

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

**Amendment No. 3 to
FORM S-4
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)

2836
(Primary Standard Industrial
Classification Code Number)

27-1488943
(I.R.S. Employer
Identification Number)

440 Stevens Avenue, Suite 200
Solana Beach, California 92075
(858) 224-1000

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

Craig Kussman
Chief Financial Officer
Organovo Holdings, Inc.
440 Stevens Avenue, Suite 200
Solana Beach, California 92075
(858) 224-1000

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Copies to:

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Jeffrey R. Vetter, Esq.
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Gunderson Dettmer Stough Villeneuve
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Corporate Secretary and
Compliance Officer
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(617) 923-4100

Miguel J. Vega, Esq.
Marc A. Recht, Esq.
Marianne C. Sarrazin, Esq.
Cooley LLP
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Boston, Massachusetts 02116
(617) 937-2300

Approximate date of commencement of proposed sale to the public: As soon as practicable after the effectiveness of this registration statement and the satisfaction or waiver of all other conditions under the Merger Agreement described herein.

If the securities being registered on this Form are being offered in connection with the formation of a holding company and there is compliance with General Instruction G, please check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or 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
Non-accelerated filer

Accelerated filer
Smaller reporting company
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

If applicable, place an X in the box to designate the appropriate rule provision relied upon in conducting this transaction:

Exchange Act Rule 13(e)-4(i) (Cross-Border Issuer Tender Offer)

Exchange Act Rule 14d-1(d) (Cross-Border Third-Party Tender Offer)

The Registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the Registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933, as amended, or until the registration statement shall become effective on such date as the Securities and Exchange Commission, acting pursuant to said Section 8(a), may determine.

EXPLANATORY NOTE

This Amendment No.3 to the Registration Statement on Form S-4 (File No. 333-235683) of Organovo Holdings Inc. ("Amendment No. 3") is being filed solely for the purpose of filing Exhibit 99.1, as indicated in Part II of this Amendment No. 3. This Amendment No. 3 does not modify any provision of the proxy statement/prospectus/information statement that forms a part of the Registration Statement. Accordingly, the proxy statement/prospectus/information statement has been omitted.

PART II

INFORMATION NOT REQUIRED IN PROXY STATEMENT/PROSPECTUS/INFORMATION STATEMENT

Item 20. Indemnification of Directors and Officers

Section 145 of the Delaware General Corporation Law (“DGCL”) authorizes a court to award, or a corporation’s board of directors to grant, indemnity to directors and officers in terms sufficiently broad to permit such indemnification under certain circumstances for liabilities, including reimbursement for expenses incurred, arising under the Securities Act.

The Organovo certificate of incorporation and bylaws provide that Organovo shall indemnify, to the fullest extent permitted by applicable law, any person who 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 the fact that such person is or was a director or officer of Organovo or is or was serving at the request of Organovo.

Organovo entered into indemnification agreements with its directors and executive officers, in addition to the indemnification provided for in its certificate of incorporation and bylaws, and intends to enter into indemnification agreements with any new directors and executive officers in the future.

Organovo has purchased and intends to maintain insurance on behalf of any person who is or was a director or officer of Organovo against any loss arising from any claim asserted against him or her and incurred by him or her in any such capacity, subject to certain exclusion.

Pursuant to the terms of the Merger Agreement, for six years from the Effective Time, Organovo must indemnify each individual who is at the effective date of the Merger a director or officer of Organovo against claims, costs and damages incurred as a result of such director or officer serving as a director or officer of Organovo, to the fullest extent permitted under the DGCL. Each such person will also be entitled to advancement of expenses incurred in the defense of such claims, provided that such person provides an undertaking required by applicable law to repay such advancement if it is ultimately determined that such person is not entitled to indemnification. Organovo must also purchase an insurance policy, effective as of the closing of the Merger, on terms and conditions and with coverage limits customary for public companies similarly situated to Organovo and Tarveda must maintain, for six years following the closing of the Merger, the current directors’ and officers’ liability insurance policies maintained by Tarveda prior to the closing of the Merger.

