

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

FORM 10-K/A  
(Amendment No. 1)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE  
SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended **July 31, 2009**

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE  
SECURITIES EXCHANGE ACT OF 1934

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission file number: **001-09974**

**ENZO BIOCHEM, INC.**

(Exact name of registrant as specified in its charter)

**New York**  
(State or other jurisdiction of  
incorporation or organization)

**527 Madison Avenue**  
**New York, New York**  
(Address of principal executive offices)

**13-2866202**  
(I.R.S. Employer  
Identification No.)

**10022**  
(Zip Code)

Registrant's telephone number, including area code: **(212) 583-0100**

Securities registered pursuant to Section 12(b) of the Act:

Title of each class

Name of each exchange on which registered

Common Stock, \$0.01 par value per share

The New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Yes

No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Exchange Act.

Yes

No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days.

Yes

No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).

Yes

No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

Non-accelerated filer  (Do not check if a smaller reporting company)

Smaller reporting company

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes

No

The aggregate market value of the registrant's voting stock held by non-affiliates was approximately \$166,537,000 as of January 31, 2009.

The number of shares of the registrant's common stock, par value \$.01, outstanding as of November 23, 2009 was approximately 37,978,000.

---

## EXPLANATORY NOTE

Enzo Biochem, Inc. (the "Company") is filing this Amendment No. 1 to its Annual Report on Form 10-K for the fiscal year ended July 31, 2009, filed with the Securities and Exchange Commission on October 14, 2009, solely for the purpose of providing certain information required by Part III of Form 10-K and to reflect exhibits filed with this Amendment No. 1. In connection with the filing of this Amendment, and as required by Rule 12b-15 of the Securities Exchange Act of 1934 (the "Exchange Act"), the Company is also filing new certifications of its principal executive officer and principal financial officer pursuant to Rule 13a-14(a)/15d-14(a) of the Exchange Act.

Unless otherwise stated, this Amendment No. 1 does not reflect events occurring after the filing of the original Form 10-K or modify or update in any way disclosures contained in the original Form 10-K.

---

## **TABLE OF CONTENTS**

<u>PART III</u>	
<u>ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE.</u>	1
<u>ITEM 11. EXECUTIVE COMPENSATION.</u>	5
<u>Compensation of Directors – Fiscal 2009</u>	5
<u>Summary Compensation Table – Fiscal 2009, 2008 and 2007</u>	10
<u>Grants of Equity Awards in Fiscal 2009</u>	10
<u>Outstanding Equity Awards at Fiscal Year-End</u>	11
<u>Option Exercised and Stock Vested – Fiscal 2009</u>	12
<u>All Other Compensation in Fiscal 2009, 2008 and 2007</u>	14
<u>Potential Payments Upon Termination of Change in Control</u>	15
<u>ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS.</u>	16
<u>ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS AND DIRECTOR INDEPENDENCE.</u>	19
<u>ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES.</u>	19
<u>ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES</u>	20
<u>SIGNATURES</u>	23
EX-31.(c)	
EX-31.(d)	

---

**PART III**

**Item 10. Directors, Executive Officers and Corporate Governance**

The current directors, executive officers and key employees of the Company and its subsidiaries are identified in the table below.

<u>Name</u>	<u>Age</u>	<u>Year Became a Director or Executive Officer</u>	<u>Position</u>
Elazar Rabbani, Ph.D.	66	1976	Chairman of the Board of Directors, Chief Executive Officer and Secretary (1)
Barry W. Weiner	59	1977	President, Chief Financial Officer, Principal Accounting Officer, Treasurer and Director (1)
Shahram K. Rabbani	57	1976 (2)	Treasurer, Secretary and Director (1)
Carl W. Balezantis, Ph.D.	52	2006	President, Enzo Life Sciences, Inc.
Christine Fischette, Ph.D.	58	2008	President, Enzo Therapeutics, Inc.
Kevin Krenitsky, MD.	43	2009	President, Enzo Clinical Labs, Inc.
Andrew R. Crescenzo, CPA	53	2006	Senior Vice President of Finance
Herbert B. Bass	61	1989	Vice President of Finance
David C. Goldberg	52	1995	Vice President, Corporate Development
Andrew P. Whiteley	51	2008	Vice President, Business Development and Chief Operating Officer, Enzo Life Sciences, Inc.
Paul O'Brien	47	2009	Vice President, Global Human Resources
Irwin C. Gerson	79	2001 (2)	Director
Dr. Bernard L. Kasten	63	2008	Director
Stephen B. H. Kent, Ph.D.	64	2007 (2)	Director
Melvin F. Lazar, CPA	70	2002	Director

- (1) Effective November 25, 2009, the Board of Directors removed Shahram K. Rabbani as Secretary and Treasurer of the Company and appointed Dr. Elazar Rabbani as Secretary and Barry W. Weiner as Treasurer.
- (2) Director term expires at the fiscal 2009 annual meeting

**Biographical Information Regarding Directors, Executive Officers and Key Employees**

ELAZAR RABBANI, Ph.D (age 66) is Enzo Biochem's founder and has served as the Company's Chairman of the Board of Directors and Chief Executive Officer since its inception in 1976 and Secretary since November 25, 2009. Dr. Rabbani has authored numerous scientific publications in the field of molecular biology, in particular, nucleic acid labeling and detection. He is also the lead inventor of many of the Company's pioneering patents covering a wide range of technologies and products. Dr. Rabbani received his Bachelor of Arts degree from New York University in Chemistry and his Ph.D. in Biochemistry from Columbia University. He is a member of the American Society for Microbiology.

BARRY W. WEINER (age 59) President, Chief Financial Officer, Treasurer and Director, is a founder of Enzo Biochem, Inc. He has served as the Company's President since 1996 and Treasurer since November 25, 2009, and previously held the position of Executive Vice President. Before his employment with Enzo, he worked in several managerial and marketing positions at the Colgate Palmolive Company. Mr. Weiner is a Director of the New York Biotechnology Association. He received his Bachelor of Arts degree in Economics from New York University and a Master of Business Administration in Finance from Boston University.

