



UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

DIVISION OF
CORPORATION FINANCE

Mail Stop 4546

October 13, 2016

Dr. Rodger Novak
Chief Executive Officer
CRISPR Therapeutics, Inc.
200 Sidney St.
Cambridge, MA 02139

**Re: CRISPR Therapeutics AG
Amendment No. 1 to Registration Statement on Form S-1
Filed October 7, 2016
CIK No. 0001674416**

Dear Dr. Novak:

We have reviewed your amended 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.

Exhibit 5.1

1. The opinion that you file must be based on all facts relevant to the issues required to be addressed by Item 601(b)(5), not merely a list of documents that counsel elects to review. Please have counsel revise its opinion accordingly. Please also apply this comment to Exhibit 8.1.
2. Regarding the assumptions in paragraphs c) through f) of Part II:
 - Please explain why assumptions c) and f) are both necessary and appropriate, as they appear to be matters of material fact or law that underlie the ultimate opinion. Tell us whether counsel can rely on certificates of officers or other means rather than include these assumptions, or provide an opinion of counsel that does not include them. Regarding assumption f), tell us whether counsel can review public records to determine whether the documents have been amended.

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- Please explain why assumption d) is necessary and appropriate, given the statement that counsel expresses no opinion as to any auditing matters. Alternatively, please have counsel revise its opinion to remove this assumption.
 - Assumption e) appears to relate to a readily ascertainable fact. Please have counsel revise its opinion accordingly or tell us why counsel believes why this is not a readily ascertainable fact and why the assumption is necessary. Please also apply this comment to Exhibit 8.1.
3. We note the qualification in paragraph a) of Part IV that counsel has “not investigated... any matters of fact.” Please file an opinion based on a review of all legal and factual matters necessary to form the basis of the opinion given. Please also apply this comment to Exhibit 8.1.
 4. Please tell us why the qualification in paragraph c) of Part IV is necessary and appropriate. Alternatively, file an opinion of counsel that does not contain this assumption.
 5. Please tell us how the last sentence of the penultimate paragraph is consistent with Section 14 of the Securities Act. Please apply this comment to the similar statements in Exhibit 8.1.

Please contact Michael Gershon at (202) 551-6598 or Mary Beth Breslin at (202) 551-3625 with any questions.

Sincerely,

/s/ Mary Beth Breslin for

Suzanne Hayes
Assistant Director
Office of Healthcare and Insurance

cc: Robert E. Puopolo, Esq.