



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

DIVISION OF
CORPORATION FINANCE

Mail Stop 3561

September 28, 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
File No. 333-213440**

Dear Mr. Weiner:

We have limited our review of your registration statement 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. Where 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. Certain Relationships and

Plan of Distribution, page S-10

1. 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. If any sales method does not constitute a sales method that is deemed to be an "at the market offering" as defined in Rule 415 or if any material information with respect to a particular offering has been omitted, please confirm that you will file an additional prospectus supplement at the time of such sales or tell us why such additional filing would not be necessary.

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 Act of 1933 and all applicable Securities 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.

Notwithstanding our comments, in the event you request acceleration of the effective date of the pending registration statement please provide a written statement from the company acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Please refer to Rules 460 and 461 regarding requests for acceleration. We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

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

Sincerely,

/s/ James Lopez (for)

John Reynolds
Assistant Director
Office of Beverages,
Apparel and Mining

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