UNITED STATES SECURITIES AND EXCHANGE COMMISSION WASHINGTON, DC 20549

FORM 8-K

CURRENT REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934

Date of report (Date of earliest event reported): January 14, 2011

Enzo Biochem, Inc.

(Exact Name of Registrant as Specified in Its Charter)

New York

(State or Other Jurisdiction of Incorporation)

001-09974

(Commission File Number)

13-2866202 (IRS Employer Identification No.)

527 Madison Avenue New York, New York

(Address of Principal Executive Offices)

10022 (Zip Code)

(212) 583-0100

(Registrant's Telephone Number, Including Area Code)

(Former Name or Former Address, if Changed Since Last Report)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (*see* General Instruction A.2. below):

□ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

□ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

□ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Item 5.02. Departure of Directors or Certain Officers; Election of Directors; Appointment of Certain Officers; Compensatory Arrangements of Certain Officers.

At the Annual Meeting of Shareholders (the "Annual Meeting") of Enzo Biochem, Inc. (the "Company") held on January 14, 2011, the Company's shareholders approved the Company's 2011 Incentive Plan (the "Plan"). The Plan was previously adopted by the Company's Board of Directors on November 2, 2010.

The Plan permits the award of incentive and non-qualified stock options, stock appreciation rights, restricted stock, restricted stock units, shares granted as a bonus or in lieu of another award, dividend equivalents, other stock-based awards or performance awards. Awards may be granted under the Plan to officers, directors, employees, consultants and other persons who provide services to the Company or any related entity on a full-time basis. A total of 3,000,000 shares of Common Stock of the Company are reserved and available for issuance under the Plan. The foregoing limit shall be increased by the number of shares of Common Stock with respect to which awards previously granted under the Plan that are forfeited, expire or otherwise terminate without issuance of shares, or that are settled for cash or otherwise do not result in the issuance of shares, and the number of shares that are tendered (either actually or by attestation) or withheld upon exercise of an award to pay the exercise price or any tax withholding requirements. Unless earlier terminated by the Company's Board of Directors, the Plan will terminate at the earliest of (a) such time as no shares of Common Stock remain available for issuance under the Plan, (b) termination of the Plan by the Board of Directors, or (c) the tenth anniversary of the effective date of the Plan.

Additional information regarding the Plan is summarized under the heading "Proposal 2 – Approval and Adoption of the 2011 Incentive Plan" in the Company's Definitive Proxy Statement on Schedule 14A in connection with the Annual Meeting (the "Proxy Statement"), which was filed with the Securities and Exchange Commission on November 16, 2010, and is incorporated herein by reference. The summary of the Plan set forth in the Proxy Statement and the description of the Plan set forth in this Current Report on Form 8-K are qualified in their entirety by reference to the text of the Plan, which is filed as Exhibit 10.1 hereto and is incorporated herein by reference.

Item 5.07. Submission of Matters to a Vote of Security Holders.

The Company held its Annual Meeting on January 14, 2011. The following matters, all of which were set forth in the Proxy Statement, were voted on at the Annual Meeting. The final results of such voting are as indicated below.

1. Election of the two nominees listed below to serve as Class II Directors on the Board of Directors of the Company, each to hold office for a term of three (3) years or until their respective successors have been duly elected and qualified:

Nominee		<u>For</u>	<u>Against</u>	<u>Abstain</u>	Broker Non-Votes
Mr. Barry W. Weiner		19,138,017	1,433,267	N/A	14,624,493
Dr. Bernard L. Kasten		19,469,524	1,101,760	N/A	14,624,493
 Approve and adopt the 1 For 17,709,125 	Plan: <u>Against</u> 2,805,273		<u>Abstain</u> 56,886	<u>Bro</u>	<u>ker Non-Votes</u> 14,624,493

3 . Ratification of the Company's appointment of Ernst & Young LLP to serve as the Company's independent registered public accounting firm for the Company's fiscal year ending July 31, 2011:

<u>For</u>	<u>Against</u>	<u>Abstain</u>	Broker Non-Votes
33,720,773	1,395,218	79,786	0

On the basis of the above votes, (i) each of the nominees listed above were elected to serve as Class II Directors on the Board of Directors of the Company, to hold office for a term of three (3) years or until their respective successors have been duly elected and qualified; (ii) the proposal to approve and adopt the Plan was approved; and (iii) the proposal to ratify the Company's appointment of Ernst & Young LLP to serve as the Company's independent registered public accounting firm for the Company's fiscal year ending July 31, 2011 was approved.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits.

10.1 2011 Incentive Plan (1)

(1) This exhibit was filed as appendix B to the Company's Definitive Proxy Statement on Schedule 14A, which was filed with the Securities and Exchange Commission on November 16, 2010 and is incorporated herein by reference.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Date: January 18, 2011

ENZO BIOCHEM, INC.

By: /s/ Barry Weiner

Barry Weiner President, Chief Financial Officer, Principal Accounting Officer and Director

EXHIBIT INDEX

10.1 2011 Incentive Plan (1)

(1) This exhibit was filed as appendix B to the Company's Definitive Proxy Statement on Schedule 14A, which was filed with the Securities and Exchange Commission on November 16, 2010 and is incorporated herein by reference.