Item 21. Exhibits and Financial Statement Schedules

(a) Exhibit Index

A list of exhibits filed with this registration statement on Form S-4 is set forth on the Exhibit Index and is incorporated herein by reference.

EXHIBIT INDEX

<u>Exhibit No.</u>	<u>Description</u>
2.1++	<u>Agreement and Plan of Merger and Reorganization, dated as of December 13, 2019, by and among Organovo Holdings, Inc., Opal Merger Sub, Inc. and Tarveda Therapeutics, Inc. (included as Annex A to the proxy statement/prospectus/information statement forming a part of this registration statement).</u>
2.2	<u>First Amendment to Merger Agreement, dated as of January 26, 2020, by and among Organovo Holdings, Inc., Opal Merger Sub, Inc. and Tarveda Therapeutics, Inc. (included in Annex A to the proxy statement/prospectus/information statement forming a part of this registration statement).</u>

<u>Exhibit No.</u>	<u>Description</u>
2.3	<u>Form of Support Agreement, by and between Organovo Holdings, Inc., Tarveda Therapeutics, Inc. and certain directors, officers and stockholders of Tarveda Therapeutics, Inc. (incorporated by reference from Exhibit 2.2 to the Organovo Holdings, Inc. Current Report on Form 8-K, as filed with the SEC on December 16, 2019).</u>
2.4	<u>Form of Support Agreement, by and between Tarveda Therapeutics, Inc., Organovo Holdings, Inc. and certain directors and officers of Organovo Holdings, Inc. (incorporated by reference from Exhibit 2.3 to the Organovo Holdings, Inc. Current Report on Form 8-K, as filed with the SEC on December 16, 2019).</u>
2.5	<u>Form of Lock-Up Agreement, by and among Tarveda Therapeutics, Inc., Organovo Holdings, Inc. and certain directors and officers of Tarveda Therapeutics, Inc. and Organovo Holdings, Inc. (incorporated by reference from Exhibit 2.4 to the Organovo Holdings, Inc. Current Report on Form 8-K, as filed with the SEC on December 16, 2019).</u>
3.1	<u>Certificate of Incorporation of Organovo Holdings, Inc. (Delaware) (incorporated by reference from Exhibit 3.1 to the Organovo Holdings, Inc. Current Report on Form 8-K, as filed with the SEC on February 3, 2012).</u>
3.2	<u>Certificate of Amendment of Certificate of Incorporation of Organovo Holdings, Inc. (incorporated by reference from Exhibit 3.1 to the Organovo Holdings, Inc. Current Report on Form 8-K, as filed with the SEC on July 27, 2018).</u>
3.3	<u>Bylaws of Organovo Holdings, Inc. (Delaware) (incorporated by reference from Exhibit 3.2 to the Organovo Holdings, Inc. Current Report on Form 8-K, as filed with the SEC on February 3, 2012).</u>
3.4	<u>Amendment to Organovo Holdings, Inc. Bylaws, dated October 9, 2019 (incorporated by reference from Exhibit 99.1 to the Organovo Holdings, Inc. Current Report on Form 8-K, as filed with the SEC on October 11, 2019).</u>
5.1*	<u>Opinion of Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP.</u>
8.1*	<u>Opinion of Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP, regarding tax matters.</u>
8.2*	<u>Opinion of Cooley LLP, regarding tax matters.</u>
10.1	<u>Organovo, Inc. 2008 Equity Incentive Plan (incorporated by reference from Exhibit 10.14 to the Organovo Holdings, Inc. Current Report on Form 8-K, as filed with the SEC on February 13, 2012).</u>
10.2	<u>Organovo Holdings, Inc. 2012 Equity Incentive Plan (incorporated by reference from Exhibit 10.15 to the Organovo Holdings, Inc. Current Report on Form 8-K, as filed with the SEC on February 13, 2012).</u>
10.3	<u>Form of Stock Option Award Agreement under the Organovo Holdings, Inc. 2012 Equity Incentive Plan (incorporated by reference from Exhibit 10.16 to the Organovo Holdings, Inc. Current Report on Form 8-K, as filed with the SEC on February 13, 2012).</u>
10.4	<u>Form of Indemnification Agreement (incorporated by reference from Exhibit 10.17 to the Organovo Holdings, Inc. Current Report on Form 8-K, as filed with the SEC on February 13, 2012).</u>
10.5†	<u>License Agreement dated as of March 24, 2009, by and between Organovo, Inc. and the Curators of the University of Missouri (incorporated by reference from Exhibit 10.23 to the Organovo Holdings, Inc. Current Report on Form 8-K, as filed with the SEC on May 11, 2012).</u>
10.6†	<u>License Agreement dated as of March 12, 2010 by and between Organovo Holdings, Inc. and the Curators of the University of Missouri (incorporated by reference from Exhibit 10.24 to the Organovo Holdings, Inc. Current Report on Form 8-K, as filed with the SEC on May 11, 2012).</u>

