

William McVicar, Ph.D.
President and Chief Executive Officer
Flex Pharma, Inc.
31 St. James Avenue, 6th Floor
Boston, MA 02116

Re: Flex Pharma, Inc.
Registration Statement on Form S-4
Filed February 14, 2019
File No. 333-229666

Dear Dr. McVicar:

We have reviewed your registration statement and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by amending your registration statement and providing the requested information. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your registration statement and the information you provide in response to these comments, we may have additional comments.

Form S-4 Filed February 14, 2019

Cover Page

1. Please revise to include the per share exchange ratio.

Q: What is the merger?, page 1

2. Where you discuss the dividend or distribution of rights to receive warrants to purchase shares of Flex Pharma stock on page 2, please disclose the warrants' aggregate value and the number of shares that the warrants would be exercisable for, based on values as of the most recent practicable date. Also disclose any assumptions on which the calculation is based.

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Questions and Answers about the Merger, page 1

3. We note that at or prior to the closing of the merger, Flex Pharma will pay a dividend of or distribute one right per share of Flex Pharma's common stock to its current stockholders of record as of a date and time determined by Flex Pharma's board of directors. To the extent that it will impact the exchange ratio or the expected relative ownership percentages of each company's shareholders in the combined company, please clearly disclose this fact and the expected impact throughout your prospectus as appropriate, including on the prospectus cover page.
Conditions to Completion of the Merger, page 14

4. Please revise to identify the conditions that the parties may waive.
Risk Factors
The certificate of incorporation of the combined company will provide that the Court of Chancery of the State of Delaware..., page 71

5. We note your disclosure that your certificate of incorporation for the

combined company
will contain an exclusive forum provision. Please disclose whether the
provision will
apply to actions arising under the Securities Act or Exchange Act. If
the provision does
not apply to actions arising under the Securities Act or Exchange Act,
please also ensure
that the provision in the certificate of incorporation states this
clearly. If the
provision does apply to actions arising under the federal securities
laws, please revise your
prospectus to clarify, as well as to state that there is uncertainty
as to whether a court
would enforce such a provision.
Flex Pharma Proposal 2, page 85

6. We note your disclosure that the reverse stock split ratio will be
determined by the board
of directors. Please clarify whether there is a potential range of
ratios from which the
board will select. You suggest on page 88 that you are seeking
stockholder approval of a
range of potential ratios, and the table on page 87 suggests that the
range could be in the
1:15 to 1:30 range, but it appears from the text of the proposed
charter amendment that the
board can select any ratio. Please revise to clarify and to specify
the period of time for
which the authority to implement the reverse split would be granted.
To the extent that
you are not specifying a range of ratios, please tell us whether it is
permissible under
Delaware law for shareholders to approve a resolution granting the
board discretion to
implement a reverse split at an unspecified ratio.
The Merger
Historical Background of Flex Pharma, page 96

7. Please provide us supplementally with copies of all materials prepared
by Wedbush and
shared with Flex Pharma's Board of Directors, including copies of all
board books and all
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transcripts and summaries, that were material to the Board's decision
to approve the
merger agreement and the transaction contemplated thereby.
History of Flex Pharma's Strategic Alternatives and Significant Corporate
Events, page 98

8. Please revise your disclosure throughout this section to provide
greater detail as to the
background of the transaction, including the material issues discussed
and key negotiated
terms. The disclosure should provide shareholders with an
understanding of how, when,
and why the material terms of your proposed transactions evolved and
why this
transaction is being recommended as opposed to any alternatives. In
your revised
disclosure, please ensure that you address the following:
the material terms in the initial proposal and any subsequent
proposals relating to
Parties 1, 2, 5, 6, 7, 8, and Salarius;
identification of the members of Flex Pharma's management involved;
and
valuations.

9. Please expand your disclosure, where applicable, to include the
processes employed to
assess the value of the potential transactions outlined in the
indications of interest you
received.
Opinion of Flex Pharma's Financial Advisor, page 108

10. We note that Salarius disclosed certain internal information,

primarily financial in nature,
including financial and operating data to Webdush. Please revise your
registration

statement to disclose the underlying financial information and
operating data.

11. In the public company market valuation analysis and precedent initial
public offering

analysis for Salarius, please disclose the basis for using the market
capitalization criteria

and how the market capitalization for the selected companies compare
to the value

attributed to Salarius. Similarly, please quantify the implied equity
values for the target

companies used in the precedent M&A transaction analysis. Please
disclose whether any

companies or transactions that met the selection criteria were
excluded from the analyses

and why.

Material U.S. Federal Income Tax Consequences..., page 158

12. Please revise your disclosure to provide a firm conclusion as to what
the material tax

consequences of the transactions will be to investors, not what they
are "intended" to be,

"should" be or "generally" will be. Additionally, remove statements
that assume the

material tax consequences at issue. For guidance, refer to Section III
of Staff Legal

Bulletin No. 19.

13. Please revise the disclosure so that it clearly identifies and
articulates the opinion being

rendered by each of the counsels whose short-form opinion was filed as
exhibits to the

registration statement. For guidance, refer to Part III.B.2 of Staff
Legal Bulletin 19.

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Salarius' Strategy and Ongoing Programs, page 211

14. Please revise this section to put into context your "speed-to-market
strategy." In this

regard, we note your risk factor disclosures on pages 39 - 50 which
indicates that you may

need to perform additional clinical trials and clinical testing is
expensive, time-consuming

and uncertain as to outcome and that you may find it difficult to
enroll patients in your

clinical trials, which could delay or prevent you from proceeding with
clinical trials of

your product candidates.

SP-2577 Phase 1 Clinical Trials, page 212

15. We note your disclosure that one patient has been treated at the first
dose level and did not

exhibit any drug-related grade 2 or greater adverse events during the
28-day cycle. Please

clarify whether there were any serious adverse events related to

SP-2577.

Salarius Strategic Collaborations and License Agreement, page 213

16. We note you have filed an exclusive license agreement with
NuPotential, Inc. as an

exhibit to the registration statement. Please disclose the material
terms of this agreement.

In your description of this agreement, please discuss the nature and
scope of the licensed

intellectual property; each parties rights and obligations; duration
of the agreement and

royalty term; and termination provisions.

Salarius Strategic Collaborations and License Agreements, page 213

17. For each agreement discussed in this section, please expand your
disclosure to include the

material terms including the following: each parties' rights and
obligations; financial

terms, including the aggregate milestone payments and royalty rate or range not to exceed ten percent; duration of the agreement and royalty term; and termination provisions.
Exhibits

18. Refer to Exhibit 8.1. Counsel must opine on the tax consequences of the offering, not the manner in which they are described in the prospectus. Please file a revised opinion stating that the disclosure identified in the prospectus is the opinion of the named counsel. For guidance, please see Staff Legal Bulletin No. 19 at Sections III.B.2 and III.C.2.

We remind you that the company and its management are responsible for the accuracy and adequacy of their disclosures, notwithstanding any review, comments, action or absence of action by the staff.

Refer to Rules 460 and 461 regarding requests for acceleration. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

You may contact Keira Nakada at 202-551-3659 or Sharon Blume at 202-551-3474 if
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you have questions regarding comments on the financial statements and related matters. Please contact Jeffrey Gabor at 202-551-2544 or Mary Beth Breslin at 202-551-3625 with any other questions.

FirstName LastNameWilliam McVicar, Ph.D.

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cc: Walter Van Dorn, Esq.
FirstName LastName

Sincerely,

Division of

Office of Healthcare