

INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF SECURITIES

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

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|---|--|---|---|
| 1. Name and Address of Reporting Person* <u>RANDLE STUART A</u> (Last) (First) (Middle) <u>C/O FLEX PHARMA, INC.</u> <u>800 BOYLSTON STREET</u> (Street) <u>BOSTON MA 02199</u> (City) (State) (Zip) | 2. Date of Event Requiring Statement (Month/Day/Year) <u>01/28/2015</u> | 3. Issuer Name and Ticker or Trading Symbol <u>Flex Pharma, Inc. [FLKS]</u> | |
| | | 4. Relationship of Reporting Person(s) to Issuer (Check all applicable) <input checked="" type="checkbox"/> Director 10% Owner Officer (give title below) Other (specify below) | 5. If Amendment, Date of Original Filed (Month/Day/Year) 6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person Form filed by More than One Reporting Person |

Table I - Non-Derivative Securities Beneficially Owned

| 1. Title of Security (Instr. 4) | 2. Amount of Securities Beneficially Owned (Instr. 4) | 3. Ownership Form: Direct (D) or Indirect (I) (Instr. 5) | 4. Nature of Indirect Beneficial Ownership (Instr. 5) |
|---------------------------------|---|--|---|
|---------------------------------|---|--|---|

Table II - Derivative Securities Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

| 1. Title of Derivative Security (Instr. 4) | 2. Date Exercisable and Expiration Date (Month/Day/Year) | | 3. Title and Amount of Securities Underlying Derivative Security (Instr. 4) | | 4. Conversion or Exercise Price of Derivative Security | 5. Ownership Form: Direct (D) or Indirect (I) (Instr. 5) | 6. Nature of Indirect Beneficial Ownership (Instr. 5) |
|--|--|-----------------|---|----------------------------|--|--|---|
| | Date Exercisable | Expiration Date | Title | Amount or Number of Shares | | | |
| Stock Option (right to buy) | (1) | 10/14/2024 | Common stock | 35,026 | 4.28 | D | |

Explanation of Responses:

1. Grant to the Reporting Person of a stock option under the Issuer's 2014 Equity Incentive Plan (the "2014 Plan"). 25% of the total shares underlying this option vest on October 15, 2015, the remaining shares vest 1/48 per month over the next 36 months thereafter, subject to continued service to the Issuer through each vesting date.

Remarks:

/s/ John McCabe, Attorney-in-Fact 01/28/2015

** 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 5 (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.

POWER OF ATTORNEY

Know all, by these presents, that the undersigned hereby constitutes and appoints each of Robert Hadfield and John McCabe, signing individually, the undersigned's true and lawful attorneys-in fact and agents to:

(1) execute for and on behalf of the undersigned, in the undersigned's capacity as an officer, director or holder of 10% or more of a registered class of securities of Flex Pharma, Inc. (the "Company"), Forms 3, 4 and 5 and any amendments thereto, in accordance with Section 16(a) of the Securities Exchange Act of 1934, as amended (the "Exchange Act") and the rules thereunder;

(2) do and perform any and all acts for and on behalf of the undersigned that may be necessary or desirable to complete and execute such Form 3, 4 or 5, complete and execute any amendment or amendments thereto, and timely file such forms or amendments with the United States Securities and Exchange Commission and any stock exchange or similar authority; and

(3) take any other action of any nature whatsoever in connection with the foregoing which, in the opinion of such attorney-in-fact, may be of benefit, in the best interest of, or legally required by, the undersigned, it being understood that the documents executed by such attorney-in-fact on behalf of the undersigned pursuant to this Power of Attorney shall be in such form and shall contain such terms and conditions as such attorney-in-fact may approve in such attorney-in-fact's discretion.

The undersigned hereby grants to each such attorney-in-fact full power and authority to do and perform any and every act and thing whatsoever requisite, necessary, or proper to be done in the exercise of any of the rights and powers herein granted, as fully to all intents and purposes as the undersigned might or could do if personally present, with full power of substitution or revocation, hereby ratifying and confirming all that such attorney-in-fact, or such attorney-in-fact's substitute or substitutes, shall lawfully do or cause to be done by virtue of this power of attorney and the rights and powers herein granted. The undersigned acknowledges that the foregoing attorneys-in-fact, in serving in such capacity at the request of the undersigned, are not assuming, nor is the Company assuming, any of the undersigned's responsibilities to comply with Section 16 of the Exchange Act.

This Power of Attorney shall remain in full force and effect until the earliest to occur of (a) the undersigned is no longer required to file Forms 3, 4 and 5 with respect to the undersigned's holdings of and transactions in securities issued by the Company, (b) revocation by the undersigned in a signed writing delivered to the foregoing attorneys-in-fact or (c) as to any attorney-in-fact individually, until such attorney-in-fact shall no longer be employed by the Company.

IN WITNESS WHEREOF, the undersigned has caused this Power of Attorney to be executed as of this 28th day of January, 2015.

/s/Stuart Randle
(Signature)

Stuart Randle
(Print Name)