<u>Exhibit No.</u>	<u>Description</u>
10.7†	<u>License Agreement dated as of May 2, 2011, by and between Organovo Holdings, Inc. and Clemson University Research Foundation (incorporated by reference from Exhibit 10.25 to the Organovo Holdings, Inc. Current Report on Form 8-K, as filed with the SEC on May 11, 2012).</u>
10.8	<u>First Amendment to Lease, dated December 4, 2013, by and between Organovo, Inc. and ARE-SD Region No. 25, LLC. (incorporated by reference from Exhibit 10.2 to the Organovo Holdings, Inc. Quarterly Report on Form 10-Q, as filed with the SEC on February 6, 2014).</u>
10.9	<u>Form of Non-Employee Director Stock Option Award Agreement under the Organovo Holdings, Inc. 2012 Equity Incentive Plan (incorporated by reference to Exhibit 10.35 to the Organovo Holdings, Inc. Annual Report on Form 10-K, as filed with the SEC on June 9, 2015).</u>
10.10	<u>Form of Executive Stock Option Award Agreement under the Organovo Holdings, Inc. 2012 Equity Incentive Plan (incorporated by reference to Exhibit 10.36 to the Organovo Holdings, Inc. Annual Report on Form 10-K, as filed with the SEC on June 9, 2015).</u>
10.11	<u>Organovo Holdings, Inc. Severance and Change in Control Plan (incorporated by reference to Exhibit 10.2 to the Organovo Holdings, Inc. Quarterly Report on Form 10-Q, as filed with the SEC on November 9, 2015).</u>
10.12	<u>Form of Organovo Holdings, Inc. Severance and Change in Control Plan Participation Agreement (incorporated by reference to Exhibit 10.3 to the Organovo Holdings, Inc. Quarterly Report on Form 10-Q, as filed with the SEC on November 9, 2015).</u>
10.13	<u>Offer Letter, between Craig Kussman and Organovo Holdings, Inc., dated July 29, 2016 (incorporated by reference to Exhibit 99.1 to the Organovo Holdings, Inc. Current Report on Form 8-K, as filed with the SEC on August 2, 2016).</u>
10.14	<u>Form of Restricted Stock Unit Grant Notice and Restricted Stock Unit Agreement (Retention Form) under the Organovo Holdings, Inc. 2012 Equity Incentive Plan (incorporated by reference from Exhibit 10.1 to the Organovo Holdings, Inc. Quarterly Report on Form 10-Q, as filed with the SEC on August 4, 2016).</u>
10.15	<u>Form of Employee Restricted Stock Unit Grant Notice and Restricted Stock Unit Agreement under the Organovo Holdings, Inc. 2012 Equity Incentive Plan (incorporated by reference from Exhibit 10.3 to the Organovo Holdings, Inc. Quarterly Report on Form 10-Q, as filed with the SEC on August 4, 2016).</u>
10.16	<u>Form of Non-Employee Director Restricted Stock Unit Grant Notice and Restricted Stock Unit Agreement under the Organovo Holdings, Inc. 2012 Equity Incentive Plan (incorporated by reference from Exhibit 10.4 to the Organovo Holdings, Inc. Quarterly Report on Form 10-Q, as filed with the SEC on August 4, 2016).</u>
10.17	<u>Organovo Holdings, Inc. 2016 Employee Stock Purchase Plan (incorporated by reference from Exhibit 10.1 to the Organovo Holdings, Inc. Current Report on Form 8-K, as filed with the SEC on August 18, 2016).</u>
10.18	<u>Continued Service, Consulting and Separation Agreement, dated April 7, 2017, by and between Organovo Holdings, Inc. and Keith Murphy (incorporated by reference from Exhibit 10.1 to the Organovo Holdings, Inc. Current Report on Form 8-K, as filed with the SEC on April 11, 2017).</u>
10.19	<u>Offer Letter, dated April 11, 2017, by and between Organovo Holdings, Inc. and Taylor Crouch (incorporated by reference from Exhibit 10.2 to the Organovo Holdings, Inc. Current Report on Form 8-K, as filed with the SEC on April 11, 2017).</u>
10.20	<u>Organovo Holdings, Inc. Inducement Award Stock Option Agreement, dated April 24, 2017 (incorporated by reference from Exhibit 99.1 to the Organovo Holdings, Inc. Registration Statement on Form S-8 (File No. 333-217437), as filed with the SEC on April 24, 2017).</u>

