

WARRANT SOLICITATION AGENT AGREEMENT

THIS WARRANT SOLICITATION AGENT AGREEMENT ("Agreement") is dated as of February 5, 2013, by and between Organovo Holdings, Inc. (the "Company") and Spencer Trask Ventures, Inc. ("Spencer Trask").

RECITALS

WHEREAS, the Company and Spencer Trask are parties to a Joinder Agreement, dated January 23, 2012, whereby the Company agreed to be bound by the Placement Agency Agreement, dated December 1, 2011 (the "Agency Agreement"), by and between Organovo, Inc., the Company's wholly-owned subsidiary, and Spencer Trask; and

WHEREAS, pursuant to the Agency Agreement, Spencer Trask and certain other broker-dealers appointed by Spencer Trask served as Placement Agents for the Company's private placement financings closed on February 8, 2012, February 29, 2012 and March 16, 2012 (collectively, the "Private Financings"); and

WHEREAS, the Company issued Units in the Private Financings, consisting of one share of common stock and a warrant to purchase one share of common stock at an exercise price of \$1.00 per share (collectively, the "Warrants"); and

WHEREAS, pursuant to Section 4 of the Warrants, the Company is exercising its right to call and redeem the unexercised Warrants on the terms and conditions set forth in Section 4 of the Warrants (the "Warrant Redemption") and provided the holders of the unexercised Warrants (the "Redeemed Warrant Holders) with notice of the Warrant Redemption on February 5, 2013 (the "Redemption Notice"); and

WHEREAS, the Redemption Notice provides that the Company will redeem all unexercised Warrants that are not exercised in full prior to 5:00 p.m. on March 14, 2013 (the "Redemption Date"); and

WHEREAS, pursuant to section 3(f) of the Agency Agreement, the Company desires to engage Spencer Trask to act on behalf of the Company, and Spencer Trask is willing to serve, as the exclusive Warrant Solicitation Agent for the Warrant Redemption on the terms and conditions set forth herein.

NOW, THEREFORE, in consideration of the premises and the mutual agreements herein set forth, the parties hereto agree as follows:

1. Appointment of Warrant Solicitation Agent. The Company hereby appoints Spencer Trask as, and Spencer Trask (hereinafter, the "Solicitation Agent") hereby agrees to serve as, the exclusive Solicitation Agent for the Warrant Redemption. Promptly upon execution of this Agreement, the Company shall deliver to Solicitation Agent a list of the Redeemed Warrant Holders, including the number of shares of common stock subject to outstanding Warrants held by the Redeemed Warrant Holders and subject to the Warrant Redemption (the "Redeemed Warrant Holder List").

The services to be provided by the Solicitation Agent shall consist of the following:

(a) use its commercially reasonable efforts to contact the Redeemed Warrant Holders to inform them of the Company's decision to exercise the Warrant Redemption, including informing them of the deadline for exercising the Warrants before the Warrants are redeemed by the Company;

(b) coordinating with the other broker-dealers who participated in the Private Financings (the "Participating Broker-Dealers") regarding the Warrant Redemption, including informing each of the respective Participating Broker-Dealers of their clients who are Redeemed Warrant Holders and potentially instructing such Participating Broker-Dealers to contact such persons;

(c) assisting the holders of the Warrants in the processing of their Warrant exercises in a timely manner, including answering any questions by the Redeemed Warrant Holders concerning the procedure for exercising their Warrants and the consequences of the Company's exercise of the Warrant Redemption, confirming that the exercise notices have been properly executed by the Redeemed Warrant Holders and, if requested, forwarding of the executed exercise notices to the Company, together with the exercise payment; and

(d) provide the Company with a weekly update during the Redemption Period (as defined below) of the Redeemed Warrant Holders contacted by the Solicitation Agent or the Participating Broker-Dealers, including whether such Redeemed Warrant Holders indicated their intention to exercise their Warrants during the Redemption Period and any other questions or information requests made by such Redeemed Warrant Holders.

2. Warrant Solicitation Fee.

(a) Amount of Solicitation Fee. The Company shall pay the Solicitation Agent a fee (the "Warrant Solicitation Fee") consisting of a cash payment equal to 5% of the total proceeds received from all exercises of the Warrants occurring after the date of the Company's issuance of the Redemption Notice (February 5, 2013) and prior to 5:00 p.m. Eastern on the Redemption Date (the "Redemption Period"). Solicitation Agent shall be responsible for allocating and paying the appropriate portion of the Warrant Solicitation Fee to any Participating Broker-Dealers based on their clients who exercise their Warrants during the Redemption Period. The Company shall determine, in its sole and absolute discretion, whether a Redeemed Warrant Holder properly exercised his, her or its Warrant during the Redemption Period, or whether the Warrant was redeemed by the Company. The Company confirms to the Solicitation Agent that the cashless exercise provisions of the Warrants are not applicable and will not be applicable at any time during the Redemption Period.

