, and agrees not to assert in any suit, action or proceeding, any claim that it is not personally subject to the jurisdiction of any such court, that such suit, action or proceeding is improper or is an inconvenient venue for such proceeding. Each party hereby irrevocably waives personal service of process and consents to process being served in any such suit, action or proceeding by mailing a copy thereof via registered or certified mail or overnight delivery (with evidence of delivery) to such party at the address in effect for notices to it under this Agreement and agrees that such service shall constitute good and sufficient service of process and notice thereof. Nothing contained herein shall be deemed to limit in any way any right to serve process in any other manner permitted by law. If either party shall commence an action or proceeding to enforce any provisions of the Transaction Documents, then the prevailing party in such action or proceeding shall be reimbursed by the other party for its reasonable attorneys’ fees and other costs and expenses incurred with the investigation, preparation and prosecution of such action or proceeding.

**5.11 Execution.** This Agreement may be executed in two or more counterparts, all of which when taken together shall be considered one and the same agreement and shall become effective when counterparts have been signed by each party and delivered to each other party, it being understood that the parties need not sign the same counterpart. Counterparts may be delivered via facsimile, electronic mail (including any electronic signature covered by the U.S. federal ESIGN Act of 2000, Uniform Electronic Transactions Act, the Electronic Signatures and Records Act or other applicable law, e.g., www.docusign.com) or other transmission method and any counterpart so delivered shall be deemed to have been duly and validly delivered and be valid and effective for all purposes.

**5.12 Severability.** If any term, provision, covenant or restriction of this Agreement is held by a court of competent jurisdiction to be invalid, illegal, void or unenforceable, the remainder of the terms, provisions, covenants and restrictions set forth herein shall remain in full force and effect and shall in no way be affected, impaired or invalidated, and the parties hereto shall use their commercially reasonable efforts to find and employ an alternative means to achieve the same or substantially the same result as that contemplated by such term, provision, covenant or restriction. It is hereby stipulated and declared to be the intention of the parties that they would have executed the remaining terms, provisions, covenants and restrictions without including any of such that may be hereafter declared invalid, illegal, void or unenforceable.

**5.13 Rescission and Withdrawal Right.** Notwithstanding anything to the contrary contained in (and without limiting any similar provisions of) any of the other Transaction Documents, whenever any Purchaser exercises a right, election, demand or option under a Transaction Document and the Company does not timely perform its related obligations within the periods therein provided, then such Purchaser may rescind or withdraw, in its sole discretion from time to time upon written notice to the Company, any relevant notice, demand or election in whole or in part without prejudice to its future actions and rights; provided, however, that in the case of a rescission of an exercise of a Warrant, the applicable Purchaser shall be required to return any Warrant Shares subject to any such rescinded exercise notice concurrently with the return to such Purchaser of the aggregate exercise price paid to the Company for such shares and the restoration of such Purchaser's right to acquire such shares pursuant to such Purchaser's Warrant (including, issuance of a replacement warrant certificate evidencing such restored right).

**5.14 Replacement of Securities.** If any certificate or instrument evidencing any Security is mutilated, lost, stolen or destroyed, the Company shall issue or cause to be issued in exchange and substitution for and upon cancellation thereof (in the case of mutilation), or in lieu of and substitution therefor, a new certificate or instrument, but only upon receipt of evidence reasonably satisfactory to the Company of such loss, theft or destruction and customary and reasonable indemnity or bond, if requested. The applicant for a new certificate or instrument under such circumstances shall also pay any reasonable third-party costs (including customary indemnity) associated with the issuance of such replacement Securities.

**5.15 Remedies.** Each of the Purchasers and the Company shall be entitled to exercise all rights provided herein or granted by law, including recovery of damages, for any breach of the Transaction Documents.

