

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 15, 2009**

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))
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Item 2.02. Results of Operations and Financial Condition.

On June 15, 2009, Enzo Biochem, Inc. (the "Company") issued a press release announcing its operating results for the three months ended April 30, 2009 and that it will conduct a conference call to discuss the results on Tuesday, June 16, 2009, at 8:30 a.m., Eastern time. The details of how to participate in the call are set forth in the press release.

The Company also announced that it will not file its quarterly report on Form 10-Q for its fiscal quarter ended April 30, 2009 with the Securities and Exchange Commission prior to the expiration of the extension period provided under Rule 12b-25 of the General Rules and Regulations under the Securities Exchange Act of 1934, as amended (the "Exchange Act"). The Company had filed a Notification of Late Filing on Form 12b-25 with the Securities and Exchange Commission on June 10, 2009 disclosing that it was not able to timely file its quarterly report on Form 10-Q for its fiscal quarter ended April 30, 2009 on or prior to the required deadline of June 9, 2009, but that it anticipated doing so within the extension period of five calendar days provided under Rule 12b-25 under the Exchange Act.

A copy of the press release is furnished as Exhibit 99.1 attached hereto and is incorporated by reference in its entirety into this Item 2.02 of this Current Report on Form 8-K.

In accordance with General Instruction B.2. of Form 8-K, the information contained in this Current Report on Form 8-K, including Exhibit 99.1, is being furnished and shall not be deemed to be "filed" for purposes of Section 18 of the Exchange Act or otherwise subject to the liability of that section. Such information shall not be incorporated by reference in any filing of the Company, whether made before or after the date hereof, regardless of any general incorporation language in such filing, except as otherwise expressly set forth by specific reference in such a filing.

Item 7.01. Regulation FD Disclosure.

The information provided in Item 2.02 of this Current Report on Form 8-K is incorporated herein by reference in its entirety.

Item 9.01. Financial Statements and Exhibits.

(d) Exhibits. The following exhibit is furnished herewith:

<u>Exhibit No.</u>	<u>Description</u>
99.1	Press Release of Enzo Biochem, Inc. discussing financial results for third fiscal quarter ended April 30, 2009.

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 15, 2009

By: /s/ Barry Weiner
Barry Weiner
Chief Financial Officer and
Principal Accounting Officer

EXHIBIT INDEX

<u>Exhibit No.</u>	<u>Description</u>
99.1	Press Release of Enzo Biochem, Inc. discussing financial results for third fiscal quarter ended April 30, 2009.

Enzo Biochem Announces Record 2009 Fiscal Third Quarter Revenues**Revenue at Enzo Life Sciences Increases 44%**

NEW YORK-- June 15, 2009 :Enzo Biochem, Inc. (NYSE:ENZ), a leading vertically integrated biotechnology company engaged in the research, development, manufacture and licensing and marketing of innovative health care products, technologies and services based on molecular and cellular techniques, today announced operating results for the three months ended April 30, 2009.

For the fiscal third quarter ended April 30, 2009, total revenues increased 22%, to a third quarter record \$23.1 million, compared with \$18.9 million in the corresponding year-earlier period. Revenue gains were attributable to a 50% increase in product revenues and a 20% increase in royalty and license fee income, from the Company's Life Sciences' business, and increased services revenues from Enzo Clinical Labs. Gross profit increased 8% to \$10.1 million in the fiscal 2009 third quarter from \$9.3 million in the fiscal 2008 third quarter. The net loss, including \$1.3 million of non-cash expenses as a result of acquisitions, was \$(4.2) million or (\$0.11) per share, compared to a year ago net loss of \$(2.1) million, or (\$0.06) per share, which included \$0.5 million of comparable non-cash expenses. Fiscal 2009 results were impacted by acquisition non-cash (pre-tax) expenses of \$0.9 million of purchase accounting adjustments for inventory and \$0.4 for depreciation and amortization derived from the acquired companies. Results were also impacted by a decline in interest income, from \$712,000 in the year-earlier period to \$17,000 in the 2009 fiscal third quarter, primarily due to significantly lower interest rates and lower cash and short term investment balances.

As of April 30, 2009 working capital was \$64.2 million and cash and short term investments were \$55.3 million. Acquisitions and cash used for operations were primarily responsible for the decrease in cash. There is no debt.

“We believe the fiscal third quarter results reflect the benefits of a number of the operational improvements we have made to our business units,” said Barry Weiner, President. “Despite a challenging economic environment, Enzo Life Sciences continued its growth. Enzo Clinical Labs showed meaningful improvement, reflecting some of the initial changes made to the operations. Licensing and royalty income continued to grow. We believe that we are well positioned to continue our plan of growing our Life Sciences business both organically and through acquisition, and that the management changes at Enzo Clinical Labs will allow it to capitalize on the many opportunities for growth that are available. We are pleased by the results from a Phase II clinical trial of Alequel™, the Company’s investigational individualized oral immune regulation preparation, that were recently presented at Digestive Disease Week which showed that it may be effective for the treatment of moderate-to-severe Crohn’s disease. We believe that these results can facilitate discussions with potential partners interested in licensing the drug for further development.”

