FORM 4

## **UNITED STATES SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

| <b>STATEMENT</b> | OF CHANGES | S IN BENEFICIAL | <b>L OWNERSHIP</b> |
|------------------|------------|-----------------|--------------------|

| l | OMB APPROVAL           |           |  |  |  |  |  |  |  |  |
|---|------------------------|-----------|--|--|--|--|--|--|--|--|
|   | OMB Number:            | 3235-0287 |  |  |  |  |  |  |  |  |
| l | Estimated average burd | len       |  |  |  |  |  |  |  |  |
| l | hours por rosponso:    | 0.5       |  |  |  |  |  |  |  |  |

Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

| Name and Address of Reporting Person*     David Eric      |  |  |  |                                 | 2. Issuer Name <b>and</b> Ticker or Trading Symbol ORGANOVO HOLDINGS, INC. [ ONVO ] |         |  |  |        |   |  |                                 | (Chec  | k all applica<br>Director  | cionship of Reporting Perso<br>all applicable)<br>Director<br>Officer (give title<br>below)<br>CSO & EVP Pre-Cl |   | on(s) to Issu<br>10% Ov<br>Other (s   | vner |
|---|--|--|--|---------------------------------|---|---------|--|--|--------|---|--|---------------------------------|--|--|---|---|---------------------------------------|------|
| (Last) (First) (Middle) 6275 NANCY RIDGE DRIVE, SUITE 110 |  |  |  |                                 | 3. Date of Earliest Transaction (Month/Day/Year) 07/11/2016                         |         |  |  |        |   |  |                                 | X  | below) `   |   |   | below)                                |      |
| (Street) SAN DIEGO CA 92121                               |  |  |  |                                 | 4. If Amendment, Date of Original Filed (Month/Day/Year)                            |         |  |  |        |   |  | 6. Indi<br>Line)<br>X           | Form filed by One Reporting Person Form filed by More than One Reporting |  |   |   |                                       |      |
| (City)  | (S   | tate)                                      | (Zip)  |                                 | Person  |         |  |  |        |   |  |                                 |  |  |   |   |                                       |      |
|   | Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned   |  |  |                                 |   |         |  |  |        |   |  |                                 |  |  |   |   |                                       |      |
| Date  |  |  |  | 2. Transac<br>Date<br>(Month/Da | Execution Date,   |         | 3. Transaction Code (Instr. 8)  4. Securities Acquired (A) o Disposed Of (D) (Instr. 3, 4 and 1) |  |        |   | s Form<br>ally (D) o<br>ollowing (I) (In |                                 | m: Direct<br>or Indirect<br>Instr. 4)                                    | 7. Nature of<br>Indirect<br>Beneficial<br>Ownership<br>(Instr. 4)                          |   |   |                                       |      |
|   |  |  |  |                                 |   |         | Code   | v  | Amount | Amount (A) or (D)   |  | ce                              | Transacti<br>(Instr. 3 a   | on(s)  |   | (IIISU. 4)  |                                       |      |
| Common Stock <sup>(1)</sup> 07/11/                        |  |  |  | 07/11/2                         | 2016  |         |  | A  |        | 50,000 <sup>(2)</sup> A   |  | . \$0                           | 0.00   | 726,3  | 26,306 <sup>(3)</sup>   |   | D                                     |      |
|   | Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities) |  |  |                                 |   |         |  |  |        |   |  |                                 |  |  |   |   |                                       |      |
| 1. Title of<br>Derivative<br>Security<br>(Instr. 3)       | 2.<br>Conversion<br>or Exercise<br>Price of<br>Derivative<br>Security  | 3. Transaction<br>Date<br>(Month/Day/Year) | 3A. Deemed<br>Execution Date<br>if any<br>(Month/Day/Yea | Cod                             | nsaction<br>le (Instr.  |         |  | 6. Date Exercisable and<br>Expiration Date<br>(Month/Day/Year) |        | 7. Title and Amount<br>of Securities<br>Underlying<br>Derivative Security<br>(Instr. 3 and 4) |  |                                 | 8. Price of<br>Derivative<br>Security<br>(Instr. 5)                      | 9. Number of<br>derivative<br>Securities<br>Beneficially<br>Owned<br>Following<br>Reported | e<br>s<br>Illy  | Ownership<br>Form:<br>Direct (D)<br>or Indirect<br>(I) (Instr. 4) | Beneficial<br>Ownership<br>(Instr. 4) |      |
|   |  |  |  | Cod                             | e V   | (A)     | (D)  | Date<br>Exercisabl   |        | expiration<br>Date  | Title                                    | Amour<br>or<br>Number<br>of Sha | er   |  | Transaction(s)<br>(Instr. 4)  |   |                                       |      |
| Stock<br>Option<br>(Right to<br>Buy) <sup>(1)</sup>       | \$3.99   | 07/11/2016                                 |  | A                               |   | 100,000 |  | (4)  | C      | 7/11/2026   | Common<br>Stock                          | 100,0                           | 000  | \$0.00   | 100,00  | 00  | D                                     |      |

## **Explanation of Responses:**

- 1. Annual long-term equity award approved by the Compensation Committee of the Issuer's Board of Directors.
- 2. The shares represent a grant of Restricted Stock Units ("RSUs"). The RSUs represent a right to receive shares of the Issuer's common stock, at no additional conversion or exercise price. The RSUs vest and settle over 16 equal quarterly installments measured from May 15, 2016.
- 3. This number does not include 1,070,000 shares of common stock underlying outstanding options held by Dr. David; post-transaction Dr. David beneficially owns or has a right to acquire 1,796,306 shares of common stock.
- $4. \ The \ option \ shares \ vest \ and \ become \ exercisable \ over \ 16 \ equal \ quarterly \ installments \ measured \ from \ May \ 15, \ 2016.$

## Remarks:

/s/ Eric David

07/13/2016

\*\* Signature of Reporting Person

Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

- $^{\star}$  If the form is filed by more than one reporting person, see Instruction 4 (b)(v).
- \*\* Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

 $Note: File \ three \ copies \ of \ this \ Form, \ one \ of \ which \ must \ be \ manually \ signed. \ If \ space \ is \ insufficient, \ see \ Instruction \ 6 \ for \ procedure.$ 

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.