

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

**FORM S-8
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933**

Organovo Holdings, Inc.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

27-1488943
(I.R.S. Employer
Identification No.)

**440 Stevens Avenue, Suite 200
Solana Beach, CA 92075**
(Address of Principal Executive Offices) (Zip Code)

Organovo Holdings, Inc. 2021 Inducement Equity Incentive Plan
(Full titles of the plans)

Keith Murphy
Executive Chairman
Organovo Holdings, Inc.
440 Stevens Avenue, Suite 200
Solana Beach, CA 92075
(858) 224-1000
(Name, address and telephone number, including area code, of agent for service)

Copies to:

Jeffrey T. Hartlin, Esq.
Paul Hastings LLP
1117 S. California Avenue
Palo Alto, California 94304

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input type="checkbox"/>		Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>		Smaller reporting company	<input checked="" type="checkbox"/>
			Emerging growth company	<input type="checkbox"/>

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 7(a)(2)(B) of the Securities Act.

CALCULATION OF REGISTRATION FEE

Title of securities to be registered	Amount to be registered (1)	Proposed maximum offering price per share	Proposed maximum aggregate offering price	Amount of registration fee
Common Stock, \$0.001 par value per share, reserved for issuance pursuant to the 2021 Inducement Equity Incentive Plan	750,000	\$9.58 (2)	\$7,185,000	\$783.88
Total	750,000	—	\$7,185,000	\$783.88

- (1) Pursuant to Rule 416(a) of the Securities Act of 1933, as amended (the “Securities Act”), this Registration Statement on Form S-8 (the “Registration Statement”) shall also cover any additional shares of common stock, \$0.001 par value per share (the “Common Stock”), of the Registrant (as defined below) that become issuable under the Organovo Holdings, Inc. 2021 Inducement Equity Incentive Plan (the “2021 Plan”) by reason of any stock dividend, stock split, recapitalization or other similar transaction effected without receipt of consideration that increases the number of the Registrant’s outstanding shares of Common Stock.
 - (2) Estimated solely for the purpose of calculating the amount of the registration fee pursuant to Rules 457(c) and 457(h) of the Securities Act. The proposed maximum aggregate offering price per share and the proposed maximum aggregate offering price with respect to these shares are calculated based on the average of the high and low prices of the Common Stock as reported on the Nasdaq Capital Market on March 24, 2021 a date within five business days prior to the filing of this Registration Statement.
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EXPLANATORY NOTE

Organovo Holdings, Inc. (the “Registrant”) has prepared this registration statement (this “Registration Statement”) in accordance with the requirements of Form S-8 under the Securities Act to register 750,000 shares of Common Stock reserved for issuance under the 2021 Plan to new employees hired by the Registrant or its subsidiaries.

PART I

INFORMATION REQUIRED IN THE SECTION 10(a) PROSPECTUS

The document(s) containing the information specified in Part I will be sent or given to employees as specified by Rule 428(b)(1) of the Securities Act. Such documents are not being filed with the Securities and Exchange Commission (the “SEC”) either as part of this Registration Statement or as prospectuses or prospectus supplements pursuant to Rule 424 of the Securities Act. Such documents and the documents incorporated by reference in this Registration Statement pursuant to Item 3 of Part II hereof, taken together, constitute a prospectus that meets the requirements of Section 10(a) of the Securities Act.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

ITEM 3. INCORPORATION OF DOCUMENTS BY REFERENCE.

The following documents filed by the Registrant with the SEC are hereby incorporated by reference into this Registration Statement:

- The Registrant’s Annual Report on [Form 10-K](#) for the fiscal year ended March 31, 2020, filed with the SEC on May 28, 2020;
- The Registrant’s Annual Report on [Form 10-K/A](#) for the fiscal year ended March 31, 2020, filed with the SEC on July 29, 2020;
- The Registrant’s Quarterly Report on [Form 10-Q](#) for the quarterly period ended June 30, 2020, filed with the SEC on August 10, 2020;
- The Registrant’s Quarterly Report on [Form 10-Q](#) for the quarterly period ended September 30, 2020, filed with the SEC on November 5, 2020;
- The Registrant’s Quarterly Report on [Form 10-Q](#) for the quarterly period ended December 31, 2020, filed with the SEC on February 8, 2021;
- The information specifically incorporated by reference into the Registrant’s Annual Report on Form 10-K for the fiscal year ended March 31, 2020 from the Registrant’s definitive proxy statement on [Schedule 14A](#), filed with the SEC on August 6, 2020;
- The Registrant’s Current Reports on Form 8-K filed with the SEC on [April 1, 2020](#), [April 8, 2020](#), [May 20, 2020](#), [July 15, 2020](#), [August 17, 2020](#), [September 3, 2020](#), [September 17, 2020](#), [November 25, 2020](#), [December 31, 2020](#), and [March 10, 2021](#);
- The Registrant’s Current Report on Form 8-K/A filed with the SEC on [September 21, 2020](#); and
- The description of the Registrant’s common stock set forth in the Registrant’s Registration Statement on [Form 8-A](#) (File No. 001-35996), filed with the SEC on July 26, 2016, including any amendments or reports filed for the purpose of updating such description.

All other reports and other documents subsequently filed by the Registrant pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended (the “Exchange Act”), prior to the filing of a post-effective amendment which indicates that all securities offered hereby have been sold or which deregisters all securities then remaining unsold, shall be deemed to be incorporated by reference into this Registration Statement and to be a part of this Registration Statement from the date of the filing of such reports and documents, except as to any portion of any future annual or quarterly report to stockholders or document or current report furnished under Items 2.02 or 7.01 of Form 8-K that is not deemed filed under such provisions.

For the purposes of this Registration Statement, any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded to the extent that a statement contained herein or in any other subsequently filed document that also is or is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Registration Statement.

You should rely only on the information provided or incorporated by reference in this Registration Statement or any related prospectus. The Registrant has not authorized anyone to provide you with different information. You should not assume that the information in this Registration Statement or any related prospectus is accurate as of any date other than the date on the front of the document.

You may contact the Registrant in writing or orally to request copies of the above-referenced filings, without charge (excluding exhibits to such documents unless such exhibits are specifically incorporated by reference into the information incorporated into this Registration Statement). Requests for such information should be directed to:

Organovo Holdings, Inc.
440 Stevens Ave, Suite 200
Solana Beach, CA 92075
(858) 224-1000
Attn: Executive Chairman

ITEM 4. DESCRIPTION OF SECURITIES.

Not applicable.

ITEM 5. INTERESTS OF NAMED EXPERTS AND COUNSEL.

Not applicable.

ITEM 6. INDEMNIFICATION OF DIRECTORS AND OFFICERS.

