

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

May 3, 2024

VIA EDGAR

Securities and Exchange Commission  
100 F Street, NE  
Washington, D.C. 20549-0406

**Re: Organovo Holdings, Inc.**  
**Registration Statement on Form S-1, as amended**  
**Initially Filed on April 12, 2024**  
**Registration No. 333-278668**

Ladies and Gentlemen:

Pursuant to Rule 461 under the Securities Act of 1933, as amended, Organovo Holdings, Inc. (the “*Company*”) hereby respectfully requests that the effectiveness of the Registration Statement on Form S-1 (Registration No. 333-278668) of the Company, filed with the Securities and Exchange Commission on April 12, 2024 and amended on April 30, 2024 (as amended, the “*Registration Statement*”), be accelerated so that the Registration Statement shall become effective at 5:00 p.m. (Eastern Time) on May 7, 2024, or as soon as possible thereafter.

The Company hereby confirms that it is aware of its responsibilities under the Securities Act of 1933, as amended, and the Securities Exchange Act of 1934, as amended, as they relate to the proposed offering of the securities specified in the Registration Statement.

It would be appreciated if, promptly after the Registration Statement has become effective, you would so inform our outside counsel, Samantha Eldredge of Paul Hastings LLP, by telephone at (650) 320-1838 or by email at [samanthaeldredge@paulhastings.com](mailto:samanthaeldredge@paulhastings.com). The Company hereby authorizes Ms. Eldredge to orally modify or withdraw this request for acceleration.

Sincerely,

**ORGANOVO HOLDINGS, INC.**

By: /s/ Keith Murphy

Name: Keith Murphy

Title: Executive Chairman

cc: Samantha H. Eldredge, Esq. (Paul Hastings LLP)