<u>Exhibit No.</u>	<u>Description</u>
10.21	<u>Organovo Holdings, Inc. Inducement Award Performance-Based Restricted Stock Unit Agreement, dated April 24, 2017 (incorporated by reference from Exhibit 99.2 to the Organovo Holdings, Inc. Registration Statement on Form S-8 (File No. 333-217437), as filed with the SEC on April 24, 2017).</u>
10.22	<u>Organovo Holdings, Inc. Amended and Restated 2012 Equity Incentive Plan (incorporated by reference from Exhibit 10.1 to the Organovo Holdings, Inc. Current Report on Form 8-K, as filed with the SEC on July 27, 2018).</u>
10.23	<u>Organovo Holdings, Inc. Inducement Award Stock Option Agreement, dated August 14, 2018 (incorporated by reference from Exhibit 99.1 to the Organovo Holdings, Inc. Registration Statement on Form S-8 (File No. 333-226837), as filed with the SEC on August 14, 2018).</u>
10.24	<u>Organovo Holdings, Inc. Inducement Award Restricted Stock Unit Agreement, dated August 14, 2018 (incorporated by reference from Exhibit 99.2 to the Organovo Holdings, Inc. Registration Statement on Form S-8 (File No. 333-226837), as filed with the SEC on August 14, 2018).</u>
10.25*	<u>Fifth Amended and Restated Investor Rights Agreement, dated December 12, 2019, by and between Tarveda Therapeutics, Inc. and the stockholders party thereto.</u>
10.26+*	<u>License Agreement, dated September 14, 2016, by and between Tarveda Therapeutics, Inc. and Madrigal Pharmaceuticals, Inc.</u>
10.27*	<u>Loan and Security Agreement, dated March 29, 2019, among Oxford Finance LLC, the Lenders named therein, and Tarveda Therapeutics, Inc.</u>
10.28*	<u>Form of Warrant to Purchase Stock issued by Tarveda Therapeutics, Inc. to Oxford Finance LLC, dated March 29, 2019.</u>
10.29*	<u>Warrant to Purchase Stock issued by Tarveda Therapeutics, Inc. (formerly Blend Therapeutics, Inc.) to Comerica Bank, dated February 8, 2012.</u>
10.30*	<u>Warrant to Purchase Stock issued by Tarveda Therapeutics, Inc. (formerly Blend Therapeutics, Inc.) to Comerica Bank, dated November 19, 2013.</u>
10.31*	<u>Lease, dated December 12, 2011, by and between BMR-134 Coolidge Avenue LLC and Tarveda Therapeutics, Inc. (formerly Blend Therapeutics, Inc.).</u>
10.32*	<u>First Amendment to Lease, dated February 23, 2012, by and between BMR-134 Coolidge Avenue LLC and Tarveda Therapeutics, Inc. (formerly Blend Therapeutics, Inc.).</u>
10.33*	<u>Second Amendment to Lease, dated January 8, 2013, by and between BMR-134 Coolidge Avenue LLC and Tarveda Therapeutics, Inc. (formerly Blend Therapeutics, Inc.).</u>
10.34*	<u>Third Amendment to Lease, dated April 19, 2016, by and between BMR-134 Coolidge Avenue LLC and Tarveda Therapeutics, Inc.</u>
10.35*	<u>Fourth Amendment to Lease, dated May 31, 2019, by and between BMR-134 Coolidge Avenue LLC and Tarveda Therapeutics, Inc.</u>
10.36*	<u>Tarveda Therapeutics, Inc. (formerly Blend Biosciences, Inc.) 2011 Stock Incentive Plan.</u>
10.37*	<u>Form of Award Agreements under the Tarveda Therapeutics, Inc. (formerly Blend Biosciences, Inc.) 2011 Stock Incentive Plan.</u>
10.38*	<u>Employment Agreement, dated March 2, 2015, by and between Tarveda Therapeutics, Inc. (formerly Blend Therapeutics, Inc.) and Andrew J. Fromkin.</u>
10.39*	<u>First Amendment to Employment Agreement, dated April 6, 2016, by and between Tarveda Therapeutics, Inc. and Andrew J. Fromkin.</u>

