

December 1, 2017

Christine Westbrook
Mary Beth Breslin
Office of Healthcare and Insurance
Division of Corporation Finance
Securities and Exchange Commission
100 F Street, N.E.
Washington, D.C. 20549

Re: CRISPR Therapeutics AG
Registration Statement on Form S-3
Filed November 9, 2017
File No. 333-221491

Dear Mesdames:

This letter is submitted on behalf of CRISPR Therapeutics AG (the “**Company**”) in response to comments of the staff of the Division of Corporate Finance (the “**Staff**”) of the U.S. Securities and Exchange Commission (the “**Commission**”) with respect to the Company’s Registration Statement on Form S-3 filed on November 9, 2017 (the “**Registration Statement**”), as set forth in the Staff’s letter dated November 30, 2017 to Rodger Novak (the “**Comment Letter**”). The Company is concurrently filing Amendment No. 1 to the Registration Statement (“**Amendment No. 1**”), which includes changes to reflect responses to the Staff’s comments and other updates.

For reference purposes, the text of the Comment Letter has been reproduced and italicized herein with responses below each numbered comment. All capitalized terms used and not otherwise defined herein shall have the meanings set forth in Amendment No. 1.

In addition to submitting this letter via EDGAR, we are sending via Federal Express three (3) copies of each of this letter and Amendment No. 1 (marked to show changes from the Registration Statement).

Exhibits

1. *Please file a revised legal opinion that covers the securities that are included in the registration statement.*

RESPONSE: The Company respectfully advises the Staff that it has revised Exhibit 5.1 in response to the Staff’s comment.

Should you have any further comments or questions with regard to the foregoing, please contact the undersigned at 617-570-1393.

Sincerely,

/s/ Robert E. Puopolo

Robert E. Puopolo

Enclosures:

cc: Samarth Kulkarni, *CRISPR Therapeutics AG*
James R. Kasinger, *CRISPR Therapeutics AG*
Seo Salimi, *Goodwin Procter LLP*