

January 26, 2015

U.S. Securities and Exchange Commission
Division of Corporation Finance
100 F Street, N.E.
Mail Stop 6010
Washington, D.C. 20549-3628

VIA EDGAR

Attn: Mr. Jeffrey Riedler
Mr. Preston Brewer

Re: **Flex Pharma, Inc.**
Registration Statement on Form S-1
File No. 333-201276

Acceleration Request

Requested Date: Wednesday, January 28, 2015
Requested Time: 4:30 P.M. Eastern Standard Time

Ladies and Gentlemen:

In accordance with Rule 461 under the Securities Act of 1933, as amended, the undersigned registrant (the "**Registrant**") hereby requests that the Securities and Exchange Commission (the "**Commission**") take appropriate action to cause the above-referenced Registration Statement on Form S-1 (the "**Registration Statement**") to become effective on January 28, 2015, at 4:30 p.m., Eastern Standard Time, or as soon thereafter as is practicable, or at such later time as the Registrant may orally request via telephone call to the staff (the "**Staff**"). This request for acceleration is subject, however, to your receiving a telephone call prior to such time from our legal counsel, Cooley LLP, confirming this request. The Registrant hereby authorizes each of Marc Recht and Giselle Rivers of Cooley LLP, counsel to the Registrant, to make such request on its behalf.

Once the Registration Statement has been declared effective, please orally confirm that event with Marc Recht of Cooley LLP, counsel to the Registrant, at (617) 937-2316, or in his absence, Giselle Rivers at (617) 937-2378.

In connection with this request, the Registrant acknowledges that:

- should the Commission or the Staff, acting pursuant to delegated authority, declare the Registration Statement effective, it does not foreclose the Commission from taking any action with respect to the Registration Statement;
 - the action of the Commission or the Staff, acting pursuant to delegated authority, in declaring the Registration Statement effective, does not relieve the Registrant from its full responsibility for the adequacy and accuracy of the disclosure in the Registration Statement; and
-
- the Registrant may not assert Staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Very truly yours,

Flex Pharma, Inc.

By: /s/ John McCabe
VP, Finance

cc: Christoph Westphal, M.D., Ph.D., Flex Pharma, Inc.
Robert Hadfield, Esq., Flex Pharma, Inc.
Marc A. Recht, Esq., Cooley LLP
Giselle S. Rivers, Esq., Cooley LLP
Nathan Ajiashvili, Esq., Latham & Watkins LLP
