



DIVISION OF
CORPORATION FINANCE

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

September 9, 2010

Dikla Czaczkes Axselbrad
Chief Financial Officer
Compugen Ltd.
72 Pinchas Rosen Street
Tel Aviv, 69512 Israel

**Re: Compugen Ltd.
Form 20-F
Filed March 11, 2010
File No. 000-30902**

Dear Ms. Axselbrad:

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 this letter within ten business days by providing the requested information or by advising us when you will provide the requested response. If you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing the information you provide in response to these comments, we may have additional comments.

Form 20-F filed March 11, 2010

Item 4. Information on the Company
Raw Materials, page 29

1. We note your disclosure regarding the types of raw materials you use. Please provide draft disclosure for inclusion in future filings that expands your disclosure to include a discussion and evaluation of the sources and availability of your raw material requirements, including the databases, biological samples and biological reagents that are material to your business.

Intellectual Property, page 29

2. Please provide draft disclosure for inclusion in future filings that expands your disclosure to disclose the expiration dates of your material patents and whether such patents relate to your therapeutic potential product candidates, diagnostic potential product candidates or your technology platform.

Item 7. Major Shareholders and Related Party Transactions
Related Party Transactions
Evogene, Ltd., page 51

3. You disclose that Martin Gerstel, your Chairman of the Board, has also served as the Chairman of Evogene's Board since December 19, 2004. Please file copies of your August 2006 Software License Agreement with Evogene and the May 2007 extension to that agreement which you disclose in Note 16 to your consolidated financial statements. See 4(b)(i) of the Instructions to Exhibits of Form 20-F.

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 Karen Ubell at (202) 551-3873, Jennifer Riegel at (202) 551- 3575 or me at (202) 551- 3715 with any questions.

Sincerely,

Jeffrey Riedler
Assistant Director