<u>Exhibit No.</u>	<u>Description</u>
10.40*	Employment Agreement, dated December 19, 2017, by and between Tarveda Therapeutics, Inc. and Brian Roberts.
10.41*	Employment Agreement, dated July 27, 2018, by and between Tarveda Therapeutics, Inc. and Jeffrey Bloss.
10.42*	Form of Tarveda Therapeutics, Inc. Nondisclosure, Noncompetition and Assignment of Intellectual Property Agreement.
10.43	Combined Organization 2020 Equity Incentive Plan (included as Annex E to the proxy statement/prospectus/information statement forming part of this registration statement).
21.1*	Subsidiaries of Organovo Holdings, Inc.
23.1*	Consent of Mayer Hoffman McCann P.C., Independent Registered Public Accounting Firm
23.2*	Consent of KPMG LLP.
23.3*	Consent of Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP (contained in Exhibit 5.1)
23.4*	Consent of Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP (contained in Exhibit 8.1)
23.5*	Consent of Cooley LLP (contained in Exhibit 8.2)
24.1*	Power of Attorney (included on signature page to registration statement on Form S-4 filed on December 23, 2019).
99.1	Form of Proxy Card for Special Meeting of Stockholders of Organovo Holdings, Inc.
99.2*	Proposed Amendment to the Certificate of Incorporation of Organovo Holdings, Inc. for the Organovo Reverse Stock Split (included as Annex D to the proxy statement/prospectus/information statement forming a part of this registration statement).
99.3*	Opinion of Roth Capital Partners, LLC, financial advisor to Organovo Holdings, Inc. (included as Annex B to the proxy statement/prospectus/information statement forming part of this registration statement).
99.4*	Consent of Roth Capital Partners, LLC, financial advisor to Organovo Holdings, Inc.
99.5*	Consent of Andrew J. Fromkin to be named as director
99.6*	Consent of Dennis Ausiello, M.D. to be named as director
99.7*	Consent of Nilesh Kumar, Ph.D. to be named as director
99.8*	Consent of Guido Magni, M.D., Ph.D. to be named as director
99.9*	Consent of Michael Metzger to be named as director
99.10*	Consent of Aymeric Sallin, M.S. to be named as director

* Previously filed.

