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): June 11, 2007

Enzo Biochem, Inc. (Exact Name of Registrant as Specified in Its Charter) New York (State or Other Jurisdiction of Incorporation) 001-09974 13-2866202 -----(Commission File Number) (IRS Employer Identification No.) 527 Madison Avenue New York, New York 10022 (Address of Principal Executive Offices) (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 2.02. Results of Operations and Financial Condition.

(a) The following information, including the Exhibit attached hereto, is being furnished pursuant to this Item 2.02 and shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933, as amended, except as shall be expressly set forth by specific reference in such filing.

On June 11, 2007, Enzo Biochem, Inc., a New York corporation (the "Company"), issued a press release discussing its financial results for its third fiscal quarter ended April 30, 2007. A copy of the press release is furnished as Exhibit 99.1 to this report.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits.

Exhibit No. Description

99.1 Press Release of Enzo Biochem, Inc., dated June 11, 2007, discussing financial results for third fiscal quarter ended April 30, 2007.

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.

ENZO BIOCHEM, INC.

Date: June 13, 2007 By: /s/Elazar Rabbani

Dr. Elazar Rabbani

Chairman of the Board and Chief

Executive Officer

EXHIBIT INDEX

Exhibit No. Description

Press Release of Enzo Biochem, Inc., dated June 11, 2007, 99.1

discussing financial results for third fiscal quarter ended April 30, 2007.

ENZO BIOCHEM, INC. 527 MADISON AVENUE NEW YORK, NY 10022

Monday, June 11, 2007

FOR IMMEDIATE RELEASE

ENZO BIOCHEM REPORTS THIRD QUARTER RESULTS

NEW YORK, NY, June 11, 2007 -- Enzo Biochem, Inc. (NYSE:ENZ), a leading biotechnology company specializing in gene identification and genetic and immune regulation technologies for diagnostic and therapeutic applications, today announced results for its third fiscal quarter and nine months ended April 30, 2007.

Revenues for the quarter advanced 45%, to \$14.0 million, compared with \$9.6 million in the year-earlier period. The gain reflected a 49% increase in Clinical Lab revenues, principally resulting from a recently enhanced provider agreement. Gross profit for the quarter was \$7.9 million, compared with \$5.7 million in the year-ago period, an increase of 39%. The net loss for the period was \$3.8 million, or \$0.10 per share, compared with a year-ago net loss of \$3.4 million, or \$0.11 per share. Selling, general and administrative expenses were comparable. Research and Development expenditures increased \$0.7 million, or 38%, reflecting more clinical and pre-clinical activities in the therapeutics division. Legal expenses increased 77% to \$3.0 million as a result of increased activity surrounding the Company's intellectual property portfolio, including higher litigation costs. The provision for uncollectible accounts receivable amounted to \$1.3 million, compared with \$0.5 million a year ago, reflecting increased volume at Clinical Labs.

Enzo Clinical Labs in the fiscal 2007 third quarter posted revenues of \$11.5 million, up 49% from \$7.7 million in the corresponding year-ago period. Gross profit totaled \$6.3 million, compared with \$4.4 million a year ago, and operating income increased to \$1.4 million. The improvement reflects the results of an expanded relationship with a provider resulting in an increased number of procedures performed.

Enzo Life Sciences generated revenues for the fiscal quarter of \$2.4 million, up 28% from the comparable year ago period. Royalty income increased by \$0.8 million to \$1.5 million due to initial royalties recorded from Abbott and the increase in an ongoing royalty arrangement. Offsetting the royalty income increase was a decline in product sales due to a continuing competitive environment in the genomics research products area. Costs and expenses were comparable to the year-earlier period. Operating income was \$0.4 million for the comparable quarter, compared to an operating loss a year ago of \$0.02 million.

On June 4th, Enzo Life Sciences completed the acquisition of Axxora Life Sciences, Inc., which has become a wholly owned subsidiary of Enzo Life Sciences and is expected to significantly improve activities at Enzo Life Sciences. The Company will begin to consolidate Axxora's financial results commencing with the acquisition date. Axxora had revenues of approximately \$16 million in calendar 2006. Axxora brings to Enzo broad domestic and international marketing capabilities, an experienced and proven management team, and a product line that fully complements Enzo Life Sciences' own proprietary position in the research field. It is expected to add important strategic leverage to Enzo Life Sciences' proprietary activities in reagents, and labeling and detection products for gene sequencing and genetic analysis, in addition to opening to the Company a global roster of customers that access Axxora's advanced electronic ordering system.

For the nine months ended April 30, 2007, compared to the year ago period, consolidated revenues increased 17% to \$35 million, and the gross profit rose 13%, to \$20.5 million. Included was a \$2 million gain on a previously announced settlement with Sigma Aldrich, and a \$0.7 million payment from Perkin Elmer, a former distributor against which a lawsuit remains in force. Interest income increased by \$1.4 million for the nine month period. Net loss amounted to \$9.9 million, or \$0.29 per share, compared with a net loss of \$11.2 million, or \$0.35 per share a year ago for the comparable period.

As of April 30, 2007, Enzo had cash and cash equivalents of \$120 million, and working capital of \$129 million. Stockholder's equity amounted to \$145 million. There is no debt.

"We have made important progress in each of our business units," said Barry Weiner, Enzo's President. "New customers and expanded relationships at Enzo Clinical Labs improved operating results. The acquisition of Axxora should expand our product line and penetration into target markets. We also continue to progress in important areas to develop our therapeutic platforms."