Section 102 of the General Corporation Law of the State of Delaware (the "DGCL") permits a corporation to eliminate or limit the personal liability of directors of a corporation to the corporation or its stockholders for monetary damages for a breach of fiduciary duty as a director, except where the director breached his duty of loyalty to the corporation or its stockholders, failed to act in good faith, engaged in intentional misconduct or knowingly violated a law, authorized the payment of a dividend or approved a stock repurchase or redemption in violation of the DGCL or derived an improper personal benefit. The Registrant's certificate of incorporation, as amended, provides that no director of the Registrant shall be personally liable to it or its stockholders for monetary damages for any breach of fiduciary duty as a director, notwithstanding any provision of law imposing such liability, except to the extent that the DGCL prohibits the elimination or limitation of liability of directors for breaches of fiduciary duty.

Section 145 of the DGCL provides that a corporation has the power to indemnify a director, officer, employee or agent of the corporation, or a person serving at the request of the corporation for another corporation, partnership, joint venture, trust or other enterprise in related capacities against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with an action, suit or proceeding to which he or she was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding by reason of such position, if such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the corporation, and, in any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful, except that, in the case of actions brought by or in the right of the corporation, no indemnification shall be made with respect to judgments, fines and amounts paid in settlement in connection with such action, suit or proceeding or with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or other adjudicating court determines that, despite the adjudication of liability but in view of all of the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

The Registrant's bylaws, as amended, provide that the Registrant will indemnify each person who was or is a party or threatened to be made a party to any threatened, pending or completed action, suit or proceeding (other than an action by or in the right of the Registrant) by reason of the fact that he or she is or was a director or officer of the Registrant, or is or was serving, at the Registrant's request as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise (all such persons being referred to as an "Indemnitee"), against expenses (including, attorneys' fees), judgments, fines, and amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding, if such Indemnitee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, the Registrant's best interests, and, with respect to any criminal action or proceeding, he or she had no reasonable cause to believe his or her conduct was unlawful. The Registrant's bylaws, as amended, also provide that the Registrant will indemnify any Indemnitee who was or is a party to an action or suit by or in the right of the Registrant to procure a judgment in the Registrant's favor by reason of the fact that the Indemnitee is or was, a director or officer, or is or was serving, or has agreed to serve, at the Registrant's request as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including, attorneys' fees) actually and reasonably incurred by such Indemnitee in connection with the defense or settlement of such action or suit, if the Indemnitee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, the Registrant's best interests, except that no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to the Registrant, unless, and only to the extent, that the Court of Chancery or the court in which such action or suit was brought determines, despite the adjudication of liability but in view of all the circumstances, he or she is entitled to indemnification of such expenses which the Court of Chancery or such other court shall deem proper. Notwithstanding the foregoing, to the extent that any Indemnitee has been successful, on the merits or otherwise, he or she will be indemnified against expenses (including, attorneys' fees) actually and reasonably incurred in connection therewith. Expenses must be advanced to an Indemnitee under certain circumstances.

The Registrant has entered into indemnification agreements with each of its directors and executive officers that may be broader than the specific indemnification provisions contained in the DGCL. These indemnification agreements require the Registrant, among other things, to indemnify its directors and executive officers against liabilities that may arise by reason of their status or service. These indemnification agreements also require the Registrant to advance all expenses incurred by the directors and executive officers in investigating or defending any such action, suit or proceeding, subject to certain exceptions.

The Registrant's bylaws, as amended, provide that the Registrant may purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the Registrant or is or was serving at the request of the Registrant as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against him or her in any such capacity, or arising out of his or her status as such, whether or not the Registrant would have the power to indemnify such person against such liability under the DGCL. The Registrant has obtained insurance under which, subject to the limitations of the insurance policies, coverage is provided to the Registrant's directors and executive officers against loss arising from claims made by reason of breach of fiduciary duty or other wrongful acts as a director or executive officer, including claims relating to public securities matters, and to the Registrant with respect to payments that may be made by the Registrant to these directors and executive officers pursuant to the Registrant's indemnification obligations or otherwise as a matter of law.

ITEM 7. EXEMPTION FROM REGISTRATION CLAIMED.

Not applicable.

ITEM 8. EXHIBITS.

Exhibit Number	Description
3.1	Certificate of Incorporation of Organovo Holdings, Inc. (Delaware) (previously filed as Exhibit 3.1 to the Registrant's Current Report on Form 8-K, as filed with the SEC on February 3, 2012).
3.2	Certificate of Amendment of Certificate of Incorporation of Organovo Holdings, Inc. (incorporated by reference from Exhibit 3.1 to the Registrant's Current Report on Form 8-K, as filed with the SEC on July 27, 2018).

- 3.3 [Certificate of Second Amendment of Certificate of Incorporation of Organovo Holdings, Inc. \(incorporated by reference from Exhibit 3.1 to the Registrant's Current Report on Form 8-K, as filed with the SEC on August 17, 2020\).](#)
- 3.4 [Bylaws of Organovo Holdings, Inc. \(Delaware\)\(incorporated by reference from Exhibit 3.2 to the Registrant's Current Report on Form 8-K, as filed with the SEC on February 3, 2012\).](#)
- 3.5 [Amendment to Organovo Holdings Bylaws, dated October 10, 2019 \(incorporated by reference from Exhibit 99.1 to the Registrant's Current Report on Form 8-K, as filed with the SEC on October 11, 2019\).](#)
- 4.1 [Organovo Holdings, Inc. 2021 Inducement Equity Incentive Plan \(incorporated by reference from Exhibit 10.2 to the Registrant's Current Report on Form 8-K filed on March 10, 2021 and incorporated herein by reference\).](#)
- 4.2 [Form of Stock Option Agreement under the Organovo Holdings, Inc. 2021 Inducement Equity Incentive Plan.](#)
- 4.3 [Form of Restricted Stock Unit Agreement under the Organovo Holdings, Inc. 2021 Inducement Equity Incentive Plan.](#)
- 5.1 [Opinion of Paul Hastings LLP.](#)
- 23.1 [Consent of Mayer Hoffman McCann P.C., Independent Registered Public Accounting Firm.](#)
- 23.2 [Consent of Paul Hastings LLP \(included in Exhibit 5.1\).](#)
- 24.1 [Power of Attorney is contained on the signature page.](#)

ITEM 9. UNDERTAKINGS.

(a) The Registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this Registration Statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act;

(ii) To reflect in the prospectus any facts or events arising after the effective date of this Registration Statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in this Registration Statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the SEC pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20 percent change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(iii) To include any material information with respect to the plan of distribution not previously disclosed in this Registration Statement or any material change to such information in this Registration Statement;

Provided, however, that:

(A) paragraphs (a)(1)(i) and (a)(1)(ii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the SEC by the Registrant pursuant to Section 13 or Section 15(d) of the Exchange Act that are incorporated by reference in this Registration Statement.

