

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): OCTOBER 15, 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 October 15, 2007, Enzo Biochem, Inc., a New York corporation (the "Company"), issued a press release discussing its financial results for its fiscal year ended July 31, 2007. A copy of the press release is furnished as Exhibit 99.1 to this report.

ITEM 9.01. FINANCIAL STATEMENTS AND EXHIBITS.

(c) EXHIBITS.

Exhibit No.	Description
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99.1	Press Release of Enzo Biochem, Inc., dated October 15, 2007.
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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: October 16, 2007

By: /s/ Barry W. Weiner

Barry W. Weiner
President

EXHIBIT INDEX

Exhibit No. -----	Description -----
99.1	Press Release of Enzo Biochem, Inc., dated October 15, 2007.

Enzo Biochem, Inc.
527 Madison Avenue
New York, NY 10022

FOR IMMEDIATE RELEASE

ENZO REPORTS IMPROVED FOURTH QUARTER
AND FISCAL 2007 RESULTS

QUARTERLY REVENUE INCREASES 81%; QUARTERLY OPERATING RESULTS
IMPROVE BY \$1.2 MILLION

NEW YORK, NY, October 15, 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 increased revenue and improved operating results for its fourth fiscal quarter and year ended July 31, 2007.

Revenues for the quarter increased 81% to \$17.9 million compared to \$9.9 million in the year ago period. The gain reflected a 46% increase in Clinical Lab revenues, an increase of \$1.2 million in royalty and license fee income and \$3.1 million in product revenues attributed to the acquisition of Axxora Life Sciences Inc., ("Axxora"). Gross profit increased to \$9.2 million, compared to \$5.4 million in the corresponding year-ago period, a gain of 70%. Despite increases in legal expenses for the quarter (\$3.1 million vs. \$2.2 million a year ago), the provision for uncollectible accounts receivables primarily connected to Clinical Labs (\$1.2 million vs. \$0.8 million), and selling, general and administrative expenses (SG&A) of \$1.2 million, inclusive of Axxora, the net loss declined to \$3.3 million, or \$.09 per share from \$4.5 million last year or \$.14 per share, an improvement of 26%.

Full year fiscal 2007 total revenues amounted to \$52.9 million, up 33% from last fiscal year's \$39.8 million. Gross profit totaled \$29.7 million, up 26% from fiscal 2006's \$23.5 million. Royalty and license fee income improved 85% to \$5.8 million. Included in fiscal 2007 was the previously disclosed \$2.0 million gain on the settlement of a legal action with Sigma Aldrich. Reflecting the benefits of increased operating leverage, SG&A, as a percentage of total revenues for the year, improved to 50.0%, from 62.7%. Legal expenses increased to \$10.3 million, from \$7.4 million and the provision for uncollectibles was \$4.6 million, compared with \$3.6 million in the year earlier period.

Interest income increased \$1.9 million over the prior year due to increased invested balances. The net loss for the year decreased to \$13.3 million or \$.38 per share, compared with \$15.7 million or \$.49 per share a year ago.

Enzo remains in strong financial condition. As of July 31, 2007, Enzo had working capital of \$113.9 million, cash and cash equivalents of \$105.1 million, equity of \$141.9 million and no debt. During fiscal 2007, the Company completed two Registered Direct Offerings and received net proceeds of approximately \$57 million and used approximately \$17 million for the Axxora acquisition.

"We are pleased to report the strong improvement in operating results," said Barry W. Weiner, President of Enzo. "Enzo Clinical Labs is gaining solid traction as a result of the expanded relationship with United Healthcare, and in the increase in patients we are servicing from our enlarged facilities. And while we have benefited from only two months inclusion of the Axxora Life Sciences acquisition, its integration into Enzo Life Sciences is proceeding as planned in an efficient and productive manner. Enzo Life Sciences will benefit from Axxora's strong global distribution and marketing capabilities, and particularly its electronic marketplace that provides rapid access to over 25,000 life sciences products."

"Enzo Therapeutics continues to move its pre-clinical and clinical activities forward, particularly with modalities targeted to treat sufferers of Crohn's disease, uveitis, HIV and osteoporosis.

The court's decision in the Applera matter, which we are appealing, was disappointing. Nonetheless we and our attorneys believe there are strong reasons that the U.S. Appeals Court may act favorably on our motions. We remain confident that our considerable investments in protecting our intellectual property will yield important results, and we also look eagerly to resolution of the patent interference actions instituted by the U.S. Patent Office involving key patents in which we have been named senior party."

"Our focus going forward is on continuing to improve our financial results and expanding our worldwide operations, while pursuing our promising

therapeutic products and bringing to a successful conclusion the legal actions that we anticipate will inure to shareholder value."

ENZO CLINICAL LABS

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Fiscal fourth quarter revenues increased to \$11.9 million from \$8.2 million in the corresponding year ago period, an increase of 46%. Gross profit totaled \$6.5 million compared to \$4.5 million, and pre-tax operating income for the fourth quarter increased to \$1.6 million compared to \$0.1 million over the year-ago period.

For the full year, revenues increased to \$40.4 million as compared to \$31.9 million last year, a gain of 27%. Pre-tax operating income grew to \$3.3 million as

compared to \$0.1 million in the prior year. Gross profit increased to \$22.2 million or 23% for the year. With SG&A holding steady in the 12-month period, as a percentage of revenues, the ratio improved to 36% from 45% for the year. The provision for uncollectible accounts receivable increased approximately \$1 million primarily due to increased revenue levels.