SHAHRAM K. RABBANI (age 57) Director, is a founder and has been with the Company since its inception. He is also the former Secretary and Treasurer and President of Enzo Clinical Labs. He received a Bachelor of Arts Degree in Chemistry from Adelphi University.

CARL W. BALEZENTIS, Ph.D (age 52) President, Enzo Life Sciences, Inc. has held this position since June 2006. Before his employment with Enzo, he was CEO of Lark Technologies, Inc. from 2000 to 2004, prior to its acquisition by Genaisance Pharmaceuticals, Inc. Subsequent to the acquisition Dr. Balezentis held the positions of President of Lark Technologies, Inc., and Senior Vice President of Genaisance. From 1998 to 2000 he has held numerous executive positions in the life sciences industry at Sigma-Aldrich, Perceptive Scientific Instruments, Inc., Applied Biosystems, Inc. (now Applera) and Promega Corporation. Dr. Balezentis holds a Ph.D. in Genetics from the University of Arizona and completed a Post Doctoral Fellowship at M.D. Anderson Cancer Center in Houston, TX.

CHRISTINE T. FISCHETTE, Ph.D (age 58) President, Enzo Therapeutics, Inc. has held this position since January 2008. Before her employment with Enzo, from 1999-2007 she was Executive Director and Head of Negotiation, Global Business Development and Licensing for various therapeutic Business Franchise Boards at Novartis Pharmaceuticals, a division of Novartis Ag. From 1987 – 1999, Dr. Fischette has held various positions at Pfizer Pharmaceuticals, NY and directed preclinical/clinical development, medical marketing, and was head of Pfizer's US commercial arm for diabetes before joining business development and licensing from 1987-1999. Prior to her work experience at Pfizer, she conducted research as Senior Scientist at Hoffmann-La Roche, Inc. and as a PostDoctoral Fellow at Rockefeller University. Dr. Fischette holds a Ph.D. in Physiology from the University of Medicine & Dentistry of New Jersey and a B.A. in Biology Education from Rutgers University.

KEVIN KRENITSKY, MD (age 43) was appointed President of Enzo Clinical Labs in March 2009. Before his employment at Enzo he was the CEO of Bio Serve Biotechnologies, a global biotechnology company specializing in processing genetic diagnostic tests from 2007 to February 2009. From 2006 to 2007, he was the Interim CEO of Parkway Clinical Laboratories, a clinical diagnostic lab providing comprehensive routine and esoteric testing. Prior to his employment at Parkway Clinical, from 1999 to 2006, he served as Senior Vice President and Division Head at SeraCare Life Sciences' Genomics Collaborative Division (GCI) where he managed all worldwide pharmaceutical R&D collaborations. Before GCI was acquired by Seracare Life Sciences, he held the position of Medical Director. Dr. Krenitsky received his M.D. from Jefferson Medical College.

ANDREW R. CRESCENZO, CPA (age 53) Senior Vice President of Finance for the Company has held this position since May 2006. Before joining the Company, Mr. Crescenzo was an Executive Director from 2002 to 2006 and a Senior Manager from 1997 to 2002 at Grant Thornton LLP. From 1993 to 1997 he served as Vice President and Chief Financial Officer of J. D'Addario & Co, Inc and held several positions at Ernst and Young LLP from 1984 to 1993, the latest of which was Senior Manager. Mr. Crescenzo is a Certified Public Accountant and received his Bachelors of Business Administration from Adelphi University.

HERBERT B. BASS (age 61) Vice President of Finance for the Company and has held this position since May 1989. Prior to 1989 Mr. Bass served as the Corporate Controller of the Company. Mr. Bass has been with the Company since 1986. From 1977 to 1986, Mr. Bass held various positions at Danziger and Friedman, Certified Public Accountants, the latest of which was audit manager. Mr. Bass received a Bachelor of Business Administration degree in Accounting from Bernard M. Baruch College.

DAVID C. GOLDBERG (age 52) Vice President of Corporate Development for Enzo Biochem has been employed with the Company since 1985. He has held several managerial positions within Enzo Biochem. Mr. Goldberg also held management and marketing positions with DuPont-NEN and Gallard Schlesinger Industries before joining the Company. He received a Master of Science degree in Microbiology from Rutgers University and a Master of Business Administration in Finance from New York University.

ANDREW P. WHITELEY (age 51) Chief Operating Officer, Enzo Life Sciences and Vice President of Business Development, Enzo Biochem since May 2008. Before his employment at Enzo, Mr. Whiteley previously held the position of CEO at Vitra Biosciences (2003 to 2005) and CEO of InforMax from 2002 to 2003 which was acquired by Invitrogen. Prior to that Mr. Whiteley held various positions at Amersham Pharmacia Biotech (now part of GE Healthcare) including, VP Bioinformatics and VP Sequencing Business. Mr. Whiteley graduated from Nottingham University, England with a joint honors degree in Biochemistry and Chemistry.

PAUL C. O'BRIEN (age 47) Vice President of Global Human Resources for the Company has held this position since November 2009. Before joining the Company, Mr. O'Brien was Vice President of Global Human Resources at Black & Decker for their Fastening and Assembly Systems Group from 2005 to 2009. From 2003 to 2004 Mr. O'Brien was Director of Global Human Resources for Stryker Spine and from 1991 to 2002 he held various roles in Human Resources with Tyco Healthcare, the latest of which was Senior Director, Divisional Human Resources. Mr. O'Brien received a Bachelor of Arts degree in General Studies from Providence College.

IRWIN C. GERSON (age 79) has been a Director of the Company since May 2001 and is Chairman of the Compensation Committee and also serves on the Audit and the Nominating/Governance Committees. From 1995 until December 1998, Mr. Gerson served as Chairman of Lowe McAdams Healthcare and prior thereto had been, since 1986, Chairman and Chief Executive Officer of William Douglas McAdams, Inc., one of the largest advertising agencies in the U.S. specializing in pharmaceutical marketing and communications to healthcare professionals. In February 2000, he was inducted into the Medical Advertising Hall of Fame. He was a director of Andrx Corporation, a NASDAQ listed company which specializes in proprietary drug delivery technologies until November 2006. From 1990-1999, he was Chairman of the Council of Overseers of the Arnold and Marie Schwartz College of Pharmacy and has served as a trustee of The Albany College of Pharmacy and Long Island University. He was elected President of the Advisory Board of Florida Atlantic University Lifelong Learning Society in October 2006. Mr. Gerson has a Bachelor of Science in Pharmacy from Fordham University and an MBA from the NYU Graduate School of Business Administration.

