



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

DIVISION OF
CORPORATION FINANCE

Mail Stop 3561

October 12, 2016

Via E-mail

Barry W. Weiner
Chief Financial Officer
Enzo Biochem, Inc.
527 Madison Avenue
New York, NY 10022

**Re: Enzo Biochem, Inc.
Registration Statement on Form S-3
Filed September 1, 2016
Response dated September 30, 2016
File No. 333-213440**

Dear Mr. Weiner:

We have limited our review of your registration statement and supplemental response to those issues we have addressed in our 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 by amending your registration statement and providing the requested information. 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 registration statement and the information you provide in response to these comments, we may have additional comments. Unless we note otherwise, our references to prior comments are to comments in our September 26, 2016 letter.

Plan of Distribution, page S-10

1. We reissue prior comment 1 in part. Your disclosure of the plan of distribution of the securities covered by this prospectus states that you may sell your common stock "in negotiated transactions at market prices prevailing at the time of sale or at prices related to such prevailing market prices, and/or any other method permitted by law." Please tell us whether sales made in such "negotiated transactions" satisfy the "at the market offering" definition under Rule 415.

We remind you that the company and its management are responsible for the accuracy and adequacy of their disclosures, notwithstanding any review, comments, action or absence of action by the staff.

Barry W. Weiner
Enzo Biochem, Inc.
October 12, 2016
Page 2

Refer to Rules 460 and 461 regarding requests for acceleration. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

Please contact Ruairi Regan at (202) 551-3269 or Pamela Howell, Special Counsel, at (202) 551-3357 if you have any questions.

Sincerely,

/s/ Pamela Howell
for

John Reynolds
Assistant Director
Office of Beverages,
Apparel and Mining

cc: Robert H. Cohen, Esq.
McDermott, Will & Emery LLP