



DIVISION OF
CORPORATION FINANCE

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

March 18, 2011

Via E-mail

Dr. Elazar Rabbani, Chairman of the Board
Enzo Biochem, Inc.
527 Madison Ave
New York, New York 10022

Re: Enzo Biochem, Inc.
Form 10-K for the Fiscal Year Ended July 31, 2010
Filed October 14, 2010
Schedule 14A
Filed November 16, 2010
File No. 001-09974

Dear Dr. Rabbani:

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 amending your filing, 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 or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your filing and the information you provide in response to these comments, we may have additional comments.

Definitive Proxy Statement on Schedule 14A

1. Please confirm that in future filings you will provide the disclosure required by Item 407(h) of Regulation S-K regarding the board leadership structure and the board's role in risk oversight.

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:

Elazar Rabbani
Enzo Biochem, Inc.
March 18, 2011
Page 2

- 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 Shehzad Niazi at (202) 551-3121 or Pamela Howell, Special Counsel, at (202) 551-3357 with any questions.

Sincerely,

/s/ Pamela Howell
for

John Reynolds
Assistant Director