BERNARD L. KASTEN, MD (age 63) Dr. Kasten has been a Director of the Company since January 2008 and serves on the Audit, Nominating and the Compensation Committees. Since July 2006 he has been Chairman of the Board of Directors and on the audit and compensation committees of Cleveland Biolabs, Inc. (CBLI: NASDAQ). From 1996 to 2004, Dr. Kasten served at Quest Diagnostics Incorporated where he was Chief Laboratory Officer and most recently Vice President of Medical Affairs of its MedPlus Inc. subsidiary. Dr. Kasten served as a director of SIGA Technologies from May 2003 to December 2006, and as SIGA's Chief Executive Officer from July 2004 through April 2006. Dr. Kasten has served since 1999 as scientific advisor and, since April 2007 as Executive Chairman and of GeneLink Inc. (GNLK.OTCBB) and had served on the board of SeraCare Life Sciences Inc. (SCRS – Pink Sheets). Dr. Kasten is also a director of several privately held companies. Dr. Kasten is a graduate of the Ohio State University College of Medicine. His residency was served at the University of Miami, Florida and he was awarded fellowships at the National Institutes of Health Clinical Center and NCI, Bethesda, Maryland. He is a diplomat of the Board of Pathology with certification in anatomic and clinical pathology with sub-specialty certification in Medical Microbiology.

STEPHEN B. H. KENT, Ph.D (age 64) has been a Director of the Company since January 2007 and Lead Independent Director since January 2008 and serves on the Nominating/Governance Committee. Dr. Kent is or has been a Professor of Biochemistry & Molecular Biology (2001-present), Professor of Chemistry (2002-present), and Director of the Institute for Biophysical Dynamics (2003-2009) at the University of Chicago. Dr. Kent was the business founder and served as a director of CIPHERGEN Biosystems (1994-1997) and Gryphon Sciences (1994-2002). At Gryphon Sciences, Kent served as President (1997- 2000), CEO (1999-2000), and Chief Scientist (1997-2001). Dr. Kent has served on the Scientific Advisory Board at Amylin Pharmaceuticals from 2005 – present, the Board of the Center for Functional Genomics, Victoria University, New Zealand from 2004 – present, the Scientific Advisory Board, Institute for Molecular Bioscience, The University of Queensland, Australia, from 2001– present, and the Scientific Advisory Board, New York Blood Center & Kimball Research Institute from 1991–1997. Dr. Kent received Bachelor of Science and Master of Science degrees in his native New Zealand, and his Ph.D. from the University of California, Berkeley.

MELVIN F. LAZAR, CPA (age 70) has been a Director of the Company since August 2002, the Lead Independent Director from October 2005 to January 2008, and is Chairman of the Audit Committee. Mr. Lazar was a founding partner of the public accounting firm of Lazar, Levine & Felix LLP from 1969 until October 2002. Mr. Lazar is a board member and chairman of the audit committee of Arbor Realty Trust, Inc. (ABR: NYSE). Arbor is a real estate investment trust (REIT) formed to invest in real estate related bridge and mezzanine loans, preferred equity investments and other real estate related assets. Mr. Lazar holds a Bachelor of Business Administration degree from The City College of New York (Baruch College).

## Family Relationships

Dr. Elazar Rabbani and Shahram K. Rabbani are brothers and Barry W. Weiner is their brother-in-law.

## Section 16(A) Beneficial Ownership Reporting Compliance

Section 16(a) of the Exchange Act requires the Company's executive officers, directors and persons who beneficially own more than 10% of a registered class of the Company's equity securities (collectively, "Reporting Persons") to file with the Securities and Exchange Commission initial reports of ownership and reports of changes in ownership of common stock and other equity securities of the Company. Such executive officers, directors and greater than 10% beneficial owners are required by Securities and Exchange Commission regulation to furnish the Company with copies of all Section 16(a) forms filed by such reporting persons.

Based solely on the Company's review of such forms furnished to the Company and written representations from certain reporting persons, the Company believes that the Reporting Persons have complied with all applicable filing requirements during the fiscal year ended July 31, 2009.

## Corporate Governance

### *Code of Ethics*

The Company has adopted a Code of Ethics (as such term is defined in Item 406 of Regulation S-K). The Code of Ethics is available on the Company's website at [www.enzo.com](http://www.enzo.com), and in print to anyone that requests it. The Code of Ethics applies to the Company's employees, officers and members of the board. The Code of Ethics has been designed to deter wrongdoing and to promote:

- (1) Honest and ethical conduct, including the ethical handling of actual or apparent conflicts of interest between personal and professional relationships;
- (2) Full, fair, accurate, timely, and understandable disclosure in reports and documents that the Company files with, or submits to, the Securities and Exchange Commission and in other public communications made by the Company;
- (3) Compliance with applicable governmental laws, rules and regulations;
- (4) The prompt internal reporting or violations of the Code of Ethics to an appropriate person or persons identified in the Code of Ethics; and
- (5) Accountability for adherence to the Code of Ethics.

### *Nominations to the Board of Directors*

There have been no material changes to the procedures by which security holders may recommend nominees to our Board.

### *Audit Committee*

The Audit Committee was established by and among the Board of Directors for the purpose of overseeing the accounting and financial reporting processes of the Company and audits of the financial statements of the Company in accordance with Section 3(a)(58)(A) of the Securities Exchange Act of 1934, as amended. The Audit Committee is authorized to review proposals of the Company's auditors regarding the annual audit, recommend the engagement or discharge of the auditors, review recommendations of such auditors concerning accounting principles and the adequacy of internal controls and accounting procedures and practices, review the scope of the annual audit, approve or disapprove each professional service or type of service other than standard auditing services to be provided by the auditors, and review and discuss the audited financial statements with the auditors. The current members of the Audit Committee are Messrs. Lazar and Gerson and Dr. Kasten. Mr. Lazar is the Chairman. The Board of Directors has determined that each of the Audit Committee members are independent, as defined in the NYSE's listing standards and as defined in Item 7(d)(3)(iv) of Schedule 14A under the Securities and Exchange Act of 1934. The Board of Directors has further determined that Messrs. Lazar and Gerson are each "audit committee financial experts" as such term is defined under Item 401(h)(2) of Regulation S-K.