(2) That, for the purpose of determining any liability under the Securities Act, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(b) The Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Exchange Act) that is incorporated by reference in this Registration Statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial *bona fide* offering thereof.

(h) Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Solana Beach, State of California, on March 25, 2021.

Organovo Holdings, Inc.

By: /s/ Keith Murphy

Name: Keith Murphy

Title: Executive Chairman

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Keith Murphy, Chris Heberlig and Thomas Jurgensen, and each or any one of them, as his or her true and lawful attorneys-in-fact and agent, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments (including post-effective amendments) to this Registration Statement, and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully to all intents and purposes as he or she might or could do in person, hereby ratifying and confirming all that said attorneys-in-fact and agents, or any of them, or their or his or her substitutes or substitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

SIGNATURE	TITLE	DATE
<u>/s/ Keith Murphy</u> Keith Murphy	Executive Chairman <i>(Principal Executive Officer)</i>	March 25, 2021
<u>/s/ Chris Heberlig</u> Chris Heberlig	President and Chief Financial Officer <i>(Principal Financial and Accounting Officer)</i>	March 25, 2021
<u>/s/ Adam K. Stern</u> Adam K. Stern	Director	March 25, 2021
<u>/s/ Alison Tjosvold Milhous</u> Alison Tjosvold Milhous	Director	March 25, 2021
<u>/s/ David Gobel</u> David Gobel	Director	March 25, 2021
<u>/s/ Douglas Jay Cohen</u> Douglas Jay Cohen	Director	March 25, 2021

**ORGANOVO HOLDINGS, INC.
2021 INDUCEMENT EQUITY INCENTIVE PLAN
STOCK OPTION AGREEMENT**

Unless otherwise defined herein, the terms defined in the Organovo Holdings, Inc. 2021 Inducement Equity Incentive Plan (the "Plan") will have the same defined meanings in this Stock Option Agreement (the "Agreement"), including the Notice of Stock Option Grant (the "Notice of Grant") and Terms and Conditions of Stock Option Grant, attached hereto as Exhibit A.

NOTICE OF STOCK OPTION GRANT

Participant: _____

Address: _____

Participant has been granted an Option to purchase Common Stock of Organovo Holdings, Inc. (the "Company"), subject to the terms and conditions of the Plan and this Agreement, as follows:

Grant Number _____

Date of Grant _____

Vesting Commencement Date _____

Number of Shares Granted _____

Exercise Price per Share \$ _____

Total Exercise Price \$ _____

Type of Option Nonstatutory Stock Option

Term/Expiration Date _____

Vesting Schedule:

Subject to accelerated vesting as set forth below or in the Plan, this Option will be exercisable, in whole or in part, in accordance with the following schedule:

[25% of the Shares subject to the Option shall vest and become exercisable on the one (1)-year anniversary of the Vesting Commencement Date, and 1/48th of the Shares subject to the Option shall vest and become exercisable each month thereafter, subject to Participant continuing to be a Service Provider through each such date.] [One-third (1/3rd) of the Shares subject to the Option shall vest and become exercisable on the one (1)-year anniversary of the Vesting Commencement Date, and [one-twenty-fourth (1/24th) / one-eighth (1/8th)] of the Shares subject to the Option shall vest and become exercisable each [month/quarter] thereafter, subject to Participant continuing to be a Service Provider through each such date.]

Termination Period:

This Option will be exercisable for three (3) months after Participant ceases to be a Service Provider, unless such termination is due to Participant's death or Disability, in which case this Option will be exercisable for twelve (12) months after Participant ceases to be a Service Provider, or for Cause, in which case this Option will immediately expire on the earlier of the date Participant ceases to be a Service Provider and when Cause first existed. Notwithstanding the foregoing sentence, in no event may this Option be exercised after the Term/Expiration Date as provided above and may be subject to earlier termination as provided in Section 13(c) of the Plan.

[Signature Page Follows]

By Participant's signature and the signature of the Company's representative below, Participant and the Company agree that this Option is granted under and governed by the terms and conditions of the Plan and this Agreement, including exhibits hereto, all of which are made a part of this document. Participant has reviewed the Plan and this Agreement in their entirety, has had an opportunity to obtain the advice of counsel prior to executing this Agreement and fully understands all provisions of the Plan and Agreement. Participant hereby agrees to accept as binding, conclusive and final all decisions or interpretations of the Administrator upon any questions relating to the Plan and Agreement. Participant further agrees to notify the Company upon any change in the residence address indicated below.

PARTICIPANT:

ORGANOVO HOLDINGS, INC.

Signature

By

Print Name

Name

Residence Address:

Title

[Signature Page (Stock Option Agreement – 2021 Inducement Equity Incentive Plan)]

EXHIBIT A

TERMS AND CONDITIONS OF STOCK OPTION GRANT

1. Grant of Option. The Company hereby grants to the Participant named in the Notice of Grant (the "Participant") an option (the "Option") to purchase the number of Shares, as set forth in the Notice of Grant, at the exercise price per Share set forth in the Notice of Grant (the "Exercise Price"), subject to all of the terms and conditions in this Agreement and the Plan, which is incorporated herein by reference. Subject to Section 18(c) of the Plan, in the event of a conflict between the terms and conditions of the Plan and the terms and conditions of this Agreement, the terms and conditions of the Plan will prevail.

2. Vesting Schedule. Except as provided in Section 3, the Option awarded by this Agreement will vest in accordance with the vesting provisions set forth in the Notice of Grant. Shares scheduled to vest on a certain date or upon the occurrence of a certain condition will not vest in the Participant in accordance with any of the provisions of this Agreement, unless the Participant will have been continuously a Service Provider from the Date of Grant until the date such vesting occurs.

3. Administrator Discretion. The Administrator, in its discretion, may accelerate the vesting of the balance, or some lesser portion of the balance, of the unvested Option at any time, subject to the terms of the Plan. If so accelerated, such Option will be considered as having vested as of the date specified by the Administrator.

4. Exercise of Option.

(a) Right to Exercise. This Option may be exercised only within the term set out in the Notice of Grant, and may be exercised during such term only in accordance with the Plan and the terms of this Agreement.

