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| <b>OMB APPROVAL</b>                             |           |
| OMB Number:                                     | 3235-0287 |
| Estimated average burden<br>hours per response: | 0.5       |

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

**STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP**

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

|   |  |   |
|---|--|---|
| 1. Name and Address of Reporting Person*<br><u>Westphal Christoph H</u><br><br>(Last) (First) (Middle)<br>C/O FLEX PHARMA, INC.<br>800 BOYLSTON STREET<br><br>(Street)<br>BOSTON MA 02199<br><br>(City) (State) (Zip) | 2. Issuer Name and Ticker or Trading Symbol<br><u>Flex Pharma, Inc. [ FLKS ]</u> | 5. Relationship of Reporting Person(s) to Issuer<br>(Check all applicable)<br><br><input checked="" type="checkbox"/> Director <input checked="" type="checkbox"/> 10% Owner<br><br><input checked="" type="checkbox"/> Officer (give title below) Other (specify below)<br><br>President and CEO |
|   | 3. Date of Earliest Transaction (Month/Day/Year)<br>04/20/2015                   |   |
| 4. If Amendment, Date of Original Filed (Month/Day/Year)  |  |   |

**Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned**

| 1. Title of Security (Instr. 3) | 2. Transaction Date (Month/Day/Year) | 2A. Deemed Execution Date, if any (Month/Day/Year) | 3. Transaction Code (Instr. 8) |   | 4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5) |            |           | 5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4) | 6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 7. Nature of Indirect Beneficial Ownership (Instr. 4) |
|---------------------------------|--------------------------------------|--|--------------------------------|---|---|------------|-----------|---|--|---|
|                                 |                                      |  | Code                           | V | Amount  | (A) or (D) | Price     |   |  |   |
| Common Stock                    | 04/20/2015                           |  | P <sup>(1)</sup>               |   | 266   | A          | \$20.9123 | 3,904,009   | D  |   |
| Common Stock                    |                                      |  |                                |   |   |            |           | 2,697,264   | I  | By Longwood Fund II, L.P. <sup>(2)</sup>              |

**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/Year) | 4. Transaction Code (Instr. 8) |   | 5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5) | 6. Date Exercisable and Expiration Date (Month/Day/Year) |                 | 7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4) | 8. Price of Derivative Security (Instr. 5) | 9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4) | 10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4) | 11. Nature of Indirect Beneficial Ownership (Instr. 4) |
|--|--|--------------------------------------|--|--------------------------------|---|--|--|-----------------|---|--|--|---|--|
|  |  |                                      |  | Code                           | V |  | Date Exercisable   | Expiration Date |   |  |  |   |  |

**Explanation of Responses:**

- The purchase reported in this Form 4 was effected pursuant to a Rule 10b5-1 trading plan adopted on February 17, 2015.
- Longwood Fund II GP, LLC is the ultimate General Partner of Longwood Fund II, L.P. Christoph Westphal, M.D., Ph.D., Richard Aldrich and Michelle Dipp, M.D., Ph.D. (collectively, the "Managers") are managers of Longwood Fund II GP, LLC, and, as such, may be deemed to have shared voting and dispositive power with respect to the issuer's securities held by Longwood Fund II, L.P. (the "Longwood Shares"). Each of the Managers disclaims beneficial ownership of the Longwood Shares, except to the extent of their respective pecuniary interest therein, and the inclusion of these shares in this report shall not be deemed an admission of beneficial ownership of the shares for purposes of Section 16 or for any other purpose.

**Remarks:**

/s/ Robert Hadfield, Attorney-in-Fact 04/21/2015

\*\* Signature of Reporting Person Date

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.**