**Compensation of Directors**

The following table sets forth the information concerning compensation earned during our fiscal year ended July 31, 2009 by all non-employee directors:

Name	Fees Earned or Paid in Cash (\$)	Stock Awards \$(2)	Option Awards (\$)	Change in Pension Value and Non-Qualified Deferred Compensation Earnings (\$)	All Other Compensation (\$)	Total (\$)
Irwin C. Gerson <i>Director</i>	\$ 56,875	\$ 121,125				\$ 178,000
Barnard Kasten, MD. <i>Director</i>	\$ 45,000	\$ 99,355				\$ 144,355
Stephen P. H. Kent, Ph.D. <i>Director</i>	\$ 72,500	\$ 121,245				\$ 193,745
Melvin F. Lazar, CPA <i>Director</i>	\$ 65,000	\$ 130,626				\$ 195,626
John B. Sias (1) <i>Director</i>	\$ 22,500	\$ 73,975				\$ 96,475

- (1) Represents partial year as director, term expired January 22, 2009.
- (2) Each independent director, serving after the annual meeting in January 2009, was awarded 28,651 restricted stock units in fiscal 2009. The amounts reflect the dollar amount recognized for financial statement reporting purposes for the fiscal year ended July 31, 2009, in accordance with accounting standards for awards pursuant to the Company's 2005 Plan for awards granted in and prior to fiscal 2009.

**Compensation of Executive Officers*****Compensation Discussion and Analysis***

The Compensation Committee of our Board of Directors oversees our executive compensation program. In this role, the Compensation Committee reviews and approves all compensation decisions relating to our named executive officers. The Compensation Committee also reviews and approves all equity awards for all employees.

The Company strives to apply a uniform philosophy to compensation for all of its employees. This philosophy is based on the premise that the achievements of the Company result from the combined and coordinated efforts of all employees working toward common objectives.

The primary objectives of the Compensation Committee with respect to executive compensation are to:

- align executive compensation with comparable companies in our industry sectors to attract, retain and motivate the best possible executive talent;
- ensure that executive compensation is aligned with our corporate business objectives and performance;
- promote the achievement of key strategic and financial performance objectives by linking cash and equity incentives; and
- align executives' incentives with the creation of long-term stockholder value.

To achieve these objectives, the Compensation Committee evaluates senior management with input from our CEO, with the goal of setting compensation at levels the Compensation Committee believes are competitive with those of other companies in our industry that compete with us for executive talent. The Compensation Committee also conducts an annual evaluation of the CEO in addition to senior management evaluations. As part of these evaluations, our Compensation Committee considers key strategic, financial and operational objectives, including but not limited to: award of new patents, intellectual property protection, advancement of strategic alliances, collaborations, M&A activity, licensing, clinical trial progress, new product introductions, provider contracts, investor relations, corporate governance, and our financial and operational performance, as measured by the respective value drivers in each of the operating segments.

We may also award long term incentive compensation in the form of restricted stock awards that vest over time. We believe this practice helps to retain our executives and aligns their interests with those of our stockholders by allowing them to participate in the longer term success of our Company as reflected in stock price appreciation.

In making compensation decisions, the Compensation Committee compares our executive compensation against a peer group of publicly traded companies which they believe have business life cycles, revenues, market capitalizations, products, research and development investment levels and/or number/capabilities of employees that are roughly comparable to ours and against which the Compensation Committee believes we compete for executive talent. In 2005, the Compensation Committee retained James F. Reda & Associates LLC, ("Consultant") an independent compensation consultant. The Company's senior management, with the assistance of the Consultant, compiled a list of peer companies. The Consultant then analyzed the executive compensation programs of these companies and issued a report to the Compensation Committee. In 2007 and 2008, the Consultant, with recommendations from senior management modified the peer company list to better reflect changes at the Company, with respect to operating segment significance, changes within the industries that the Company operates and changes among companies included in the peer group.

The companies included in the peer group, as updated, surveyed by the Consultants in 2008:

- Affymetrix, Inc.
- Alkermes, Inc
- Amylin Pharmaceuticals
- Bio-Reference Laboratories, Inc.
- Cryolife, Inc.
- Gen Probe, Inc,
- Genomic Health, Inc.
- Intermune, Inc.
- Incyte Corp.
- Isis Pharmaceuticals, Inc.
- Lexicon Pharmaceuticals, Inc.
- Myraid Genetics, Inc.
- PDL Bio Pharma, Inc.
- Progenics Pharmaceuticals
- The Medicines, Inc.
- United Therapeutics Corp.
- Vertex Pharmaceuticals

We compete with many other companies for executive personnel. The Compensation Committee generally targets total compensation for executives under the 50th percentile of total compensation paid to similarly situated executives of the companies in the peer group.

The Compensation Committee may adjust compensation levels, upon consideration of the relevant drivers relating to the life sciences, clinical diagnostics or therapeutics industries we operate in, with respect to an executive's individual experience and performance level, and the overall performance of the Company.

The Compensation Committee met three times in fiscal 2009 in order to review and approve our compensation for named executives and non-employee directors, review candidates presented by senior management for key positions, approve equity awards for all employees and review with our Consultant the peer group information. The results of the Compensation Committee activities were reported to the Board of Directors.

#### *Components of our Executive Compensation Program*

The primary elements of our executive compensation program are:

- base salary;
- cash bonus;
- equity awards;
- benefits and other compensation; and
- severance and change-of-control benefits.

#### *Base Salary*

Base salary levels recognize the experience, skills, knowledge and responsibilities of each executive's position within the Company.

Exclusive of the base salaries that are contractual, base salaries are reviewed annually by the Compensation Committee, and may be adjusted from time to time to realign salaries with market levels and among our peer group after taking into account individual responsibilities, performance, and experience and for cost of living. Base salaries also may be increased for merit reasons, based on the executive's success in meeting or exceeding individual performance objectives, promoting our core values and demonstrating leadership abilities.