**5.16 Independent Nature of Purchasers' Obligations and Rights.** The obligations of each Purchaser under any Transaction Document are several and not joint with the obligations of any other Purchaser, and no Purchaser shall be responsible in any way for the performance or non-performance of the obligations of any other Purchaser under any Transaction Document. Nothing contained herein or in any other Transaction Document, and no action taken by any Purchaser pursuant hereto or thereto, shall be deemed to constitute the Purchasers as a partnership, an association, a joint venture or any other kind of entity, or create a presumption that the Purchasers are in any way acting in concert or as a group with respect to such obligations or the transactions contemplated by the Transaction Documents. Each Purchaser shall be entitled to independently protect and enforce its rights, including, without limitation, the rights arising out of this Agreement or out of the other Transaction Documents, and it shall not be necessary for any other Purchaser to be joined as an additional party in any proceeding for such purpose. Each Purchaser acknowledges that no other Purchaser has acted as agent for such Purchaser in connection with making its investment hereunder and that no Purchaser will be acting as agent of such Purchaser in connection with monitoring its investment in the Shares or enforcing its rights under the Transaction Documents. The Company acknowledges that each of the Purchasers has been provided with the same Transaction Documents for the purpose of closing a transaction with multiple Purchasers and not because it was required or requested to do so by any Purchaser. It is expressly understood and agreed that each provision contained in this Agreement is between the Company and a Purchaser, solely, and not between the Company and the Purchasers collectively and not between and among the Purchasers.

**5.17 Construction.** The parties agree that each of them and/or their respective counsel has reviewed and had an opportunity to revise the Transaction Documents and, therefore, the normal rule of construction to the effect that any ambiguities are to be resolved against the drafting party shall not be employed in the interpretation of the Transaction Documents or any amendments hereto. Each Purchaser understands that the Placement Agent has acted solely as the agent of the Company in this placement of the Securities and such Purchaser has not relied on the business or legal advice of the Placement Agent or any of its agents, counsel or Affiliates in making its investment decision hereunder, and confirms that none of such persons has made any representations or warranties to such Purchaser in connection with the transactions contemplated hereby. Unless otherwise indicated or the context otherwise requires, (a) all references to Sections, Schedules or Exhibits are to Sections, Schedules, Appendices or Exhibits contained in or attached to this Agreement, (b) words in the singular or plural include the singular and plural and pronouns stated in either the masculine, the feminine or neuter gender shall include the masculine, feminine and neuter, (c) the words “hereof,” “herein” and words of similar effect shall reference this Agreement in its entirety, and (d) the use of the word “including” in this Agreement shall be by way of example rather than limitation.

**5.18 WAIVER OF JURY TRIAL.** IN ANY ACTION, SUIT, OR PROCEEDING IN ANY JURISDICTION BROUGHT BY ANY PARTY AGAINST ANY OTHER PARTY, THE PARTIES EACH KNOWINGLY AND INTENTIONALLY, TO THE GREATEST EXTENT PERMITTED BY APPLICABLE LAW, HEREBY ABSOLUTELY, UNCONDITIONALLY, IRREVOCABLY AND EXPRESSLY WAIVE FOREVER TRIAL BY JURY.

**5.19 Adjustments in Share Numbers and Prices.** In the event of any stock split, subdivision, dividend or distribution to all stockholders of the Company payable in shares of Common Stock (or other securities or rights convertible into, or entitling the holder thereof to receive directly or indirectly shares of Common Stock), combination or other similar recapitalization or event occurring after the date hereof and prior to the Closing, each reference in any Transaction Document to a number of shares or a price per share shall be deemed to be amended to appropriately account for such event.

**5.20 Survival.** The representation and warranties contained herein shall survive the Closing and the delivery of the Securities for then applicable statute of limitations.

**[Remainder of page intentionally left blank.]**



**IN WITNESS WHEREOF**, the parties hereto have caused this Securities Purchase Agreement to be duly executed by their respective authorized signatories as of the date first indicated above.

**ORGANOVO HOLDINGS, INC.**

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

Address for Notice:  
Organovo Holdings, Inc.  
11555 Sorrento Valley Road, Suite 100  
San Diego, CA 92121  
Attn: Executive Chairman  
Email: kemurph@organovo.com

With a copy to (which shall not constitute notice):

Paul Hastings LLP  
1117 S. California Avenue  
Palo Alto, CA 94304  
Attn: Samantha H. Eldredge, Esq.  
Email: samanthaeldredge@paulhastings.com

*[Signature Page to Securities Purchase Agreement]*

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**IN WITNESS WHEREOF**, the parties hereto have caused this Securities Purchase Agreement to be duly executed by their respective authorized signatories as of the date first indicated above.

