

Organovo Holdings, Inc.
440 Stevens Avenue, Suite 200
Solana Beach, California 92075

January 27, 2021

VIA EDGAR

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

Re: Organovo Holdings, Inc.
Registration Statement on Form S-3, Filed January 19, 2021
File No. 333-252224

Ladies and Gentlemen:

Pursuant to Rule 461 under the Securities Act of 1933, as amended, Organovo Holdings, Inc. (the “**Company**”) hereby requests that the effectiveness of the Registration Statement on Form S-3 (Registration No. 333-252224) of the Company (the “**Registration Statement**”), filed with the Securities and Exchange Commission (the “**Commission**”) on January 19, 2021, be accelerated so that such Registration Statement shall become effective at 4:30 p.m. (Eastern Time) on January 29, 2021, or as soon as possible thereafter. As of the date above, there is no managing or principal underwriter for any of the Company’s securities that may be offered pursuant to the Registration Statement. Future managing or principal underwriters, if any, will be identified in a prospectus supplement to the Registration Statement at the time of offering.

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, Jeffrey T. Hartlin of Paul Hastings LLP, by telephone at (650) 320-1804 or by email at jeffhartlin@paulhastings.com. The Company hereby authorizes Mr. Hartlin to orally modify or withdraw this request for acceleration.

Sincerely,

ORGANOVO HOLDINGS, INC.

By: /s/ Keith Murphy
Keith Murphy
Executive Chairman

cc: Tom Jurgensen, General Counsel
Chris Heberlig, President & Chief Financial Officer
Jeffrey T. Hartlin, Paul Hastings LLP