** To be filed by amendment.

+ Portions of this Exhibit (indicated with [**]) have been omitted as the Registrant has determined that (i) the omitted information is not material and (ii) the omitted information would likely cause competitive harm to the Registrant if publicly disclosed.

++ Certain schedules and exhibits have been omitted pursuant to Item 601(b)(2) of Regulation S-K. A copy of any omitted schedule and/or exhibit will be furnished to the SEC upon request.

† This Exhibit has been filed separately with the Secretary of the Securities and Exchange Commission without the redaction pursuant to a Confidential Treatment Request under Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

(b) Financial Statements

No financial statements are being filed with this Amendment No. 3 to the Registration Statement on Form S-4.

Item 22. Undertakings

- (a) The undersigned registrant undertakes as follows:
- (1) that prior to any public reoffering of the securities registered hereunder through use of a prospectus which is a part of this registration statement, by any person or party who is deemed to be an underwriter within the meaning of Rule 145(c), the issuer undertakes that such reoffering prospectus will contain the information called for by the applicable registration form with respect to reofferings by persons who may be deemed underwriters, in addition to the information called for by the other items of the applicable form.
 - (2) that every prospectus (i) that is filed pursuant to paragraph (1) immediately preceding, or (ii) that purports to meet the requirements of Section 10(a)(3) of the Securities Act of 1933 and is used in connection with an offering of securities subject to Rule 415, will be filed as a part of an amendment to the registration statement and will not be used until such amendment is effective, and that, for purposes of determining any liability under the Securities Act of 1933, 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 respond to requests for information that is incorporated by reference into this proxy statement/prospectus/information statement pursuant to Item 4, 10(b), 11, or 13 of Form S-4, within one business day of receipt of such request, and to send the incorporated documents by first class mail or other equally prompt means. This includes information contained in documents filed subsequent to the effective date of the registration statement through the date of responding to the request.
 - (4) to supply by means of a post-effective amendment all information concerning a transaction, and the company being acquired involved therein, that was not the subject of and included in the registration statement when it became effective.
- (b) Insofar as indemnification for liabilities arising under the Securities Act of 1933 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 Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act of 1933 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 of 1933 and will be governed by the final adjudication of such issue.

ORGANOVO HOLDINGS, INC.
 440 Stevens Avenue
 Suite 200
 Solana Beach, CA 92075

Investor Address Line 1
 Investor Address Line 2
 Investor Address Line 3
 Investor Address Line 4
 Investor Address Line 5
 John Sample
 1234 ANYWHERE STREET
 ANY CITY, ON A1A 1A1



VOTE BY INTERNET - www.proxyvote.com
 Use the Internet to transmit your voting instructions and for electronic delivery of information. Vote by 11:59 P.M. Eastern Time on March 25, 2020. Have your proxy card in hand when you access the web site and follow the instructions to obtain your records and to create an electronic voting instruction form.

ELECTRONIC DELIVERY OF FUTURE PROXY MATERIALS
 If you would like to reduce the costs incurred by our company in mailing proxy materials, you can consent to receiving all future proxy statements, proxy cards and annual reports electronically via e-mail or the Internet. To sign up for electronic delivery, please follow the instructions above to vote using the Internet and, when prompted, indicate that you agree to receive or access proxy materials electronically in future years.

VOTE BY PHONE - 1-800-690-6903
 Use any touch-tone telephone to transmit your voting instructions. Vote by 11:59 P.M. Eastern Time on March 25, 2020. Have your proxy card in hand when you call and then follow the instructions.

VOTE BY MAIL
 Mark, sign and date your proxy card and return it in the postage-paid envelope we have provided or return it to Vote Processing, c/o Broadridge, 51 Mercedes Way, Edgewood, NY 11717.