(b) Method of Exercise. This Option is exercisable by delivery of an exercise notice, in the form attached as Exhibit B (the "Exercise Notice") or in a manner and pursuant to such procedures as the Administrator may determine, which will state the election to exercise the Option, the number of Shares in respect of which the Option is being exercised (the "Exercised Shares"), and such other representations and agreements as may be required by the Company pursuant to the provisions of the Plan. The Exercise Notice will be completed by the Participant and delivered to the Company. The Exercise Notice will be accompanied by payment of the aggregate Exercise Price as to all Exercised Shares together with any applicable tax withholding. This Option will be deemed to be exercised upon receipt by the Company of such fully executed Exercise Notice accompanied by the aggregate Exercise Price.

5. Method of Payment. Payment of the aggregate Exercise Price will be by any of the following, or a combination thereof, at the election of the Participant:

(a) cash;

(b) check;

(c) consideration received by the Company under a formal cashless exercise program adopted by the Company in connection with the Plan; or

(d) surrender of other Shares which have a fair market value on the date of surrender equal to the aggregate Exercise Price of the Exercised Shares, provided that accepting such Shares, in the sole discretion of the Administrator, will not result in any adverse accounting consequences to the Company.

6. Tax Obligations.

(a) Withholding of Taxes. Notwithstanding any contrary provision of this Agreement, no certificate representing the Shares will be issued to the Participant, unless and until satisfactory arrangements (as determined by the Administrator) will have been made by the Participant with respect to the payment of income, employment, social insurance, payroll and other taxes which the Company determines must be withheld with respect to such Shares. To the extent determined appropriate by the Company in its discretion, it will have the right (but not the obligation) to satisfy any tax withholding obligations by reducing the number of Shares otherwise deliverable to the Participant. If the Participant fails to make satisfactory arrangements for the payment of any required tax withholding obligations hereunder at the time of the Option exercise, the Participant acknowledges and agrees that the Company may refuse to honor the exercise and refuse to deliver the Shares if such withholding amounts are not delivered at the time of exercise.

(b) Code Section 409A. Under Code Section 409A, an option that vests after December 31, 2004 (or that vested on or prior to such date but which was materially modified after October 3, 2004) that was granted with a per share exercise price that is determined by the Internal Revenue Service (the "IRS") to be less than the fair market value of a share on the date of grant (a "Discount Option") may be considered "deferred compensation." A Discount Option may result in (i) income recognition by the Participant prior to the exercise of the option, (ii) an additional 20% federal income tax, and (iii) potential penalty and interest charges. The Discount Option may also result in additional state income, penalty and interest charges to the Participant. The Participant acknowledges that the Company cannot and has not guaranteed that the IRS will agree that the Exercise Price per Share of this Option equals or exceeds the Fair Market Value of a Share on the Date of Grant in a later examination. The Participant agrees that if the IRS determines that the Option was granted with an Exercise Price per Share that was less than the Fair Market Value of a Share on the Date of Grant, the Participant will be solely responsible for the Participant's costs related to such a determination.

7. Rights as Stockholder. Neither the Participant nor any person claiming under or through the Participant will have any of the rights or privileges of a stockholder of the Company in respect of any Shares deliverable hereunder unless and until certificates representing such Shares will have been issued, recorded on the records of the Company or its transfer agents or registrars, and delivered to the Participant. After such issuance, recordation and delivery, the Participant will have all the rights of a stockholder of the Company with respect to voting such Shares and receipt of dividends and distributions on such Shares.

8. No Guarantee of Continued Service. PARTICIPANT ACKNOWLEDGES AND AGREES THAT THE VESTING OF SHARES PURSUANT TO THE VESTING SCHEDULE HEREOF IS EARNED ONLY BY CONTINUING AS A SERVICE PROVIDER AT THE WILL OF THE COMPANY (OR THE PARENT OR SUBSIDIARY EMPLOYING OR RETAINING PARTICIPANT) AND NOT THROUGH THE ACT OF BEING HIRED, BEING GRANTED THIS OPTION OR ACQUIRING SHARES HEREUNDER. PARTICIPANT FURTHER ACKNOWLEDGES AND AGREES THAT THIS AGREEMENT, THE TRANSACTIONS CONTEMPLATED HEREUNDER AND THE VESTING SCHEDULE SET FORTH HEREIN DO NOT CONSTITUTE AN EXPRESS OR IMPLIED PROMISE OF CONTINUED ENGAGEMENT AS A SERVICE PROVIDER FOR THE VESTING PERIOD, FOR ANY PERIOD, OR AT ALL, AND WILL NOT INTERFERE IN ANY WAY WITH PARTICIPANT'S RIGHT OR THE RIGHT OF THE COMPANY (OR THE PARENT OR SUBSIDIARY EMPLOYING OR RETAINING PARTICIPANT) TO TERMINATE PARTICIPANT'S RELATIONSHIP AS A SERVICE PROVIDER AT ANY TIME, WITH OR WITHOUT CAUSE.

9. Address for Notices. Any notice to be given to the Company under the terms of this Agreement will be addressed to the Company at Organovo Holdings, Inc., 440 Stevens Ave., Suite 200, Solana Beach, CA 92075, or at such other address as the Company may hereafter designate in writing.

10. Non-Transferability of Option. This Option may not be transferred in any manner otherwise than by will or by the laws of descent or distribution and may be exercised during the lifetime of the Participant only by the Participant.

11. Binding Agreement. Subject to the limitation on the transferability of this grant contained herein, this Agreement will be binding upon and inure to the benefit of the heirs, legatees, legal representatives, successors and assigns of the parties hereto.

12. Additional Conditions to Issuance of Stock. If at any time the Company will determine, in its discretion, that the listing, registration, qualification or rule compliance of the Shares upon any securities exchange or under any state, federal or foreign law, the tax code and related regulations or the consent or approval of any governmental regulatory authority is necessary or desirable as a condition to the purchase by, or issuance of Shares to, the Participant (or his or her estate) hereunder, such purchase or issuance will not occur unless and until such listing, registration, qualification, rule compliance, consent or approval will have been completed, effected or obtained free of any conditions not acceptable to the Company. The Company will make all reasonable efforts to meet the requirements of any such state, federal or foreign law or securities exchange and to obtain any such consent or approval of any such governmental authority or securities exchange. Assuming such compliance, for income tax purposes the Exercised Shares will be considered transferred to the Participant on the date the Option is exercised with respect to such Exercised Shares.

13. Plan Governs. This Agreement is subject to all terms and provisions of the Plan. In the event of a conflict between one or more provisions of this Agreement and one or more provisions of the Plan, the provisions of the Plan will govern. Capitalized terms used and not defined in this Agreement will have the meaning set forth in the Plan.

14. Administrator Authority. The Administrator will have the power to interpret the Plan and this Agreement and to adopt such rules for the administration, interpretation and application of the Plan as are consistent therewith and to interpret or revoke any such rules (including, but not limited to, the determination of whether or not any Shares subject to the Option have vested). All actions taken and all interpretations and determinations made by the Administrator in good faith will be final and binding upon the Participant, the Company and all other interested persons. No member of the Administrator will be personally liable for any action, determination or interpretation made in good faith with respect to the Plan or this Agreement.