The base salaries of the three founders - Dr. Elazar Rabbani, our Chairman of the Board, Chief Executive Officer and Secretary; Mr. Barry Weiner, our President, Chief Financial Officer, Treasurer and Director; and Mr. Shahram K. Rabbani, Director and the former Secretary and Treasurer and President of Enzo Clinical Labs (the "Founders") - are set in accordance with the terms of executed employment agreements with each individual. Pursuant to the terms of their respective employment agreements, Dr. Rabbani and Mr. Weiner are currently compensated for the calendar year 2009 at a base annual salary of \$546,192 and \$484,472, respectively. Mr. Rabbani's base salary was \$484,472 for the calendar year 2009 prior to the termination of his employment effective March 9, 2009. Base salaries in calendar year 2009 increased by 5.3% for the aforementioned executives.

The base salaries for Dr. Carl W. Balezentis and Andrew R. Crescenzo were based on their initial one year employment agreements in fiscal 2006. Dr. Balezentis and Mr. Crescenzo are currently compensated for the calendar year 2009 at the base salary of \$245,000 and \$235,000, respectively. Their base salaries increased 4% in calendar year 2009, reflective of cost of living increases, merit and alignment with market levels.

The base salary for Kevin Krenitsky, MD, appointed President of Enzo Clinical Labs on March 2, 2009 was \$240,000 as set forth in his initial one year employment agreement.

#### *Annual Cash Bonus*

The Compensation Committee approves discretionary cash bonuses for certain employees, including our named executive officers.

The Compensation Committee awarded Dr. Rabbani a \$465,000 cash bonus in calendar 2009. Commencing in calendar 2009, the bonus includes the cost of life insurance previously provided by the Company in accordance with Dr. Rabbani's employment agreement. The Compensation Committee recognized Dr. Rabbani's broad contributions in the areas of his role as Chairman of the Board, oversight of and increases to our technology platform and scientific product development, recruitment of new members of the executive and scientific management and strategy for business development, including negotiating licensing and collaboration arrangements and M&A activities. During the period for which the aforementioned bonus was awarded, the Company, in addition to other actions, successfully completed the acquisition of Biomol International L.P. and subsidiary ("Biomol") in May 2008 increased its revenues and product offerings and expanded its capabilities.

The Compensation Committee awarded Mr. Weiner a \$340,000 cash bonus in calendar 2009. Commencing in calendar 2009, the bonus includes the cost of life insurance previously provided by the Company in accordance with Mr. Weiner's employment agreement. The Compensation Committee recognized Mr. Weiner's contributions in, strategic planning, financial management, including our Company's financial position and liquidity, M&A activity, corporate governance, communication efforts with our stockholders, investors and outside analysts, oversight of the finance group and the Company's compliance with the requirements of Section 404 of the Sarbanes Oxley Act of 2002, as well as his role in recruitment of new management personnel and divisional management and his leadership role among the divisional executives. During the period for which the bonus was awarded, Mr. Weiner, in addition to other contributions, assisted with the acquisition of Biomol and the integration of our recent acquisitions from a financial and Section 404 standpoint.

The discretionary cash bonuses for Dr. Balezentis and Mr. Crescenzo were \$70,000 and \$55,000, respectively, as recommended by our CEO to the Compensation Committee, based on various objectives, specific to their positions, as further explained below.

The Compensation Committee reviewed the recommendation from our CEO with respect to Dr. Balezentis's performance in meeting objectives set forth to grow Enzo Life Sciences globally through organic and acquisition growth, strategic alliances or through licensing, develop the management team to meet the requirements of the subsidiary and his role in leadership among the division's management. During the period for which the aforementioned bonus was awarded, Dr. Balezentis was responsible for, among other matters, negotiating the acquisition of Biomol, the integration of Biomol and Axxora, Inc. (acquired in May 2007) and the management of the introduction of new products offerings.

The Compensation Committee reviewed the recommendation from our CEO with respect to Mr. Crescenzo's performance in meeting objectives set forth to enhance financial reporting to the Board and the Audit Committee, managing the financial and due diligence aspects of M&A transactions, implementing and monitoring internal controls and Section 404 requirements and his role in leadership among our finance group. During the period for which the aforementioned bonus was awarded, Mr. Crescenzo, among other matters, assisted with the negotiating and execution of the Biomol acquisition, the integration of finance teams acquired, the implementation of Section 404 for acquired companies and the global legal restructuring of a subsidiary's divisions.

#### ***Restricted Stock Awards***

At its sole discretion, the Compensation Committee awards restricted stock as the primary vehicle for long-term incentives to our executives, including our named executive officers. Since August 1, 2005, we have not issued any stock options to any employees, including the named executives.

We believe that equity awards provide our executives with a strong link to our long-term performance, create an ownership culture, and help to align the interests of our named executive officers and our stockholders. Equity awards are intended as both a reward for contributing to the long-term success of our Company and an incentive for future performance.

Restricted stock awards vest ratably over a 2 to 4 year period with 50% to 25% of the award vesting 12 months after the named executive officer's start date or the annual anniversary of the award grant and the remainder of the awards vesting annually over the remaining period. The vesting feature of our equity grants is intended to

further our goal of executive retention by providing an incentive to our named executive officers to remain in our employ during the vesting period.

In determining the size of equity awards to our executives, our Compensation Committee considers comparable equity awards of executives in our compensation peer group, our Company-level performance, the applicable executive's performance, the amount of equity previously awarded to the executive, the vesting schedule of such previous awards and the recommendations of management and its independent Consultant to the Compensation Committee.

Equity awards of restricted stock are discretionary, and may be granted annually in conjunction with the review of an executive's individual performance. The Compensation Committee reviews all components of the executive's compensation, including the allocation between cash and equity, when determining annual equity awards to ensure that an executive's total compensation conforms to our overall philosophy and objectives.

In January 2009, Dr. Balezentis and Mr. Crescenzo were awarded 10,000 and 9,000 shares of restricted stock, respectively, as a component of their total compensation package.