ENZO LIFE SCIENCES

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Fourth quarter revenues, including royalties and licensing fee income, was \$6.0 million as compared to \$1.7 million in the corresponding prior year quarter, reflecting \$3.3 million in revenue from Axxora from May 31, 2007, the date of acquisition. Gross profit for the quarter was \$2.7 million. Revenues also benefited from higher royalty and licensing fee income of \$1.2 million due to increased royalties from Digene, and a new licensing agreement with Abbott Molecular. Gross profit was negatively affected by \$0.7 million adjustment relating to the acquisition of Axxora's inventory at the estimated market value. Segment pre-tax operating results for the quarter improved by \$1.0 million over the prior year quarter.

For the year, revenues, including royalties and licensing fee income, totaled \$12.5 million as compared to \$7.9 million in the prior year, inclusive of \$3.3 million in revenue from Axxora. Royalty and licensing fee income increased \$2.7 million or 85% attributed to the Digene royalties and the licensing agreement with Abbott Molecular. Gross profit grew to \$7.4 million, inclusive of the impact of the inventory adjustment resulting from recording the acquisition of Axxora. For the year, pre-tax operating results improved to \$4.0 million from a loss of \$0.2 million in the prior year.

ENZO THERAPEUTICS

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Enzo Therapeutics' progress continues on a number of fronts:

Alequel(TM), the Company's innovative immune regulation medicine for treatment of Crohn's disease, is currently undergoing an expanded study at Hadassah Hospital in Israel in order to broaden the diversity of the patient population.

A selection review is in process to determine appropriate trial sites to continue the study of Alequel in the U.S.

A Phase II randomized double blind study of EGS21 is being conducted to evaluate the candidate drug as a potential product for treatment of NASH (non-alcoholic steatohepatitis) and its associated metabolic syndrome.

A Phase I/II clinical trial of the Company's StealthVector(R) HGTV43(TM) gene medicine for HIV infection was initiated at the University of California San Francisco. This trial is designed to increase the percentage of circulating CD4+ immune cells that contain the anti-HIV-1 antisense genes.

Enzo's candidate drug B27PD for treatment of autoimmune uveitis is undergoing evaluation in preparation for regulatory submission. Uveitis, an inflammatory disease of the eye is a leading cause of blindness and current treatments are associated with significant toxicities. B27PD has been granted orphan status in Europe, and plans are to apply to have it similarly designated in the U.S.

Enzo presently has in preclinical development new compounds that could provide therapy for treating bone disorders, including osteoporosis, bone loss, fractures, abnormalities, diseases and other applications. Data from preclinical animal studies of one of the Company's lead compounds, as previously reported, were presented at the annual meeting of the American Society of Bone Mineral Research. The data suggest that this small molecule compound could serve as an attractive non-hormonal therapeutic agent for prevention of periodontal bone loss.

A CONFERENCE CALL CONDUCTED BY ENZO BIOCHEM, INC. MANAGEMENT WILL TAKE PLACE ON TUESDAY, OCTOBER 16, 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 9318768. 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 OCTOBER 30, 2007. THE REPLAY OF THE CONFERENCE CALL CAN BE ACCESSED BY DIALING 1-877-519-4471, AND, WHEN PROMPTED, USE PIN NUMBER 9318768. INTERNATIONAL CALLERS CAN DIAL 1-973-341-3080, USING THE SAME PIN NUMBER.

ABOUT ENZO

Enzo Biochem is engaged in the research, development, manufacture and licensing of innovative health care products and technologies 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, genetic analysis and immunological research among others. Its catalog of over 25,000 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 and New Jersey areas. 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.

TABLE FOLLOWS

ENZO BIOCHEM INC.

(in thousands, except per share date)

SELECTED OPERATIONS DATA:
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<TABLE>
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	Fiscal year ended July 31			Three months ended July 31 (unaudited)		
	2007	Notes	2006	2007	Notes	2006
<S>	<C>	<C>	<C>	<C>	<C>	<C>
Total revenues	\$ 52,908	A	\$ 39,826	\$ 17,912	A	\$ 9,915
Gross profit	29,675	B	23,509	9,193	B	5,408
Loss before income tax benefit	(13,175)		(17,009)	(3,443)		(4,955)
(Provision) benefit for income taxes	(85)	C	1,342	114	C	449
Net loss	(\$13,260)		(\$15,667)	(\$3,329)		(\$4,506)

Basic and diluted loss per share	(\$0.38)	(\$0.49)	(\$0.09)	(\$0.14)
	=====	=====	=====	=====
Weighted average shares - basic and diluted	35,017	32,215	36,674	32,258
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SELECTED BALANCE SHEET DATA:

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	----- July 31, 2007 -----	----- July 31, 2006 -----
Cash and cash equivalents	\$105,149	\$ 69,854
Working capital	113,850	80,161
Stockholders' equity	141,894	95,587
Total assets	159,002	101,524

NOTES:

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A- Includes \$3.3 million in products sales from Axxora Life Sciences, Inc. acquired May 31, 2007.

B- Includes \$0.7 million for inventory fair value adjustment relating to the Axxora acquisition.

C- All periods reflect effective tax rates below the statutory rate due to limitation on recording future tax benefits.

CONTACT:

For: Enzo Biochem, Inc.

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