15. Electronic Delivery. The Company may, in its sole discretion, decide to deliver any documents related to Options awarded under the Plan or future options that may be awarded under the Plan by electronic means or request the Participant's consent to participate in the Plan by electronic means. The Participant hereby consents to receive such documents by electronic delivery and agrees to participate in the Plan through any on-line or electronic system established and maintained by the Company or a third party designated by the Company.

16. Captions. Captions provided herein are for convenience only and are not to serve as a basis for interpretation or construction of this Agreement.

17. Agreement Severable. In the event that any provision in this Agreement will be held invalid or unenforceable, such provision will be severable from, and such invalidity or unenforceability will not be construed to have any effect on, the remaining provisions of this Agreement.

18. Modifications to the Agreement. This Agreement constitutes the entire understanding of the parties on the subjects covered. The Participant expressly warrants that he or she is not accepting this Agreement in reliance on any promises, representations, or inducements other than those contained herein. Modifications to this Agreement or the Plan can be made only in an express written contract executed by a duly authorized officer of the Company. Notwithstanding anything to the contrary in the Plan or this Agreement, the Company reserves the right to revise this Agreement as it deems necessary or advisable, in its sole discretion and without the consent of the Participant, to comply with Code Section 409A or to otherwise avoid imposition of any additional tax or income recognition under Section 409A of the Code in connection to this Option.

19. Amendment, Suspension or Termination of the Plan. By accepting this Award, the Participant expressly warrants that he or she has received an Option under the Plan, and has received, read and understood a description of the Plan. The Participant understands that the Plan is discretionary in nature and may be amended, suspended or terminated by the Company at any time.

20. Governing Law. The laws of the State of Delaware shall govern the validity of this Agreement, the construction of its terms, and the interpretation of the rights and duties of the parties hereto.

EXHIBIT B

ORGANOVO HOLDINGS, INC.

2021 INDUCEMENT EQUITY INCENTIVE PLAN

EXERCISE NOTICE

Organovo Holdings, Inc.
440 Stevens Ave, Suite 200
Solana Beach, CA 92075

Attention: Stock Administration

1. Exercise of Option. Effective as of today, [•], the undersigned (“Purchaser”) hereby elects to purchase [•] shares (the “Shares”) of the Common Stock of Organovo Holdings, Inc. (the “Company”) under and pursuant to the 2021 Inducement Equity Incentive Plan (the “Plan”) and the Stock Option Agreement dated [•] (the “Agreement”). The purchase price for the Shares will be \$[•], as required by the Agreement.

2. Delivery of Payment. Purchaser herewith delivers to the Company the full purchase price of the Shares and any required tax withholding to be paid in connection with the exercise of the Option.

3. Representations of Purchaser. Purchaser acknowledges that Purchaser has received, read and understood the Plan and the Agreement and agrees to abide by and be bound by their terms and conditions.

4. Rights as Stockholder. Until the issuance (as evidenced by the appropriate entry on the books of the Company or of a duly authorized transfer agent of the Company) of the Shares, no right to vote or receive dividends or any other rights as a stockholder will exist with respect to the Shares subject to the Option, notwithstanding the exercise of the Option. The Shares so acquired will be issued to Purchaser as soon as practicable after exercise of the Option. No adjustment will be made for a dividend or other right for which the record date is prior to the date of issuance, except as provided in Section 13 of the Plan.

5. Tax Consultation. Purchaser understands that Purchaser may suffer adverse tax consequences as a result of Purchaser’s purchase or disposition of the Shares. Purchaser represents that Purchaser has consulted with any tax consultants Purchaser deems advisable in connection with the purchase or disposition of the Shares and that Purchaser is not relying on the Company for any tax advice.

6. Entire Agreement; Governing Law. The Plan and Agreement are incorporated herein by reference. This Exercise Notice, the Plan and the Agreement constitute the entire agreement of the parties with respect to the subject matter hereof and supersede in their entirety all prior undertakings and agreements of the Company and Purchaser with respect to the subject matter hereof, and may not be modified adversely to the Purchaser’s interest except by means of a writing signed by the Company and Purchaser. This agreement is governed by the internal substantive laws, but not the choice of law rules, of Delaware.

[Signature Page Follows]

Submitted by:

PURCHASER

Signature

Print Name

Address:

Accepted by:

ORGANOVO HOLDINGS, INC.

By

Name

Title

Date Received

[Signature Page (Option Exercise Notice – 2021 Inducement Equity Incentive Plan)]

**ORGANOVO HOLDINGS, INC.
2021 INDUCEMENT EQUITY INCENTIVE PLAN
RESTRICTED STOCK UNIT AGREEMENT**

Unless otherwise defined herein, the terms defined in the Organovo Holdings, Inc. 2021 Inducement Equity Incentive Plan (the "Plan") will have the same defined meanings in this Restricted Stock Unit Agreement (the "Award Agreement"), which includes the Notice of Restricted Stock Unit Grant (the "Notice of Grant") and the Terms and Conditions of Restricted Stock Unit Grant, attached hereto as Exhibit A.

NOTICE OF RESTRICTED STOCK UNIT GRANT

Participant Name:

Address:

Participant has been granted the right to receive an Award of Restricted Stock Units, subject to the terms and conditions of the Plan and this Award Agreement, as follows:

Grant Number	_____
Date of Grant	_____
Vesting Commencement Date	_____
Number of Restricted Stock Units	_____

Vesting Schedule:

Subject to any acceleration provisions contained in the Plan or set forth below, the Restricted Stock Units will vest in accordance with the following schedule:

[25% of the Restricted Stock Units will vest on the 1-year anniversary of the Vesting Commencement Date, and 25% of the Restricted Stock Units will vest each year thereafter on the same day as the Vesting Commencement Date, subject to Participant continuing to be a Service Provider through each such date.]

In the event Participant ceases to be a Service Provider for any or no reason before Participant vests in the Restricted Stock Units, the Restricted Stock Units and Participant's right to acquire any Shares hereunder will immediately terminate.

[Signature Page Follows]

By Participant's signature and the signature of the representative of Organovo Holdings, Inc. (the "Company") below, Participant and the Company agree that this Award of Restricted Stock Units is granted under and governed by the terms and conditions of the Plan and this Award Agreement. Participant has reviewed the Plan and this Award Agreement in their entirety, has had an opportunity to obtain the advice of counsel prior to executing this Award Agreement and fully understands all provisions of the Plan and Award Agreement. Participant hereby agrees to accept as binding, conclusive and final all decisions or interpretations of the Administrator upon any questions relating to the Plan and Award Agreement. Participant further agrees to notify the Company upon any change in the residence address indicated below.