In March 2009, Dr. Rabbani and Mr. Weiner were awarded 57,326 and 45,861 shares of restricted stock, respectively, as a component of their total compensation package. The grant date fair value was the same in Fiscal 2009 and 2008. Dr. Rabbani and Mr. Weiner's long-term incentive compensation is less than compensation provided to similarly situated executives of companies in the peer group of the Company, since they each have substantial ownership of the Company.

The Compensation Committee has a policy not to approve annual equity awards to any employees, including named executive officers, at a time when our Company is in possession of material non-public information. We do not engage in timing of restricted stock awards to named executive officers in coordination with the release of material non-public information.

### Summary Compensation Table

The following table sets forth summary information concerning compensation awarded to, paid to or earned by each of our named Executive Officers for all services rendered for each of the fiscal years ended July 31, 2009, 2008 and 2007:

Name and Principal Position	Year (\$)	Salary (\$)	Bonus (1) (\$)	Stock Awards (2) (\$)	Option Awards (\$)	Non-Equity Incentive Plan Compensation (\$)	Change in Pension Value and Nonqualified Deferred Compensation Earnings (\$)	All Other Compensation (3) (\$)	Total (\$)
Elazar Rabbani, Ph.D (4) <i>Chairman of the Board of Directors, Chief Executive Officer and Secretary</i>	2009	\$ 534,582	\$ 465,000	\$ 72,000				\$ 115,123	\$ 1,186,705
	2008	\$ 510,817	\$ 375,000	\$ 76,950				\$ 115,856	\$ 1,078,623
	2007	\$ 485,006	\$ 350,000	\$ 65,669				\$ 103,938	\$ 1,004,613
Barry W. Weiner (4) <i>President, Chief Financial Officer, Treasurer and Director</i>	2009	\$ 474,174	\$ 340,000	\$ 53,100				\$ 113,446	\$ 980,720
	2008	\$ 453,094	\$ 250,000	\$ 51,300				\$ 107,481	\$ 861,875
	2007	\$ 434,932	\$ 225,000	\$ 43,779				\$ 95,317	\$ 799,028
Carl W. Balezentis, Ph.D <i>President, Enzo Life Sciences</i>	2009	\$ 240,769	\$ 70,000	\$ 19,263				\$ 18,700	\$ 348,732
	2008	\$ 226,537	\$ 65,000	\$ 11,914				\$ 13,790	\$ 317,241
	2007	\$ 215,000	\$ 40,000	\$ 19,088				\$ 20,134	\$ 294,222
Kevin Krenitsky, MD (5) <i>President of Enzo Clinical Labs</i>	2009	\$ 92,308						\$ 2,900	\$ 95,208
Andrew R. Crescenzo <i>Senior Vice President of Finance</i>	2009	\$ 230,769	\$ 55,000	\$ 18,660				\$ 18,700	\$ 323,129
	2008	\$ 216,538	\$ 50,000	\$ 19,040				\$ 14,125	\$ 299,703
	2007	\$ 205,000	\$ 35,000	\$ 31,160					\$ 271,160
Shahram K. Rabbani (4) (6) <i>Director, former Secretary, Treasurer and President of Enzo Clinical Labs</i>	2009	\$ 295,291		\$ 38,670				\$ 55,975	\$ 389,936
	2008	\$ 453,094	\$ 225,000	\$ 35,910				\$ 72,440	\$ 786,444
	2007	\$ 436,334	\$ 200,000	\$ 30,645				\$ 69,590	\$ 736,569

- (1) Represents the discretionary cash bonus awards paid or accrued in the respective fiscal year - see Compensation Discussion & Analysis.
- (2) Represents value of vested restricted stock awards.
- (3) See the All Other Compensation Table for additional information.
- (4) Effective November 25, 2009, the Board of Directors removed Shahram K. Rabbani as Secretary and Treasurer of the Company and appointed Dr. Elazar Rabbani as Secretary and Barry W. Weiner as Treasurer.
- (5) Employment commenced on March 2, 2009.
- (6) Employment terminated on March 9, 2009.

### Grants of Equity Awards in Fiscal 2009

During the fiscal year ended July 31, 2009, the Compensation Committee approved the following equity awards to our named executive officers:

Name	Grant Date	Estimated Future Payouts Under Non-Equity Incentive Plan Awards			Estimated Future Payouts Under Equity Incentive Plan Awards			All Other stock Awards:	All Other Option Awards:	Exercise or Base Price of Option Awards (\$/Sh)	Grant Date Fair Value of Stock and Option Awards
		Threshold (\$)	Target (\$)	Maximum (\$)	Threshold (#)	Target (#)	Maximum (#)	Number of Shares of Stock or Units (#)	Number of Securities Underlying Options (#)		
Dr. Elazar Rabbani, Ph.D	3/4/2009							57,326			\$ 189,750
Barry W. Weiner	3/4/2009							45,861			\$ 151,800
Carl W. Balezentis, Ph.D	1/22/2009							10,000			\$ 44,100
Kevin Krenitsky, MD. (1)	3/2/2009							5,000			\$ 17,100
Andrew R. Crescenzo, CPA	1/22/2009							9,000			\$ 39,690

- (1) Granted in connection with employment agreement.

## Outstanding Equity Awards at Fiscal Year End – July 31, 2009

The following table sets forth summary information regarding the outstanding equity awards to our Named Executive Officers at July 31, 2009.

Name	Number of Securities Underlying Unexercised Option (#) Exercisable	Number of Securities Underlying Unexercised Option (#) Unexercisable	Equity Incentive Plan Awards: Number of Securities Underlying Unexercised Unearned Options (#)	Option Exercise Price (\$)	Option Expiration Date	Number of Shares or Units of Stock That Have Not Vested (#)	Market Value of Shares or Units of Stock That Have Not Vested	Equity Incentive Plan Awards: Number of Unearned Shares, Units or Other Rights That Have Not Vested (#)	Equity Incentive Plan Awards: Market or Payout Value of Unearned Shares, Units or Other Rights That Have Not Vested (\$)
Dr. Elazar Rabbani, Ph.D.	86,822			\$ 12.05	3/22/2011	64,826	\$ 330,613		
	110,250			\$ 12.24	1/25/2013				
	78,750			\$ 17.45	3/8/2014				
	50,000			\$ 17.66	1/21/2015				
Barry W. Weiner	86,822			\$ 12.05	3/22/2011	51,861	\$ 264,491		
	110,250			\$ 12.24	1/25/2013				
	78,750			\$ 17.45	3/8/2014				
	50,000			\$ 17.66	1/21/2015				
Carl W. Balezantis, Ph.D.						16,250	\$ 82,875		
Kevin Krenitsky, MD.						5,000	\$ 25,500		
Andrew R. Crescenzo, CPA						13,000	\$ 66,301		

### Options Exercised and Stock Vested

The following table sets forth the options exercised and restricted stock vested during the fiscal year ended July 31, 2009.