NAME

THE COMPANY NAME INC. - COMMON
 THE COMPANY NAME INC. - CLASS A
 THE COMPANY NAME INC. - CLASS B
 THE COMPANY NAME INC. - CLASS C
 THE COMPANY NAME INC. - CLASS D
 THE COMPANY NAME INC. - CLASS E
 THE COMPANY NAME INC. - CLASS F
 THE COMPANY NAME INC. - 401 K

CONTROL # → 0000000000000000

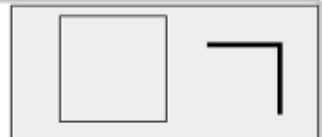
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PAGE 1 OF 2

TO VOTE, MARK BLOCKS BELOW IN BLUE OR BLACK INK AS FOLLOWS:

KEEP THIS PORTION FOR YOUR RECORDS
 DETACH AND RETURN THIS PORTION ONLY

THIS PROXY CARD IS VALID ONLY WHEN SIGNED AND DATED.



The Board of Directors recommends you vote FOR proposals 1 through 5.

	For	Against	Abstain
1 Approve the issuance of shares of Organovo common stock in the Merger to the Tarveda securityholders in accordance with the terms of the Merger Agreement;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2 Approve an amendment to the Organovo certificate of incorporation effecting a reverse stock split of Organovo common stock, at a ratio of one (1) new share for every 20 to 40 shares of outstanding Organovo common stock (or any number in between as determined by the Organovo Board of Directors);	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3 Approve, on a non-binding advisory vote basis, compensation that will or may become payable by Organovo to its named executive officers in connection with the Merger, each as described in the accompanying proxy statement/prospectus/information statement;	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4 Approve the adoption of the Combined Organization 2020 Equity Incentive Plan; and	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5 Authorize the adjournment of the Organovo special meeting, if necessary, to solicit additional proxies if there are not sufficient votes in favor of Organovo Proposal Nos. 1, 2, 3, and 4.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

NOTE: The parties named herein are also authorized to transact such other business as may properly come before the Organovo special meeting or any adjournment or postponement thereof.

Please sign exactly as your name(s) appear(s) hereon. When signing as attorney, executor, administrator, or other fiduciary, please give full title as such. Joint owners should each sign personally. All holders must sign. If a corporation or partnership, please sign in full corporate or partnership name by authorized officer.

 Signature [PLEASE SIGN WITHIN BOX] Date

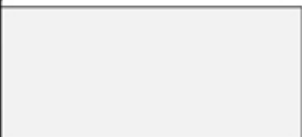
JOB #

 Signature (Joint Owners) Date

SHARES
 CUSIP #
 SEQUENCE #



Important Notice Regarding the Availability of Proxy Materials for the Special Meeting: The Notice, Proxy Statement/Prospectus/ Information Statement and Stockholders Letter are available at www.proxyvote.com



**ORGANOVO HOLDINGS, INC.
Special Meeting of Stockholders
March 26, 2020, 10:00 a.m. Pacific Time
This proxy is solicited by the Board of Directors**

The undersigned hereby appoints Taylor Crouch and Jennifer Bush, or either of them, as proxies, each with the power to appoint (his/her) substitute, and hereby authorizes them to represent and to vote, as designated on the reverse side of this proxy, all of the shares of Common Stock of ORGANOVO HOLDINGS, INC. that the undersigned is entitled to vote at the Special Meeting of Stockholders to be held at 10:00 a.m. Pacific Time on March 26, 2020, at the offices of Gunderson, Dettmer, Stough, Villeneuve, Franklin & Hachigian, LLP, 3570 Carmel Mountain Road, Suite 200, San Diego, California 92130 and any adjournment or postponement thereof.

This proxy, when properly executed, will be voted in the manner directed herein. If no such direction is made, this proxy will be voted in accordance with the recommendations of the Board of Directors of Organovo Holdings, Inc. "FOR" all proposals.

Continued and to be signed on reverse side