Segment Analysis

Third quarter revenues at Enzo Life Sciences increased 44% to \$12.4 million compared to \$8.6 million in the year-earlier period. Product revenues rose 50% to \$10.5 million, as a result of the inclusion of the results of the acquisitions of BIOMOL and Assay Designs. Royalty and licensing income totaled \$2.0 million, a 20% increase. Gross profit for the third fiscal quarter at Life Sciences was \$5.6 million, a 34% increase; gross profit from product sales was \$3.7 million, a 43% increase. Research and development costs increased from \$0.8 million in the prior year period to \$1.6 million in the current quarter, reflecting the increased activities at the acquired companies. Operating income, including non-cash charges of \$0.9 million related to inventory fair value adjustments and \$ 0.4 million in depreciation and amortization of intangibles associated with the acquisitions, was \$.0.2 million as compared to \$1.1 million in the year ago period. The year-earlier period included \$0.5 million in comparable non-cash charges.

Enzo Clinical Labs increased revenues for the third fiscal quarter to \$10.6 million, compared with \$10.3 million a year ago, reflecting greater service volume. Gross profit was \$4.5 million for the current quarter compared to \$5.1 million in the year-earlier period. Results were impacted by increased cost of services, and lower gross margins due to a shift in the mix of business. Other operating expenses, including selling, general and administrative, and provision for uncollectables accounts have remained comparable as a percentage of revenues. Clinical Labs incurred an operating loss of \$(0.4) million, compared to operating income of \$0.4 million in the year-earlier quarter.

Enzo Therapeutics' current strategy, as previously discussed, is centered on developing drug candidates with a view to licensing, partnering or commercializing specialized products in the U.S. Included in this category is Optique1™, Enzo's candidate for the treatment of autoimmune uveitis, and Aleque1™, an individualized therapy for Crohn's Disease, the subject of a recently completed Phase II double-blind placebo-controlled study.

The Company will not be able to file its quarterly report on Form 10-Q for its fiscal quarter ended April 30, 2009 with the Securities and Exchange Commission today as anticipated and as disclosed in its Notification of Late Filing on Form 12b-25 filed with the SEC on June 10, 2009. Completion of the Company's quarterly report on Form 10-Q for its fiscal quarter ended April 30, 2009 has been delayed due to management's expanded scope of the quarterly review, including the procedures relating to the purported claims made by Shahram K. Rabbani, the former President of Enzo Clinical Labs, which claims were previously disclosed by the Company in its Current Report on Form 8-K filed with the SEC on May 8, 2009. Upon completion of the Company's procedures and the SAS 100 review by the Company's independent auditors, the Company will file its Form 10Q.

Conference Call

The Company will conduct a conference call tomorrow at 8:30 AM EDT. It can be accessed by dialing 1-888-459-5609. International callers can dial 1-973-321-1024. Please reference PIN number 14636294. Interested parties may also listen over the Internet at <http://www.wsw.com/webcast/cc/enz2/>. 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 30, 2009. The replay of the conference call can be accessed by dialing 1-800-642-1687, and, when prompted, use PIN number 14636294. International callers can dial 1-706-645-9291, 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 **40,000** 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 immune regulation medicines for uveitis and Crohn's disease 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 230 patents worldwide, and has pending applications for over 200 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
(in thousands, except per share data)

Selected operations data:

	Three months ended		
	April 30, 2009		
	(unaudited)		
	2009	Notes	2008
Product revenues	\$10,479		\$6,995
Royalty and license fee income	1,963		1,642
Clinical laboratory services	10,619		10,312
Total revenues	\$23,061	A	\$18,949
Gross profit	10,092	B	9,337
Loss before income tax provision	(4,226)		(1,940)
Provision for income taxes	(16)	C	(168)
Net loss	(\$4,242)		(\$2,108)
Basic and diluted loss per share	(\$0.11)		(\$0.06)
Weighted average shares - basic and diluted	37,484		36,834

A- 2009 includes \$4.1 million in product revenues from date of acquisition on March 12, 2009 for Assay Designs and the Fiscal 2008 acquisitions.

B- 2009 and 2008 include \$0.9 million and \$0.3 million, respectively for inventory fair value adjustments relating to acquisitions.

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

Selected balance sheet data:

	April 30, 2009
Cash and cash equivalents and short term investments	\$55,258
Working capital	\$64,116
Stockholders' equity	\$119,675
Total assets	\$135,235