



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

DIVISION OF
CORPORATION FINANCE

Mail Stop 4546

September 7, 2016

Via E-mail

Anat Cohen-Dayag, Ph.D.
President and Chief Executive Officer
Compugen Ltd.
26 Harokmim Street
Holon 5885849, Israel

**Re: Compugen Ltd.
Annual Report on Form 20-F
Filed March 7, 2016
File No. 000-30902**

Dear Dr. Cohen-Dayag:

We have reviewed your filing 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 these comments within ten business days by providing the requested information or advise us as soon as possible when you will respond. If you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing your response to these comments, we may have additional comments.

Item 4. Information on the Company

B. Business Overview

Pipeline Program, page 28

1. On page 30, you disclose that you recently entered into collaboration agreements with the Johns Hopkins University and the U.S. National Institutes of Health. Please discuss the material terms of these agreements and file them as exhibits. Alternatively, provide us with an analysis supporting your determination that you are not required to file them as exhibits.

Our Predictive Discovery Approach, page 33

2. Please expand your discussion of the Bayer Agreement on page 36, to disclose the duration and termination provisions.

Item 19. Exhibits

3. We note that correspondence dated September 22, 2010 indicated you would incorporate a software license agreement between you and Evogene Ltd by reference in future filings. Please explain why you have not been incorporating this agreement as an exhibit to your Form 20-Fs.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Exchange Act of 1934 and all applicable Exchange Act rules require. Since the company and its management are in possession of all facts relating to a company's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

In responding to our comments, please provide a written statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Please contact Scot Foley at (202) 551-3383 or me at (202) 551-3675 with any questions.

Sincerely,

/s/ Suzanne Hayes

Suzanne Hayes
Assistant Director
Office of Healthcare and Insurance

cc: Brian P. Keane, Esq.
Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C.