(b) Conditions to Payment of Solicitation Fee. The Solicitation Agent hereby waives the twenty (20) day notice requirement under the under Section 3(f) of the Agency Agreement.

(c) Timing of Payment of Solicitation Fee. On a weekly basis during the Redemption Period commencing February 15 and on each Friday thereafter ending March 15, 2013 (unless the Redemption Date is extended in which case the ending date shall be the Friday following such extended Redemption Date), the Company will provide the Solicitation Agent with an updated Redeemed Warrant Holder List, indicating the Redeemed Warrant Holders who elected to exercise their Warrants during the prior period, together with payment to the Solicitation Agent of the applicable Warrant Solicitation Fee for all exercises during such prior period. Within five (5) business days of its receipt of the Warrant Solicitation Fee, the Solicitation Agent shall pay the appropriate portion of the Warrant Solicitation Fee to any Participating Broker-Dealers whose clients exercised their Warrants during the applicable period. At the end of the Redemption Period, the Solicitation Agent shall provide the Company with a list indicating that portion of the Warrant Solicitation Fee delivered by the Solicitation Agent to any Participating Broker-Dealers.

3. Representations, Warranties and Covenants of the Company. The Company represents, warrants and covenants as follows:

(a) The Company is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware and has full corporate power and authority to execute and deliver this Agreement and to consummate the transactions contemplated hereby. All corporate proceedings on the part of the Company necessary to authorize this Agreement and the transactions contemplated hereby, including, but not limited to the Warrant Redemption, have been duly and validly taken. This Agreement has been duly and validly authorized, executed and delivered by the Company, constitutes the legal, valid and binding agreement and obligation of the Company, enforceable against it in accordance with its terms, except as enforceability may be limited by bankruptcy, insolvency, moratorium or other similar laws affecting creditors' rights generally, including, without limitation laws regarding fraudulent or preferential transfers, or by the principles governing the availability of equitable remedies.

(b) The Warrants have been duly authorized and are validly issued, fully paid and non-assessable.

(c) Neither the execution and delivery of this Agreement by the Company nor the consummation of the transactions contemplated hereby will (i) conflict with or result in any breach of any provision of the Certificate of Incorporation or Bylaws of the Company, each as amended to date; (ii) require any consent, approval, authorization or permit from, or filing with or notification to, any United States or foreign governmental or regulatory authority or other third party, except for (A) the notices and filings required by state and federal securities laws, or (b) any such consents, approvals, authorizations, permits, filings or notifications, the absence of which would not have a material adverse effect on the Company or the Warrants; (iii) result in a breach of the terms, conditions or provisions of, constitute a default (or an event which, upon notice or lapse of time or both, would constitute a default) under or cause, permit or give rise to any right of termination, cancellation or acceleration under any of the terms, conditions or provisions of any material agreement or other material instrument or obligation to which the Company is a party or by which the Company is bound; or (iv) conflict with or result in a violation of any provision of (A) any statute, rule, regulation or ordinance which conflict or

violation might have a material adverse impact on the Company or the Warrants, or (B) any material order, writ, injunction, judgment, award, decree, permit or license applicable to the Company or any of the Company's properties or assets.

4. Representations and Warranties of the Solicitation Agent. The Solicitation Agent represents and warrants as follows:

(a) The Solicitation Agent is a corporation duly organized, validly existing and in good standing under the laws of the State of Delaware and has full power and authority to execute and deliver this Agreement and to consummate the transactions contemplated hereby. All proceedings on the part of the Solicitation Agent necessary to authorize this Agreement and the transactions contemplated hereby have been duly and validly taken. This Agreement has been duly and validly authorized, executed and delivered by the Solicitation Agent, constitutes the legal, valid and binding agreement and obligation of the Solicitation Agent, enforceable against it in accordance with its terms, except as enforceability may be limited by bankruptcy, insolvency, moratorium or other similar laws affecting creditors' rights generally, including, without limitation laws regarding fraudulent or preferential transfers, or by the principles governing the availability of equitable remedies.

(b) Neither the execution and delivery of this Agreement by the Solicitation Agent nor the consummation of the transactions contemplated hereby will (i) conflict with or result in any breach of any provision of the governing instruments of the Solicitation Agent, each as amended to date; (ii) require any consent, approval, authorization or permit from, or filing with or notification to, any United States or foreign governmental or regulatory authority or other third party, including the Securities and Exchange Commission (the "Commission") and the Financial Industry Regulatory Authority, Inc. ("FINRA"); (iii) result in a breach of the terms, conditions or provisions of, constitute a default (or an event which, upon notice or lapse of time or both, would constitute a default) under or cause, permit or give rise to any right of termination, cancellation or acceleration under any of the terms, conditions or provisions of any material agreement or other material instrument or obligation to which the Solicitation Agent is a party or by which the Solicitation Agent is bound; or (iv) conflict with or result in a violation of any provision of (A) any statute, rule, regulation or ordinance which conflict or violation might have a material adverse impact on the Solicitation Agent, including the Rules of FINRA and the Rules and Regulations of the Commission or (B) any material order, writ, injunction, judgment, award, decree, permit or license applicable to the Solicitation Agent or any of the Solicitation Agent's properties or assets.