PARTICIPANT:

ORGANOVO HOLDINGS, INC.

Signature

By

Print Name

Name

Residence Address:

Title

[Signature Page (Restricted Stock Unit Agreement – 2021 Inducement Equity Plan)]

EXHIBIT A

TERMS AND CONDITIONS OF RESTRICTED STOCK UNIT GRANT

1. Grant. The Company hereby grants to the individual named in the Notice of Grant (the "Participant") under the Plan an Award of Restricted Stock Units, subject to all of the terms and conditions in this Award Agreement and the Plan, which is incorporated herein by reference. Subject to Section 18(c) of the Plan, in the event of a conflict between the terms and conditions of the Plan and the terms and conditions of this Award Agreement, the terms and conditions of the Plan will prevail.

2. Company's Obligation to Pay. Each Restricted Stock Unit represents the right to receive a Share on the date it vests. Unless and until the Restricted Stock Units will have vested in the manner set forth in Sections 3 or 4, the Participant will have no right to payment of any such Restricted Stock Units. Prior to actual payment of any vested Restricted Stock Units, such Restricted Stock Units will represent an unsecured obligation of the Company, payable (if at all) only from the general assets of the Company. Any Restricted Stock Units that vest in accordance with Sections 3 or 4 will be paid to the Participant (or in the event of the Participant's death, to his or her estate) in whole Shares, subject to the Participant satisfying any applicable tax withholding obligations as set forth in Section 7. Subject to the provisions of Section 4, such vested Restricted Stock Units shall be paid in whole Shares as soon as practicable after vesting, but in each such case within the period sixty (60) days following the vesting date. In no event will the Participant be permitted, directly or indirectly, to specify the taxable year of the payment of any Restricted Stock Units payable under this Award Agreement.

3. Vesting Schedule. Except as provided in Section 4, and subject to Section 5, the Restricted Stock Units awarded by this Award Agreement will vest in accordance with the vesting provisions set forth in the Notice of Grant. Restricted Stock Units scheduled to vest on a certain date or upon the occurrence of a certain condition will not vest in the Participant in accordance with any of the provisions of this Award Agreement, unless the Participant will have been continuously a Service Provider from the Date of Grant until the date such vesting occurs.

4. Administrator Discretion. The Administrator, in its discretion, may accelerate the vesting of the balance, or some lesser portion of the balance, of the unvested Restricted Stock Units at any time, subject to the terms of the Plan. If so accelerated, such Restricted Stock Units will be considered as having vested as of the date specified by the Administrator. The payment of Shares vesting pursuant to this Section 4 shall in all cases be paid at a time or in a manner that is exempt from, or complies with, Section 409A.

Notwithstanding anything in the Plan or this Award Agreement to the contrary, if the vesting of the balance, or some lesser portion of the balance, of the Restricted Stock Units is accelerated in connection with Participant's termination as a Service Provider (provided that such termination is a "separation from service" within the meaning of Section 409A, as determined by the Company), other than due to death, and if (x) the Participant is a "specified employee" within the meaning of Section 409A at the time of such termination as a Service Provider and (y) the payment of such accelerated Restricted Stock Units will result in the imposition of additional tax under Section 409A if paid to the Participant on or within the six (6) month period following the Participant's termination as a Service Provider, then the payment of such accelerated Restricted Stock Units will not be made until the date six (6) months and one (1) day following the date of the Participant's termination as a Service Provider, unless the Participant dies following his or her termination as a Service Provider, in which case, the Restricted Stock Units will be paid in Shares to the Participant's estate as soon as practicable following his or her death. It is the intent of this Award Agreement that it and all payments and benefits hereunder be exempt from, or comply with, the requirements of Section 409A so that none of the Restricted Stock Units provided under this Award Agreement or Shares issuable thereunder will be subject to the additional tax imposed under Section 409A, and any ambiguities herein will be interpreted to be so exempt or so comply. Each payment payable under this Award Agreement is intended to constitute a separate payment for purposes of Treasury Regulation Section 1.409A-2(b)(2). For purposes of this Award Agreement, "Section 409A" means Section 409A of the Code, and any final Treasury Regulations and Internal Revenue Service guidance thereunder, as each may be amended from time to time.

5. Forfeiture upon Termination of Status as a Service Provider. Notwithstanding any contrary provision of this Award Agreement, the balance of the Restricted Stock Units that have not vested as of the time of the Participant's termination as a Service Provider for any or no reason and the Participant's right to acquire any Shares hereunder will immediately terminate.

6. Death of Participant. Any distribution or delivery to be made to the Participant under this Award Agreement will, if the Participant is then deceased, be made to the Participant's designated beneficiary, or if no beneficiary survives the Participant, the administrator or executor of the Participant's estate. Any such transferee must furnish the Company with (a) written notice of his or her status as transferee, and (b) evidence satisfactory to the Company to establish the validity of the transfer and compliance with any laws or regulations pertaining to said transfer.

7. Withholding of Taxes. Notwithstanding any contrary provision of this Award Agreement, no certificate representing the Shares will be issued to the Participant, unless and until satisfactory arrangements (as determined by the Administrator) will have been made by the Participant with respect to the payment of income, employment, social insurance, payroll and other taxes which the Company determines must be withheld with respect to such Shares. Prior to vesting and/or settlement of the Restricted Stock Units, the Participant will pay or make adequate arrangements satisfactory to the Company and/or the Participant's employer (the "Employer") to satisfy all withholding and payment obligations of the Company and/or the Employer. In this regard, the Participant authorizes the Company and/or the Employer to withhold all applicable tax withholding obligations legally payable by the Participant from his or her wages or other cash compensation paid to the Participant by the Company and/or the Employer or from proceeds of the sale of Shares. Alternatively, or in addition, if permissible under applicable local law, the Administrator, in its sole discretion and pursuant to such procedures as it may specify from time to time, may permit or require the Participant to satisfy such tax withholding obligation, in whole or in part (without limitation) by (a) paying cash, (b) electing to have the Company withhold otherwise deliverable Shares having a Fair Market Value equal to the minimum amount required to be withheld, (c) delivering to the Company already vested and owned Shares having a Fair Market Value equal to the amount required to be withheld, or (d) selling a sufficient number of such Shares otherwise deliverable to the Participant through such means as the Company may determine in its sole discretion (whether through a broker or otherwise) equal to the amount required to be withheld. To the extent determined appropriate by the Company in its discretion, it will have the right (but not the obligation) to satisfy any tax withholding obligations by reducing the number of Shares otherwise deliverable to the Participant and, until determined otherwise by the Company, this will be the method by which such tax withholding obligations are satisfied. If the Participant fails to make satisfactory arrangements for the payment of any required tax withholding obligations hereunder at the time any applicable Restricted Stock Units otherwise are scheduled to vest pursuant to Sections 3 or 4 or tax withholding obligations related to Restricted Stock Units otherwise are due, the Participant will permanently forfeit such Restricted Stock Units and any right to receive Shares thereunder and the Restricted Stock Units will be returned to the Company at no cost to the Company.

