UNITED STATES SECURITIES AND EXCHANGE COMMISSION

WASHINGTON, DC 20549

FORM 8-A

FOR REGISTRATION OF CERTAIN CLASSES OF SECURITIES PURSUANT TO SECTION 12(b) OR (g) OF THE **SECURITIES EXCHANGE ACT OF 1934**

Flex Pharma, Inc.

(Exact name of registrant as specified in its charter)

Delaware

46-5087339 (I.R.S. Employer Identification No.)

800 Boylston Street, 24th Floor Boston, Massachusetts (Address of principal executive offices)

(State of incorporation or organization)

02199 (Zip Code)

Securities to be registered pursuant to Section 12(b) of the Act:

Title of each class Name of exchange on which each class is to be registered to be so registered The NASDAQ Stock Market LLC

Common Stock, \$0.0001 par value per share

If this form relates to the registration of a class of securities pursuant to Section 12(b) of the Exchange Act and is effective pursuant to General Instruction A. (c), check the following box. ⊠

If this form relates to the registration of a class of securities pursuant to Section 12(g) of the Exchange Act and is effective pursuant to General Instruction A. (d), check the following box. \square

Securities Act registration statement file number to which the form relates: 333-201276

Securities to be registered pursuant to Section 12(g) of the Act: None

(Title of class)

Item 1. Description of Registrant's Securities to be Registered.

A description of the common stock, \$0.0001 par value per share, of Flex Pharma, Inc., a Delaware corporation (the "Registrant"), to be registered hereunder is contained in the section entitled "Description of Capital Stock" in the prospectus included in the Registrant's Registration Statement on Form S-1 (File No. 333-201276), initially filed with the Securities and Exchange Commission (the "Commission") on December 29, 2014, as amended from time to time (the "Registration Statement"), and is incorporated herein by reference. Any form of prospectus subsequently filed by the Registrant with the Commission pursuant to Rule 424(b) under the Securities Act of 1933, as amended, that constitutes part of the Registration Statement shall be deemed to be incorporated herein by reference.

Item 2. Exhibits.

Under the "Instructions as to Exhibits" with respect to Form 8-A, no exhibits are required to be filed with this registration statement because no other securities of the Registrant are registered on The NASDAQ Stock Market LLC and the securities registered hereby are not being registered pursuant to Section 12(g) of the Securities Exchange Act of 1934, as amended.

SIGNATURE

Pursuant to the requirements of Section 12 of the Securities Exchange Act of 1934, as amended, the Registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereto duly authorized.

Flex Pharma, Inc.

Date: January 23, 2015

By: \frac{\s\chickristoph Westphal, M.D., Ph.D}{Christoph Westphal, M.D., Ph.D}

Christoph Westphal, M.D., Ph.D President and Chief Executive Officer

3