5. Indemnification.

(a) Obligations of Solicitation Agent to Indemnify. The Solicitation Agent agrees to indemnify, defend and hold harmless the Company (and its directors, officers, employees, affiliates, agents and assigns) from and against all claims, actions, suites, proceedings, losses, liabilities, judgments, damages, deficiencies, brokerage or other commissions, costs or expenses (including interest, penalties and reasonable attorneys' fees and disbursements) which it or they shall incur or suffer based upon, arising out of or otherwise in respect of or involving (i) any inaccuracy in or breach of any representation, warranty, covenant

or agreement of Solicitation Agent contained in this Agreement or in any related agreement, instrument or document entered into or delivered pursuant to this Agreement and (ii) any amounts claimed to be owed to Participating Broker-Dealers in connection with the exercise of the Warrants as provided herein.

(b) Obligations of the Company to Indemnify. The Company agrees to indemnify, defend and hold harmless the Solicitation Agent (and its officers, directors, shareholders, employee, affiliates, agents and assigns, as well as each person who controls the Solicitation Agent within the meaning of Section 15 of the Securities Act of 1933, as amended, or Section 20 of the Securities Exchange Act of 1934, as amended) from and against all claims, actions, suites, proceedings, losses, liabilities, damages, deficiencies, brokerage or other commissions (other than to Participating Broker-Dealers as set forth herein), costs or expenses (including interest, penalties and reasonable attorneys' fees and disbursements) based upon, arising out of or otherwise in respect of or involving any inaccuracy in or breach of any representation, warranty, covenants or agreement of the Company contained in this Agreement or in any related agreement, instrument or document entered into or delivered pursuant to this Agreement.

6. Termination. Notwithstanding anything in this Agreement to the contrary, this Agreement may be terminated at any time and for any reason by either the Company or Solicitation Agent if either party shall default in the performance of its or his obligations under this Agreement and the defaulting party shall not have cured the same within ten (10) days after the receipt of written notice from the non-defaulting party specifying such default. If this Agreement is terminated pursuant to this Section 6, this Agreement shall thereafter have no effect except for (i) the Company's obligation to pay the Warrant Solicitation Fee for exercises of Warrants prior to the effectiveness of said termination and (ii) both parties' indemnification obligations under Section 5 above, all of which shall survive the termination of this Agreement.

7. Miscellaneous.

(a) Survival of Representations and Warranties. The parties' respective representations and warranties contained in this Agreement shall survive until three years after the termination of this Agreement at which time they shall expire and be deemed terminated and thereafter neither party may claim any damage for breach thereof.

(b) Amendment and Waiver. Any term or provision of this Agreement may be waived at any time by the party which is entitled to the benefits thereof, but only in a writing signed by such party, and this Agreement may be amended or supplemented at any time, but only by written agreement of the Company and Solicitation Agent. Any such waiver with respect to a failure to observe any such provision shall not operate as a waiver of any subsequent failure to observe such provision unless otherwise expressly provided in such waiver.

(c) Expenses. Except as otherwise provided in this Agreement, the Company and Solicitation Agent shall pay their respective fees, commissions, costs, and other expenses, separately incurred in connection with the preparation and execution of this Agreement and the consummation of the transactions contemplated hereby.

(d) Entire Agreement. This Agreement contains the entire agreement between the Company and Solicitation Agent with respect to the solicitation of the exercise of the Warrants and supersedes all prior arrangements or understandings with respect thereto, and there have been no oral representations or warranties and neither party has relied on any representation not contained herein.

