FORM 4

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

| hington, D.C. 2 | 20549 |
|-----------------|-------|
|-----------------|-------|

| ONB APPROVAL | | | | | | | | | | |
|--------------|------------------------|-----------|--|--|--|--|--|--|--|--|
| l | OMB Number: | 3235-0287 | | | | | | | | |
| l | Estimated average burd | len | | | | | | | | |

0.5

hours per response:

| 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* LILLY ELI & CO | | | | | 2. Issuer Name and Ticker or Trading Symbol Aeglea BioTherapeutics, Inc. [AGLE] | | | | | | | | | ationship of k all applical Director Officer (c | ole) | Perso X | . , | ner | |
|--|--|--|--|-------------------------|---|---|---|--|--------|--|--------------------|--------------------|--|--|------------|---|--|--|--|
| (Last) (First) (Middle) LILLY CORPORATE CENTER | | | | | 3. Date of Earliest Transaction (Month/Day/Year) 04/12/2016 | | | | | | | | | below) | | | below) | | |
| (Street) INDIANAPOLIS IN 46285 | | | | | 4. If Amendment, Date of Original Filed (Month/Day/Year) | | | | | | | | 6. Indi Line) X | ' | | | | | |
| (City) | (\$ | State) | (Zip) | | | | | | | | | | | | | | · | | |
| | Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned | | | | | | | | | | | | | | | | | | |
| Date | | | | nsaction n/Day/Year) | | 2A. Deemed Execution Date, if any (Month/Day/Year) | | 3. Transaction Code (Instr. 8) | | 4. Securities Acquired (A) of Disposed Of (D) (Instr. 3, 4 | | | and 5) Securities Beneficial Owned Fo | | Form: | Direct Indirect str. 4) | 7. Nature of Indirect Beneficial Ownership (Instr. 4) | | |
| | | | | | | | Code | v | Amount | | A) or D) | Price | Price Reported Transactio (Instr. 3 an | | | | misti. 4) | | |
| Common Stock | | | 04/12/2 | /2016 | | | С | | 2,010, | 924 | Α | \$0 ⁽¹⁾ | 2,068,543 | | I I | | by fund ⁽²⁾ | | |
| Common Stock 04 | | | 04/12/2 | /2016 | | P | | 500,0 | 00 | A | \$1 <mark>0</mark> | 2,568 | ,543 | | I | by fund ⁽²⁾ | | | |
| | Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities) | | | | | | | | | | | | | | | | | | |
| 1. Title of Derivative Security (Instr. 3) | 2. Conversion or Exercise Price of Derivative Security | 3. Transaction Date (Month/Day/Year) | 3A. Deemed Execution Date if any (Month/Day/Yea | Code | action (Instr. | Deri Sec Acq or D | umber of vative urities uired (A) visposed of (Instr. 3, 4 5) | ative Expiration Date (Month/Day/Yearline) prosed of listr. 3, 4 | | Securities Underl | | | lerlying urity | lying Derivative | | er of e s ally g I ion(s) | 10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 11. Nature of Indirect Beneficial Ownership (Instr. 4) | |
| | | | | Code | v | (A) | (D) | Date Exercisal | | expiration Pate | Title | Nu | ount or mber of ares | | (Instr. 4) | (0) | | | |
| Series A Preferred Stock | \$0.0 | 04/12/2016 | | С | | | 890,476 | (1) | | (1) | Commo Stock | | 90,476 | \$0 | 0 | | I | by fund ⁽²⁾ | |
| Series B Preferred | \$0.0 | 04/12/2016 | | С | | | 1,120,448 | (1) | | (1) | Commo | | 120,448 | \$ 0 | 0 | | I | by fund ⁽²⁾ | |

Explanation of Responses:

- 1. In connection with the consummation of the Issuer's initial public offering on April 12, 2016, each share of Series A Preferred Stock and Series B Preferred Stock automatically converted into one (1) share of Common Stock for no additional consideration, and had no expiration date. All shares of Common Stock issued upon conversion were aggregated.
- 2. These shares are owned directly by Lilly Ventures Fund I LLC (the "Fund"). LV Management Group LLC (the "Management Company") has sole voting and dispositive authority with respect to the shares. Dr. Shanafelt disclaims beneficial ownership of the shares held of record by the Fund, except to the extent of his pecuniary interest therein.

Remarks:

Tiffany R. Benjamin, Authorized Person, authorization on file

04/14/2016

** Signature of Reporting Person

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

- * 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.