

---

---

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

---

**Post-Effective Amendment No. 1  
to  
FORM S-3  
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.)

---

**6275 Nancy Ridge Drive, Suite 110  
San Diego, CA 92121  
(858) 224-1000**  
(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

**Keith Murphy**  
**Chairman, Chief Executive Officer and President**  
**6275 Nancy Ridge Drive, Suite 110,  
San Diego, CA 92121  
(858) 224-1000**  
(Name, address, including zip code, and telephone number, including area code, of agent for service)

---

**Copies to:**

**Jeffrey Thacker, Esq.  
Ryan Gunderson, Esq.  
Gunderson Dettmer Stough Villeneuve  
Franklin & Hachigian, LLP  
3570 Carmel Mountain Rd., Suite 200  
San Diego, CA 92130  
(858) 436-8000**

---

**Approximate date of commencement of proposed sale to the public:**

Not applicable. Removal from registration of securities that were not sold pursuant to this registration statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box.

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, 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, please 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(c) under the Securities Act, please 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 registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

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

Large Accelerated filer

Accelerated filer

Non-accelerated filer  (Do not check if smaller reporting company)

Smaller reporting company

---

---

## Deregistration of Securities

This Post-Effective Amendment No. 1 (this "Post-Effective Amendment") relates to the Registration Statement on Form S-3 (Registration No. 333-189995) (the "Registration Statement") of Organovo Holdings, Inc. (the "Company"), originally filed with the Securities and Exchange Commission (the "SEC") on July 17, 2013 and declared effective by the SEC on July 26, 2013. The Registration Statement registered \$100,000,000 of an indeterminate number of shares of common stock, shares of preferred stock, debt securities and warrants, in any combination, including in units (the "Securities"). As of the date of this filing, \$26,777,784 of Securities remain unsold and are being removed from registration.

In accordance with an undertaking made by the Company in the Registration Statement to remove from registration, by means of a post-effective amendment, the Securities, which remain unsold at the termination of the offering, the Company hereby removes from registration all Securities registered under the Registration Statement which remain unsold as of the date hereof.

## Signatures

Pursuant to the requirements of the Securities Act of 1933, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this Post-Effective Amendment to the Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in San Diego, California, on July 20, 2016.

Organovo Holdings, Inc.

By: /s/ Keith Murphy

Keith Murphy

*Chairman of the Board, Chief Executive Officer and President*

No other person is required to sign this Post-Effective Amendment No. 1 to the Registration Statement in reliance upon Rule 478 under the Securities Act of 1933, as amended.