**PURCHASERS:**

**[NAME OF PURCHASER]:**

\_\_\_\_\_

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

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

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

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

EIN: \_\_\_\_\_

Contact: \_\_\_\_\_

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

Beneficial Ownership Limitation if purchasing Pre-Funded Warrants:

4.99% 9.99%

*[Signature Page to Securities Purchase Agreement]*

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## Organovo Holdings, Inc. Announces Pricing of \$5.25 Million Public Offering

SAN DIEGO, May 8, 2024 (GLOBE NEWSWIRE) – Organovo Holdings, Inc. (Nasdaq: ONVO) (“Organovo” or the “Company”), a clinical stage biotechnology company focused on developing novel treatment approaches based on demonstration of clinical promise in three-dimensional (3D) human tissues, today announced the pricing of a public offering consisting of 6,562,500 shares of common stock (or pre-funded warrants in lieu thereof) and common warrants to purchase up to an aggregate of 6,562,500 shares of its common stock, at a combined public offering price per share of common stock and accompanying common warrant to purchase one share of common stock of \$0.80 (or \$0.799 per share subject to pre-funded warrants and accompanying warrant to purchase one share of common stock).

The common warrants will have an exercise price of \$0.80 per share, will be immediately exercisable upon issuance and have a term of five years after their original issuance date. The gross proceeds from the offering, before deducting placement agent fees and other offering expenses payable by the Company, are expected to be \$5.25 million (excluding any proceeds that may be received upon the exercise of the common warrants). The offering is expected to close on or about May 13, 2024, subject to the satisfaction of customary closing conditions.

JonesTrading Institutional Services LLC (“Jones”) is acting as the exclusive placement agent for the offering.

The securities described above are being offered pursuant to a registration statement on Form S-1 (File No. 333-278668), as amended, that was declared effective by the Securities and Exchange Commission (the “SEC”) on May 8, 2024. The offering is being made only by means of a prospectus forming part of the effective registration statement relating to the offering. A preliminary prospectus relating to the offering has been filed with the SEC. Electronic copies of the final prospectus, when available, may be obtained on the SEC’s website at <http://www.sec.gov> and may also be obtained, when available, by contacting Jones, 325 Hudson Street, 6<sup>th</sup> Floor, New York, New York 10013, or by telephone at (212) 907-5332, or by email at [JTCM@jonestrading.com](mailto:JTCM@jonestrading.com).

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

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## **About Organovo Holdings, Inc.**

Organovo is a clinical stage biotechnology company that is developing drugs that are demonstrated to be effective in three-dimensional (3D) human tissues as candidates for drug development. The company's lead molecule, FXR314, is on the path for Phase 2 investigation in inflammatory bowel disease and has applications in metabolic liver disease and oncology. The company has proprietary technology used to build 3D human tissues that mimic key aspects of native human tissue composition, architecture, function, and disease.

## **Forward-Looking Statements**

*Any statements contained in this press release that do not describe historical facts constitute forward-looking statements as that term is defined in the Private Securities Litigation Reform Act of 1995, including statements with respect to the public offering. No assurance can be given that the public offering discussed above will be completed. Any forward-looking statements contained herein are based on current expectations but are subject to a number of risks and uncertainties, including, but not limited to, those risks and uncertainties related to market and other conditions and satisfaction of customary closing conditions related to the public offering. These risks and uncertainties and other factors are identified and described in more detail in the Company's filings with the SEC, including its Annual Report on Form 10-K filed with the SEC on July 14, 2023, as such risk factors are updated in its most recently filed Quarterly Report on Form 10-Q filed with the SEC on February 8, 2024 and the Registration Statement on Form S-1 (File No. 333-278668), as amended. You should not place undue reliance on these forward-looking statements, which speak only as of the date that they were made. These cautionary statements should be considered with any written or oral forward-looking statements that the Company may issue in the future. Except as required by applicable law, including the securities laws of the United States, the Company does not intend to update any of the forward-looking statements to conform these statements to reflect actual results, later events, or circumstances or to reflect the occurrence of unanticipated events.*

## **For More Information:**

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