(e) Notices. All notices, consents, requests, instructions, approvals and other communications provided for herein shall be validly given, made or served, if in writing and delivered personally or sent by fax (except for legal process) or certified mail, postage prepaid, to:

Company:

Organovo Holdings, Inc.
6275 Nancy Ridge Drive
San Diego, CA 92121
Facsimile: (858) 550-9948
Attn: Barry D. Michaels

With copies to:

DLA Piper LLP (US)
4365 Executive Drive, Suite 1100
San Diego, CA 92121
Facsimile: (858) 638-5128
Attn: Jeffrey Thacker

Solicitation Agent:

Spencer Trask Ventures, Inc.
750 Third Avenue, 11th Floor
New York, NY 10017
Facsimile: (212) 829-4405
Attn: John Heidenreich

with copies to:

Littman Krooks LLP
655 Third Avenue
20th Floor
New York, NY 10017
Facsimile: (212) 490-2990
Attn: Steven D. Uslaner

or to such other address or fax number as any party hereto may, from time to time, designate in a written notice given in a like manner. Notice given by fax shall be deemed delivered on the day

the sender receives confirmation that such notice was received at the fax number of the addressee, provided that if the faxed notice is transmitted by the sender after 3:00 p.m. (sender's time), it shall be deemed to have been delivered the following day. Notice given by mail as set out above shall be deemed delivered five business days after the date the same is postmarked.

(f) Assignment. This Agreement may not be assigned, by operation of law or otherwise, and any attempt to do so shall be void. This Agreement shall be binding upon and inure to the benefit of successors and assigns of the parties hereto.

(g) Counterparts. This Agreement may be executed in one or more counterparts, each of which shall be deemed to be an original, but all of which together shall constitute one and the same instrument. Any such counterpart, to the extent delivered by means of a facsimile machine or by .pdf, .tif, .gif, .jpeg or similar attachment to electronic mail (any such delivery, an "*Electronic Delivery*") shall be treated in all manner and respects as an original executed counterpart and shall be considered to have the same binding legal effect as if it were the original signed version thereof delivered in person. At the request of any party hereto, each other party hereto or thereto shall re-execute the original form of this Agreement and deliver such form to all other parties. No party hereto shall raise the use of Electronic Delivery to deliver a signature or the fact that any signature or agreement or instrument was transmitted or communicated through the use of Electronic Delivery as a defense to the formation of a contract, and each such party forever waives any such defense, except to the extent such defense relates to lack of authenticity.

(h) APPLICABLE LAW, COSTS, ETC. THIS AGREEMENT WILL BE GOVERNED BY, CONSTRUED AND ENFORCED IN ACCORDANCE WITH THE LAWS OF THE STATE OF NEW YORK APPLICABLE TO CONTRACTS MADE AND TO BE PERFORMED WHOLLY WITHIN SUCH STATE. THE PARTIES HERETO HEREBY IRREVOCABLY SUBMIT TO THE JURISDICTION OF ANY NEW YORK STATE OR UNITED STATES FEDERAL COURT SITTING IN NEW YORK COUNTY OVER ANY ACTION OR PROCEEDING ARISING OUT OF OR RELATING TO THIS AGREEMENT OR ANY AGREEMENT CONTEMPLATED HEREBY, AND THE PARTIES HERETO HEREBY IRREVOCABLY AGREE THAT ALL CLAIMS IN RESPECT OF SUCH ACTION OR PROCEEDING SHALL BE HEARD AND DETERMINED IN SUCH NEW YORK STATE OR FEDERAL COURT. THE PARTIES HERETO FURTHER WAIVE ANY OBJECTION TO VENUE IN SUCH STATE AND ANY OBJECTION TO AN ACTION OR PROCEEDING IN SUCH STATE ON THE BASIS OF A NON-CONVENIENT FORUM. THE PARTIES HERETO FURTHER AGREE THAT ANY ACTION OR PROCEEDING BROUGHT AGAINST EACH OTHER SHALL BE BROUGHT ONLY IN NEW YORK STATE OR UNITED STATES FEDERAL COURTS SITTING IN NEW YORK COUNTY. THE COMPANY AND THE PLACEMENT AGENT EACH HEREBY WAIVES ITS RIGHT TO A JURY TRIAL OF ANY CLAIM OR CAUSE OF ACTION BASED UPON OR ARISING OUT OF THIS AGREEMENT OR ANY DOCUMENT OR AGREEMENT CONTEMPLATED HEREBY. THE PLACEMENT AGENT OR THE COMPANY, AS THE CASE MAY BE, SHALL BE ENTITLED TO COSTS AND REASONABLE ATTORNEY'S FEES IN THE EVENT IT PREVAILS IN ANY CLAIMS, ACTIONS, AWARDS OR JUDGMENT UNDER THIS AGREEMENT.

(i) Construction of Agreement. Each of the parties hereto acknowledges and agrees that no provision in this Agreement is to be interpreted for or against any party because that party or that party's legal representative drafted the provision.

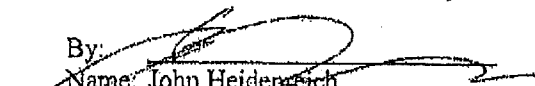
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IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed as of the date and year first above written.

ORGANOVO HOLDINGS, INC.

By: _____
Name: Barry D. Michaels
Title: Chief Financial Officer

SPENCER TRASK VENTURES, INC.

By: 
Name: John Heidenreich
Title: President