



DIVISION OF  
CORPORATION FINANCE

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

April 18, 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/A  
Filed March 30, 2012  
File No. 333-169928**

Dear Mr. Murphy:

We have reviewed your filing and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by amending your filing, by providing the requested information, or by advising us when you will provide the requested response. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your filing and the information you provide in response to these comments, we may have additional comments.

Financial Statements for the Period Ended September 30, 2011

1. Summary of Significant Accounting Policies

Revenue Arrangements with Multiple Deliverables, page F-12

1. Please revise your disclosure to describe how you recognize license revenues when the license is granted as a part of a research and development collaboration agreement.

4. Derivative Liability, page F-14

2. Please revise your disclosure to clarify whether the down-round protection of the warrants' exercise price applies under all circumstances. Otherwise, describe the situations to which the down-round protection is limited to. Furthermore, disclose how the exercise price will be adjusted for this provision.

8. Licensing Agreements, page F-20

3. Please tell us where you disclosed the amount of prior patent costs that you are required to reimburse under the licensing agreements as previously requested under comment 10.

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 Exchange Act rules require. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

In responding to our comments, please provide a written statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to 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.

You may contact Keira Ino at 202-551-3659 or Gustavo Rodriguez at 202-551-3752 if you have questions regarding comments on the financial statements and related matters. Please contact Michael Rosenthal at 202-551-3674, Jennifer Riegel at 202-551-3575 or me at 202-551-3715 with any other questions.

Sincerely,

/s/ Jennifer Riegel for

Jeffrey Riedler  
Assistant Director