"In addition, we announced interim data showing that Alequel(TM), an individualized oral immune regulation preparation, may be an effective treatment for moderate-to-severe Crohn's disease, providing good clinical remissions and improved patients' quality of life compared to placebos," added Mr. Weiner. "The

next step is preparation for advanced studies. Additionally, we are moving along in anticipation of launching the next phase in the evaluation of B27PD, our therapeutic candidate for the treatment of uveitis, and in enrolling additional patients for the HIV trials. Enzo also remains actively involved in advancing its patent rights, and in pursuing interference motions instituted by the U.S. Patent Office naming our Company as a senior party in the actions. Our Company continues to take important, aggressive steps forward in each of our businesses, as recent events underscore."

Some of the recent highlights include:

- o The acquisition of Axxora Life Sciences, a global manufacturer and marketer of life sciences research products, which immediately will strengthen the Company's Life Sciences division.
- o The completion of an agreement between Enzo Life Sciences and Abbott Molecular, Inc. covering the supply of certain of Enzo's products to Abbott Molecular for use in their FISH product line, and the signing of a limited non-exclusive royalty bearing cross-licensing agreement of patents between both parties.
- o Initiation of treatment of the first patient in a Phase I/II clinical trial of the Company's gene therapy for HIV-1 (Human Immunodeficiency Virus-Type 1) infection.
- o Granting of two new patents in the U.S. complementing and strengthening existing proprietary labeling products for the genomics and diagnostics markets.
- o Entry of judgment in favor of Enzo Life Science's patent application for nucleic acid signal amplification over two patents owned by Princeton University, following Princeton's concession of priority to Enzo.
- o Completion of Direct Placement of one million shares of common stock which brought total capital raised this fiscal year to \$60 million.

A conference call conducted by Enzo Biochem, Inc. management will take place on Tuesday, June 12, 2007 at 8:30 AM E.T. It can be accessed by dialing 1-888-562-3356. International callers can dial 1-973-582-2700. Please reference PIN number 8880041. Interested parties may also listen over the Internet at www.investorcalendar.com. To listen to the live call on the Internet, please go to the web site at least fifteen minutes early to register, download and install any necessary audio software. For those who cannot listen to the live broadcast, a replay will be available approximately two hours after the end of the live call, through midnight (ET) on June 26, 2007. The replay of the conference call can be accessed by dialing 1-877-519-4471, and, when prompted, use PIN number 8880041. International callers can dial 1-973-341-3080, using the same PIN number.

About Enzo

Enzo Biochem is engaged in the research, development and manufacture of innovative health care products based on molecular biology and genetic engineering techniques, and in providing diagnostic services to the medical community. Enzo's Life Sciences division develops, produces and markets proprietary labeling and detection products for gene sequencing and genetic analysis. Its catalog of over 300 products serves the molecular biology, drug discovery and pathology research markets. The Company's therapeutic division is in various stages of clinical evaluation of its proprietary gene medicine for HIV-1 infection and its proprietary immune regulation medicines for uveitis, Crohn's Disease, and NASH (non-alcoholic steatohepatitis), and conducts pre-clinical research on several candidate compounds aimed at producing new mineral and organic bone, including technology that could provide therapy for osteoporosis and fractures, among other applications. Enzo's Clinical Labs division provides routine and esoteric reference laboratory services for physicians in the New York Metropolitan area. Underpinning the Company's technology and operations is an extensive intellectual property estate in which Enzo owns or licenses over 200 patents worldwide, and has pending applications for over 180 more. For more information visit our website www.enzo.com.

Except for historical information, the matters discussed in this news release may be considered "forward-looking" statements within the meaning of Section 27A of the Securities Act of 1933, as amended and Section 21E of the Securities Exchange Act of 1934, as amended. Such statements include declarations regarding the intent, belief or current expectations of the Company and its management. Investors are cautioned that any such forward-looking statements are not guarantees of future performance and involve a number of risks and uncertainties that could materially affect actual results. The Company disclaims any obligations to update any forward-looking statement as a result of developments occurring after the date of this press release.

ENZO BIOCHEM, INC. (unaudited) (IN THOUSANDS, EXCEPT PER SHARE DATA)

	THREE MONTHS ENDED APRIL 30,		NINE MONTHS ENDED APRIL 30,	
	2007	2006	2007	2006
TOTAL REVENUES	\$13 , 960	\$9 , 630	\$34 , 998	\$29,910
LOSS BEFORE INCOME TAXES	(3,754)	(3,793)	(9,731)	(12,054)
(PROVISION) BENEFIT FOR INCOME TAXES	(79)	357	(199)	896
NET LOSS	(\$3,833)	(\$3,436)	(\$9,930)	(\$11,158)
BASIC AND DILUTED LOSS PER SHARE	(\$0.10)	(\$0.11)	(\$0.29)	(\$0.35)
WEIGHTED AVERAGE COMMON SHARES: BASIC AND DILUTED	36 , 630	32,245	34,465	32,201

SELECTED BALANCE SHEET DATA (IN THOUSANDS)

	APRIL 30, 2007	JULY 31, 2006
	(unaudited)	
CASH AND CASH EQUIVALENTS	\$120,024	\$69,854
WORKING CAPITAL	\$129,076	\$80,161
STOCKHOLDERS' EQUITY	\$144,556	\$95,587
TOTAL ASSETS	\$154,458	\$101,524

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Contact:

For: Enzo Biochem, Inc.

Steve Anreder, 212-532-3232 Or Michael Wachs, CEOcast, Inc., 212-732-4300

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