



DIVISION OF
CORPORATION FINANCE

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

June 21, 2012

Via E-Mail

Keith Murphy

Chairman of the Board, Chief Executive Officer, and President

Organovo Holdings, Inc.

5871 Oberlin Drive, Suite 150

San Diego, CA 92121

**Re: Organovo Holdings, Inc.
Form 8-K, as amended
Filed February 13, 2012
File Nos. 000-54621 and 333-169928**

Dear Mr. Murphy:

We have completed our review of your filing. We remind you that our comments or changes to disclosure in response to our comments do not foreclose the Commission from taking any action with respect to the company or the filing and the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States. We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Exchange Act of 1934 and all applicable rules require.

Sincerely,

/s/ Jennifer Riegel for

Jeffrey Riedler
Assistant Director