8. Rights as Stockholder. Neither the Participant nor any person claiming under or through the Participant will have any of the rights or privileges of a stockholder of the Company in respect of any Shares deliverable hereunder unless and until certificates representing such Shares will have been issued, recorded on the records of the Company or its transfer agents or registrars, and delivered to the Participant. After such issuance, recordation and delivery, the Participant will have all the rights of a stockholder of the Company with respect to voting such Shares and receipt of dividends and distributions on such Shares.

9. No Guarantee of Continued Service. THE PARTICIPANT ACKNOWLEDGES AND AGREES THAT THE VESTING OF THE RESTRICTED STOCK UNITS PURSUANT TO THE VESTING SCHEDULE HEREOF IS EARNED ONLY BY CONTINUING AS A SERVICE PROVIDER AT THE WILL OF THE COMPANY (OR THE PARENT OR SUBSIDIARY EMPLOYING OR RETAINING THE PARTICIPANT) AND NOT THROUGH THE ACT OF BEING HIRED, BEING GRANTED THIS AWARD OF RESTRICTED STOCK UNITS OR ACQUIRING SHARES HEREUNDER. THE PARTICIPANT FURTHER ACKNOWLEDGES AND AGREES THAT THIS AWARD AGREEMENT, THE TRANSACTIONS CONTEMPLATED HEREUNDER AND THE VESTING SCHEDULE SET FORTH HEREIN DO NOT CONSTITUTE AN EXPRESS OR IMPLIED PROMISE OF CONTINUED ENGAGEMENT AS A SERVICE PROVIDER FOR THE VESTING PERIOD, FOR ANY PERIOD, OR AT ALL, AND WILL NOT INTERFERE IN ANY WAY WITH THE PARTICIPANT'S RIGHT OR THE RIGHT OF THE COMPANY (OR THE PARENT OR SUBSIDIARY EMPLOYING OR RETAINING THE PARTICIPANT) TO TERMINATE THE PARTICIPANT'S RELATIONSHIP AS A SERVICE PROVIDER AT ANY TIME, WITH OR WITHOUT CAUSE.

10. Address for Notices. Any notice to be given to the Company under the terms of this Award Agreement will be addressed to the Company at Organovo Holdings, Inc., 440 Stevens Ave, Suite 200, Solana Beach, CA 92075, or at such other address as the Company may hereafter designate in writing.

11. Grant is Not Transferable. Except to the limited extent provided in Section 6, this grant and the rights and privileges conferred hereby will not be transferred, assigned, pledged or hypothecated in any way (whether by operation of law or otherwise) and will not be subject to sale under execution, attachment or similar process. Upon any attempt to transfer, assign, pledge, hypothecate or otherwise dispose of this grant, or any right or privilege conferred hereby, or upon any attempted sale under any execution, attachment or similar process, this grant and the rights and privileges conferred hereby immediately will become null and void.

12. Binding Agreement. Subject to the limitation on the transferability of this grant contained herein, this Award Agreement will be binding upon and inure to the benefit of the heirs, legatees, legal representatives, successors and assigns of the parties hereto.

13. Additional Conditions to Issuance of Stock. If at any time the Company will determine, in its discretion, that the listing, registration, qualification or rule compliance of the Shares upon any securities exchange or under any state, federal or foreign law, the tax code and related regulations or the consent or approval of any governmental regulatory authority is necessary or desirable as a condition to the issuance of Shares to the Participant (or his or her estate) hereunder, such issuance will not occur unless and until such listing, registration, qualification, rule compliance, consent or approval will have been completed, effected or obtained free of any conditions not acceptable to the Company. Where the Company determines that the delivery of the payment of any Shares will violate federal securities laws or other applicable laws, the Company will defer delivery until the earliest date at which the Company reasonably anticipates that the delivery of Shares will no longer cause such violation. The Company will make all reasonable efforts to meet the requirements of any such state, federal or foreign law or securities exchange and to obtain any such consent or approval of any such governmental authority or securities exchange.

14. Plan Governs. This Award Agreement is subject to all terms and provisions of the Plan. In the event of a conflict between one or more provisions of this Award Agreement and one or more provisions of the Plan, the provisions of the Plan will govern. Capitalized terms used and not defined in this Award Agreement will have the meaning set forth in the Plan.

15. Administrator Authority. The Administrator will have the power to interpret the Plan and this Award Agreement and to adopt such rules for the administration, interpretation and application of the Plan as are consistent therewith and to interpret or revoke any such rules (including, but not limited to, the determination of whether or not any Restricted Stock Units have vested). All actions taken and all interpretations and determinations made by the Administrator in good faith will be final and binding upon the Participant, the Company and all other interested persons. No member of the Administrator will be personally liable for any action, determination or interpretation made in good faith with respect to the Plan or this Award Agreement.

16. Electronic Delivery. The Company may, in its sole discretion, decide to deliver any documents related to Restricted Stock Units awarded under the Plan or future Restricted Stock Units that may be awarded under the Plan by electronic means or request the Participant's consent to participate in the Plan by electronic means. The Participant hereby consents to receive such documents by electronic delivery and agrees to participate in the Plan through any on-line or electronic system established and maintained by the Company or a third party designated by the Company.

17. Captions. Captions provided herein are for convenience only and are not to serve as a basis for interpretation or construction of this Award Agreement.

18. Agreement Severable. In the event that any provision in this Award Agreement will be held invalid or unenforceable, such provision will be severable from, and such invalidity or unenforceability will not be construed to have any effect on, the remaining provisions of this Award Agreement.

19. Modifications to the Award Agreement. This Award Agreement constitutes the entire understanding of the parties on the subjects covered. The Participant expressly warrants that he or she is not accepting this Award Agreement in reliance on any promises, representations, or inducements other than those contained herein. Modifications to this Award Agreement or the Plan can be made only in an express written contract executed by a duly authorized officer of the Company. Notwithstanding anything to the contrary in the Plan or this Award Agreement, the Company reserves the right to revise this Award Agreement as it deems necessary or advisable, in its sole discretion and without the consent of the Participant, to comply with Section 409A or to otherwise avoid imposition of any additional tax or income recognition under Section 409A in connection to this Award of Restricted Stock Units.

