



DIVISION OF  
CORPORATION FINANCE

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

July 24, 2012

Via E-mail

Mr. Kenneth Berlin  
Chief Executive Officer and President  
Rosetta Genomics Ltd.  
3711 Market Street, Suite 740  
Philadelphia, PA 19104

**Re: Rosetta Genomics Ltd.  
Form 20-F for the Year Ended December 31, 2011  
Filed April 2, 2012  
File No. 001-33042**

Dear Mr. Berlin:

We have reviewed your filing and have the following comments. In our comments, we ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within 10 business days by providing the requested information or by advising us when you will provide the requested response. If you do not believe a comment applies to your facts and circumstances, please tell us why in your response. Please furnish us a letter on EDGAR under the form type label CORRESP that keys your responses to our comments.

After reviewing the information provided, we may raise additional comments and/or request that you amend your filing.

Notes to Consolidated Financial Statements

Note 1: General

e. Parkway Clinical Laboratories, Inc. ("Parkway"), page F-13

1. You state here that the minimum sales price of Parkway was \$750,000, while you appear to have collected only \$197,000 and the fair value of future consideration receivable is only \$125,000. Please tell us:
  - Why you expect to collect the minimum sales price and/or whether any amount of the minimum sales price has been impaired, since you state on page 37 that you have been experiencing collection problems with Parkway's buyer since the sale;
  - The amount that the purchaser of Parkway owes beyond the minimum sales price, if any;
  - The course of action available to you in the event of non-payment; and

- Why you reflect a net cash payment of \$35,000 during 2009 for the sale of Parkway as indicated on your statement of cash flows.

Note 2: Significant Accounting Policies

j. Revenue Recognition, page F-18

2. Please provide us proposed revised disclosure to be included in future periodic reports under Form 20-F to indicate how you recognize revenue associated with the contingent payments from distributors outside the U. S. as indicated in the last risk factor on page 10.

Note 9: Commitments and Contingent Liabilities

m. Settlement Agreement with Prometheus, page F-30

3. Please tell us why you defaulted on \$650,000 principal payment due to Prometheus only 20 days after filing Form 6-K on November 2, 2011, stating in Note 1f that you will have enough resources to continue as a going concern until December 31, 2011. Please also tell us how you were able to cure this default on December 1, 2011.

n. Rimonim Consortium, page F-32

4. Please provide us proposed disclosure to be included in future periodic reports that describes your obligations under the Rimonim Consortium arrangement.

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.

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Please contact Kei Nakada, Staff Accountant, at (202) 551-3659 or Mark Brunhofer, Senior Staff Accountant, at (202) 551-3638 if you have questions regarding the processing of your response as well as any questions regarding comments on the financial statements and related matters. You may contact Karen Ubell, Staff Attorney, at (202) 551-3873 or John Krug, Senior Attorney, at (202) 551-3862 with questions any other questions. In this regard, do not hesitate to contact me at (202) 551-3679.

Sincerely,

/s/ Jim B. Rosenberg

Jim B. Rosenberg  
Senior Assistant Chief Accountant