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

FORM 8-K

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

Date of Report (Date of Earliest Event Reported): July 20, 2016

ORGANOVO HOLDINGS, INC.

(Exact name of registrant as specified in its charter)

Commission File Number: 001-35996

Delaware
(State or other jurisdiction
of incorporation)

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

**6275 Nancy Ridge Drive, Suite 110
San Diego, CA 92121**
(Address of principal executive offices, including zip code)

(858) 224-1000
(Registrant's telephone number, including area code)

(Former name or former address, if changed since last report)

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

- Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
 - Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
 - Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
 - Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))
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Item 8.01 Other Events.

On December 30, 2014, Organovo Holdings, Inc. (the “Company”) entered into a Controlled Equity OfferingSM Sales Agreement with Cantor Fitzgerald & Co. (the “Sales Agreement”) and registered up to \$33,000,000 of shares of its common stock for sale pursuant to the Sales Agreement under an outstanding Form S-3 registration statement. As a result of this registration statement expiring by its terms on July 26, 2016, the Company filed a prospectus supplement on July 20, 2016 to move up to \$26,560,000 of the shares of common stock that can be sold pursuant to the Sales Agreement to an outstanding Form S-3 registration statement that does not expire until March 17, 2018. The shares of common stock included in the prospectus supplement represent the remaining shares previously registered for sale under the Sales Agreement, and the Company is not registering any additional shares for sale pursuant to the Sales Agreement.

The purpose of this Current Report on Form 8-K is to file an opinion in connection with the prospectus supplement. A copy of the opinion of Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP relating to the legality of the shares of common stock that may be issued pursuant to the Sales Agreement and the prospectus supplement is attached as Exhibit 5.1 to this Current Report on Form 8-K.

Item 9.01 Financial Statements and Exhibits.

<u>Exhibit No.</u>	<u>Description</u>
5.1	Opinion of Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP.
23.1	Consent of Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP (included in Exhibit 5.1).

SIGNATURES

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

ORGANOVO HOLDINGS, INC.

Date: July 20, 2016

By: /s/ Keith Murphy

Name: Keith Murphy

Title: Chief Executive Officer and President

Exhibit Index

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July 20, 2016

Organovo Holdings, Inc.
6275 Nancy Ridge Drive, Suite 110
San Diego, CA 92121

Ladies and Gentlemen:

You have requested our opinion with respect to certain matters in connection with the sale and issuance by Organovo Holdings, Inc., a Delaware corporation (the “**Company**”), of up to an aggregate of \$26,560,000 of shares (the “**Shares**”) of the Company’s common stock, par value \$0.001 per share (the “**Common Stock**”), pursuant to an effective shelf registration statement on Form S-3 (File No. 333-202382) (the “**Registration Statement**”) and the related prospectus (the “**Base Prospectus**”) filed with the Securities and Exchange Commission (the “**Commission**”) on February 27, 2015 under the Securities Act of 1933, as amended (the “**Act**”), as supplemented by the prospectus supplement dated July 20, 2016, filed with the Commission pursuant to Rule 424(b) promulgated under the Act (together with the Base Prospectus, the “**Prospectus**”).

In connection with this opinion, we have examined and relied upon the Registration Statement and the Prospectus, the Company’s Certificate of Incorporation and Bylaws, as currently in effect, and the originals or copies certified to our satisfaction of such other documents, records, certificates, memoranda and other instruments as in our judgment are necessary or appropriate to enable us to render the opinion expressed below.

In rendering this opinion, we have assumed the genuineness and authenticity of all signatures on original documents; the genuineness and authenticity of all documents submitted to us as originals; the conformity to originals of all documents submitted to us as copies; the accuracy, completeness and authenticity of certificates of public officials; and the due authorization, execution and delivery of all documents where due authorization, execution and delivery are prerequisites to the effectiveness of such documents. We express no opinion as to matters governed by any laws other than the substantive laws of the State of Delaware and the federal laws of the United States of America, as in effect on the date hereof.

On the basis of the foregoing, and in reliance thereon, we are of the opinion that the Shares when issued and sold pursuant to that certain Controlled Equity OfferingSM Sales Agreement by and between the Company and Cantor Fitzgerald & Co., dated December 30, 2014, in accordance with the Registration Statement and the Prospectus, will be validly issued, fully paid and nonassessable.

We consent to the reference to our firm under the caption “Legal Matters” in the Prospectus and to the filing of this opinion as an exhibit to a Current Report of the Company on Form 8-K. In giving our consent, we do not thereby admit that we are in the category of persons whose consent is required under Section 7 of the Securities Act or the rules and regulations of the Commission thereunder.

Very truly yours,

/s/ Gunderson Dettmer Stough Villeneuve Franklin & Hachigian, LLP

GUNDERSON DETTMER STOUGH VILLENEUVE FRANKLIN & HACHIGIAN, LLP

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