Name	Option Awards		Stock Awards	
	Number of Shares Acquired On Exercise	Value Realized On Exercise (1)	Number Of Shares Acquired On Vesting	Value Realized On Vesting
Dr. Elazar Rabbani, Ph.D	60,755	\$ 352,987	15,000	\$ 72,000
Barry W. Weiner	60,755	\$ 352,987	11,000	\$ 53,100
Carl W. Balezentis, Ph.D			3,750	\$ 19,263
Kevin Krenitsky, MD. (2)				
Andrew R. Crescenzo, CPA			4,000	\$ 18,660
Shahram K. Rabbani (3)	60,755	\$ 352,987		

(1) Represents the difference between the closing stock price and the exercise price multiplied by the number of shares exercised

(2) Employment commenced March 2, 2009

(3) Employment terminated March 9, 2009

### Employment Agreements

Each of Mr. Barry Weiner and Dr. Elazar Rabbani (the "Executives") are parties to employment agreements with the Company, effective May 4, 1994, as amended as of July 13, 2000 (the "Employment Agreements"). Each Executive also receives an annual bonus, the amount of which shall be determined by the Board of Directors in its discretion. Each Employment Agreement provides that, in the event of termination of employment by the Executive for "good reason," or a termination of employment by the Company without "cause", change in control or non renewal, as such terms are defined in the Employment Agreement, each Executive shall be entitled to receive: (a) a lump sum in an amount equal to three years of the Executive's base annual salary; (b) a lump sum in an amount equal to the annual bonus paid by the Company to the Executive for the last fiscal year of the Company ending prior to the date of termination multiplied by three; (c) insurance coverage for the Executive and his dependents, at the same level and at the same charges to the Executive as immediately prior to his termination, for a period of three (3) years following his termination from the Company; (d) all accrued obligations, as defined therein; and (e) with respect to each incentive pay plan (other than stock option or other equity plans) of the Company in which the Executive participated at the time of termination, an amount equal to the amount the Executive would have earned if he had continued employment for three additional years. If the Executive is terminated by reason of his disability, he shall be entitled to receive, for three years after such termination, his base annual salary less any amounts received under a long term disability plan. If the Executive's employment with the Company is terminated by reason of his death, his legal representatives shall receive the balance of any remuneration due him under the terms of his Employment Agreement. The Employment Agreements currently expire on May 4, 2010, but will automatically renew for successive two year periods unless notice is given to the Company within 180 days of the end of such successive term.



Mr. Shahram K. Rabbani was also party to an employment agreement with the Company, effective May 4, 1994, as amended July 13, 2000, which was terminated on March 9, 2009 in connection with the termination of Mr. Rabbani's employment with the Company (the "Terminated Employment Agreement"). The Terminated Employment Agreement contained provisions identical to those described immediately above.

On April 16, 2006 and May 1, 2006, Mr. Crescenzo and Dr. Balezentis, respectively, entered into one year employment agreements in connection with their initial employment. These agreements have since expired and were not renewed by the Company, but the executives have continued their employment with the Company "at will". Currently, both Mr. Crescenzo and Dr. Balezentis are parties to certain severance arrangements and change in control provisions with the Company which are deemed customary practice for their respective positions, as more fully discussed below.

On March 2, 2009 Dr. Krenitsky entered into an employment agreement with the Company. The agreement has an initial term of one year and provides for a severance arrangement of three months, if terminated without cause, and a change in control provision with the Company which is deemed customary practice for his position, as more fully discussed below. The severance arrangement and the change in control provisions survive the expiration of the term of the employment agreement.

#### **Benefits and All Other Compensation**

We maintain broad-based benefits that are provided to all employees, including health and dental insurance, group life insurance and a 401(K) plan. Named executive officers are eligible to participate in our employee benefit plans. The annual Company 401(k) match for our named executive officers is up to 10,250 or limited to 50% of the maximum contribution by the named executive.

Certain of our named executive officers may be entitled to benefits that are not otherwise available to all of our employees, including additional life insurance and medical and disability benefits. We do not provide pension arrangements, post-retirement health coverage to our named executive officers or our employees. Our health and insurance plans are substantially the same among all management level and sales personnel at the Company, except for additional benefits provided to the Founders. On July 31, 2008, the Company terminated the Split Dollar life insurance arrangements with the three founders and their related trusts. In connection with the terminations of the Split Dollar life insurance arrangements, the executives will be provided the annual benefit attributed to the life insurance in their future total compensation arrangement.

In particular circumstances, we may provide relocation allowances when executives first join us. The purpose of this program is to attract talented executives outside our geographic area. Certain named executives are provided use of a Company owned vehicle for business and personal use or provided a car allowance.

### All Other Compensation in Fiscal 2009, 2008 and 2007

The following table contains information regarding each component of "All Other Compensation" in the Summary Compensation Table of our Named Executives for fiscal years ended July 31, 2009, 2008 and 2007.

