



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

DIVISION OF
CORPORATION FINANCE

Mail Stop 4546

August 5, 2016

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

**Re: CRISPR Therapeutics AG
Amendment No. 3 to Draft Registration Statement on Form S-1
Submitted July 27, 2016
CIK No. 0001674416**

Dear Dr. Novak:

We have reviewed your amended draft 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 providing the requested information and either submitting an amended draft registration statement or publicly filing your registration statement on EDGAR. 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 the information you provide in response to these comments and your amended draft registration statement or filed registration statement, we may have additional comments.

Notes to Consolidated Financial Statements

Note 7. Convertible Loans

2015 Convertible Loan Agreement with Vertex and certain existing shareholders, page F-20

1. We acknowledge your response to prior comment two. Please provide us a further analysis supporting your conclusion that the conversion feature at the issuance date was not substantive. In this regard, it is not clear from your response why the terms that you address regarding a qualified financing was not considered substantive at the issuance date. In addition, please address all conversion terms described herein so as to help us understand why the conversion feature was not considered substantive at the issuance date. Refer to ASC 470-20-40-7 thru 10.

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Note 9. Significant Contracts
Joint Venture with Bayer Healthcare LLC, page F-27

2. We acknowledge your response to prior comment three.
- Please tell us how you determined the fair value of the equity interest in the Joint Venture of \$36.4 million, which you ascribed as part of the arrangement consideration and why you believe it to be reasonable and complies with ASC 820-10.
 - Please tell us how you determined the \$71.4 million fair value of the license and why you believe it to be reasonable and complies with ASC 820-10. Although you disclose that it was determined based on the consideration paid and the fair value of the 50% interest in Casebia, it is unclear to what consideration paid you refer, and how consideration paid and the fair value of your interest in Casebia supports a determination of the fair value of the license.
 - Tell us why you used fair value rather than selling price in allocating arrangement consideration. Refer to ASC 605-25-30.

You may contact Christine Torney at (202) 551-3652 or James Rosenberg at (202) 551-3679 if you have questions regarding comments on the financial statements and related matters. Please contact Michael Gershon at (202) 551-6598 or Mary Beth Breslin at (202) 551-3625 with any other questions.

Sincerely,

/s/ Mary Beth Breslin for

Suzanne Hayes
Assistant Director
Office of Healthcare and Insurance

cc: Robert E. Puopolo, Esq.