20. Amendment, Suspension or Termination of the Plan. By accepting this Award, the Participant expressly warrants that he or she has received an Award of Restricted Stock Units under the Plan, and has received, read and understood a description of the Plan. The Participant understands that the Plan is discretionary in nature and may be amended, suspended or terminated by the Company at any time.

21. Governing Law. The laws of the State of Delaware shall govern the validity of this Award Agreement, the construction of its terms, and the interpretation of the rights and duties of the parties hereto.

PAUL HASTINGS

March 25, 2021

47901.00001

Organovo Holdings, Inc.
440 Stevens Ave, Suite 200
Solana Beach, CA 92075

Re: Registration Statement on Form S-8

Ladies and Gentlemen:

We have acted as counsel to Organovo Holdings, Inc., a Delaware corporation (the “**Company**”), in connection with the registration statement on Form S-8 to be filed by the Company with the U.S. Securities and Exchange Commission (the “**Commission**”) on or about the date hereof (the “**Registration Statement**”) to effect registration under the Securities Act of 1933, as amended (the “**Securities Act**”), of an aggregate of 750,000 shares (the “**Shares**”) of the Company’s common stock, \$0.001 par value per share (“**Common Stock**”), comprised of 750,000 shares of Common Stock issuable upon the vesting and exercise of awards to be granted by the Company pursuant to the Company’s 2021 Inducement Equity Incentive Plan (the “**Equity Plan**”).

As such counsel and for purposes of our opinion set forth below, we have examined and relied upon originals or copies, certified or otherwise identified to our satisfaction, of such documents, resolutions, certificates and instruments of the Company and corporate records furnished to us by the Company, and have reviewed certificates of public officials, statutes, records and such other instruments and documents as we have deemed necessary or appropriate as a basis for the opinion set forth below, including, without limitation:

- (i) the Registration Statement;
- (ii) the Certificate of Incorporation of the Company, as amended, certified by the Office of the Secretary of State of the State of Delaware on March 25, 2021;
- (iii) the Bylaws of the Company, as amended, certified by an officer of the Company on March 25, 2021;
- (iv) the Equity Plan and the forms of award agreements related thereto;
- (v) a certificate, dated as of March 25, 2021, from the Office of the Secretary of State of the State of Delaware, as to the existence and good standing of the Company in the State of Delaware (the “**Good Standing Certificate**”); and
- (vi) the resolutions adopted by the board of directors of the Company regarding the Equity Plan and other matters related thereto, as certified by an officer of the Company on March 25, 2021.

In addition to the foregoing, we have made such investigations of law as we have deemed necessary or appropriate as a basis for the opinion set forth in this opinion letter.

Organovo Holdings, Inc.
March 25, 2021
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In such examination and in rendering the opinion expressed below, we have assumed, without independent investigation or verification: (i) the genuineness of all signatures on all agreements, instruments, corporate records, certificates and other documents submitted to us; (ii) the authenticity and completeness of all agreements, instruments, corporate records, certificates and other documents submitted to us as originals; (iii) that all agreements, instruments, corporate records, certificates and other documents submitted to us as certified, electronic, facsimile, conformed, photostatic or other copies conform to originals thereof, and that such originals are authentic and complete; (iv) the legal capacity and authority of all persons or entities (other than the Company) executing all agreements, instruments, corporate records, certificates and other documents submitted to us; (v) the due authorization, execution and delivery of all agreements, instruments, corporate records, certificates and other documents by all parties thereto (other than the Company); (vi) that no documents submitted to us have been amended or terminated orally or in writing except as has been disclosed to us in writing; (vii) that the statements contained in the certificates and comparable documents of public officials, officers and representatives of the Company and other persons on which we have relied for the purposes of this opinion letter are true and correct; (viii) that there has not been any change in the good standing status of the Company from that reported in the Good Standing Certificate; and (ix) that each of the officers and directors of the Company has properly exercised his or her fiduciary duties. As to all questions of fact material to this opinion letter, and as to the materiality of any fact or other matter referred to herein, we have relied (without independent investigation or verification) upon representations and certificates or comparable documents of officers and representatives of the Company. Our knowledge of the Company and its legal and other affairs is limited by the scope of our engagement, which scope includes the delivery of this opinion letter. We do not represent the Company with respect to all legal matters or issues. The Company may employ other independent counsel and, to our knowledge, handles certain legal matters and issues without the assistance of independent counsel. We have also assumed that the individual issuances, grants, awards or grants of purchase rights under the Equity Plan will be duly authorized by all necessary corporate action of the Company and duly issued, granted or awarded and exercised in accordance with the requirements of law, the Equity Plan and the agreements, forms of instrument, awards and grants duly adopted thereunder.

Based upon the foregoing, and in reliance thereon, and subject to the assumptions, limitations, qualifications and exceptions set forth herein, we are of the opinion that the Shares are duly authorized and, when issued and sold as described in the Registration Statement and in accordance with the Equity Plan and the applicable award agreements or forms of instrument evidencing purchase rights thereunder (including the receipt by the Company of the full consideration therefor), will be validly issued, fully paid and nonassessable.

Without limiting any of the other limitations, exceptions and qualifications stated elsewhere herein, we express no opinion with regard to the applicability or effect of the laws of any jurisdiction other than the General Corporation Law of the State of Delaware, as in effect on the date of this opinion letter.

This opinion letter deals only with the specified legal issues expressly addressed herein, and you should not infer any opinion that is not explicitly stated herein from any matter addressed in this opinion letter.

This opinion letter is rendered solely in connection with the issuance and delivery of the Shares as described in the Registration Statement and in accordance with the terms of the Equity Plan and the applicable award agreement or form of instrument evidencing purchase rights thereunder. This opinion letter is rendered as of the date hereof, and we assume no obligation to advise you or any other person with regard to any change after the date hereof in the circumstances or the law that may bear on the matters set forth herein even if the change may affect the legal analysis or a legal conclusion or other matters in this opinion letter.

Organovo Holdings, Inc.

March 25, 2021

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We hereby consent to the filing of this opinion letter as Exhibit 5.1 to the Registration Statement. In giving such consent, we do not hereby admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act or the rules or regulations of the Commission thereunder.

Very truly yours,

/s/ Paul Hastings LLP

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in this Registration Statement on Form S-8 of our report dated May 28, 2020, relating to the consolidated financial statements of Organovo Holdings, Inc. as of March 31, 2020 and 2019, and for each of the two years in the period ended March 31, 2020 (which report includes an explanatory paragraph related to the change in method of accounting for leases), included in its Annual Report on Form 10-K for the year ended March 31, 2020.

/s/ Mayer Hoffman McCann P.C.

San Diego, California
March 25, 2021