Name	Year	401(K) (\$ (1))	Life Insurance (\$ (2))	Medical and Disability Insurance (\$ (3))	Personal Use of Auto (\$ (4))	Relocation (\$ (5))	Total All Other Compensation (\$)
Dr. Elazar Rabbani, Ph.D	2009	\$ 10,250	\$ 41,705	\$ 54,368	\$ 8,800		\$ 115,123
	2008	\$ 10,250	\$ 47,806	\$ 44,000	\$ 13,800		\$ 115,856
	2007	\$ 10,000	\$ 47,030	\$ 33,200	\$ 13,708		\$ 103,938
Barry W. Weiner	2009	\$ 10,250	\$ 35,178	\$ 53,668	\$ 14,350		\$ 113,446
	2008	\$ 10,250	\$ 39,131	\$ 43,300	\$ 14,800		\$ 107,481
	2007	\$ 10,000	\$ 38,017	\$ 32,500	\$ 14,800		\$ 95,317
Carl W. Balezentis, Ph.D	2009	\$ 10,250			\$ 8,450		\$ 18,700
	2008	\$ 9,890			\$ 3,900		\$ 13,790
	2007					\$ 20,134	\$ 20,134
Kevin Krenitsky, MD. (6)	2009				\$ 2,900	\$ 2,900	
Andrew R. Crescenzo, CPA	2009	\$ 10,250			\$ 8,450		\$ 18,700
	2008	\$ 10,225			\$ 3,900		\$ 14,125
	2007						
Shahram K. Rabbani (7)	2009	\$ 10,250	\$ 7,000	\$ 19,392	\$ 19,333		\$ 55,975
	2008	\$ 10,250	\$ 14,100	\$ 42,000	\$ 6,090		\$ 72,440
	2007	\$ 10,000	\$ 14,100	\$ 31,200	\$ 14,290		\$ 69,590

- (1) Represents our Company match under our 401(K) plan.
- (2) Represents premiums of term policies of which the Named Executive or other party is the beneficiary.
- (3) Represents incremental medical and disability benefit costs, 2008 and 2007 amounts adjusted to reflect incremental medical benefits.
- (4) Represents the personal use of company provided auto or provided car allowance.
- (5) Represents relocation costs paid connection with employment agreements.
- (6) Employment commenced on March 2, 2009.
- (7) Employment terminated on March 9, 2009.

#### Severance and Change-of-Control Benefits

Pursuant to Employment Agreements entered into with Drs. Rabbani, Balezentis and Krenitsky and Messrs. Weiner and Crescenzo, these executives are entitled to specified benefits in the event of the termination of their employment under specified circumstances, including termination following a change of ownership or control of our Company. We have provided more information about these benefits, along with estimates of their value under various circumstances within the below table.

Based on market trends, we believe these benefits help us compete for executive talent. We believe our severance and change of control benefits are in line with severance packages offered to executives by the companies identified in our peer group.

Our practice in the case of change of control benefits has been structured to trigger only in the event of a termination of the executive without cause or by the executive for good reason during a specified period before or after the change of control. A change of control in of itself would not trigger most severance benefits.

### Potential Payments Upon Termination or Change of Control

The following table contains information regarding each component of Potential Payments Upon Termination or Change in Control Compensation Table of our Named Executives as of July 31, 2009.

Name and Principal Position	Acceleration of Vesting	Severance Pay (1)	Continuation of Benefits	Tax Gross-Up	Total
<b>Dr. Elazar Rabbani, Ph.D</b>					
Termination without cause or by Executive for Good Reason	\$ 315,313	\$ 2,763,575	\$ 589,830		\$ 3,668,718
Change in control transaction without termination					
Change in control transaction with termination	\$ 315,313	\$ 2,763,575	\$ 589,830	\$ 1,503,451	\$ 5,172,169
<b>Barry W. Weiner</b>					
Termination without cause or by Executive for Good Reason	\$ 264,491	\$ 2,203,417	\$ 574,830		\$ 3,042,738
Change in control transaction without termination					
Change in control transaction with termination	\$ 264,491	\$ 2,203,417	\$ 574,830	\$ 1,221,649	\$ 4,264,387
<b>Carl W. Balezentis, Ph.D</b>					
Termination without cause or by Executive for Good Reason		\$ 122,500			\$ 122,500
Change in control transaction without termination					
Change in control transaction with termination	\$ 82,875	\$ 122,500			\$ 205,375
<b>Kevin Krenitsky, MD.</b>					
Termination without cause or by Executive for Good Reason		\$ 60,000	\$		\$ 60,000
Change in control transaction without termination					
Change in control transaction with termination	\$ 25,500	\$ 60,000	\$		\$ 85,500
<b>Andrew R. Crescenzo, CPA</b>					
Termination without cause or by Executive for Good Reason	\$	\$ 78,333	\$		\$ 78,333
Change in control transaction without termination					
Change in control transaction with termination	\$ 66,300	\$ 78,333	\$		\$ 144,633

(1) The amount listed in this column do not include accrued amounts such as accrued salary or vacation

### Tax and Accounting Considerations

The federal tax laws impose requirements in order for compensation payable to the CEO and certain executive officers to be fully deductible. The Company believes it has taken appropriate actions to maximize its income tax deduction. IRC Section 162(m) generally precludes a public corporation from taking a deduction for compensation in excess of \$1,000,000 for its CEO or any of its three other highest-paid executive officers (other than the CEO or Chief Financial Officer), unless certain specific and detailed criteria are satisfied.

Annually, the Company reviews all compensation programs and payments to determine the tax impact on the Company as well as on the executive officers. In addition, the Company reviews the impact of its programs against other considerations, such as accounting impact, stockholder alignment, market competitiveness, effectiveness and perceived value to employees. Because many different factors influence a well-rounded, comprehensive executive compensation program, some compensation may not be deductible under IRC Section 162(m). The Company will continue to monitor developments and assess alternatives for preserving the deductibility of compensation payments and benefits to the extent reasonably practicable, consistent with its compensation policies and as determined to be in the best interests of the Company and its stockholders.

### Compensation Committee Interlocks and Insider Participation

The current members of the Compensation Committee are Messrs. Gerson and Lazar and Dr. Kasten. No member of the Compensation Committee has a relationship that would constitute an interlocking relationship with the Company's executive officers or other directors.

### Compensation Committee Report

The Compensation Committee has reviewed and discussed the Compensation Discussion and Analysis in this proxy report with management. Based on its review and discussion with management, the Compensation Committee recommended to our Board of Directors that the Compensation Discussion and Analysis be included in this Annual Report on Form 10-K/A for the fiscal year ended July 31, 2009.

Submitted by members of the Compensation Committee:

Irwin W. Gerson, Chairman  
 Dr. Bernard L. Kasten  
 Melvin F. Lazar, CPA

## Security Ownership of Certain Beneficial Owners and Management

Set forth below is information concerning stock ownership of all persons known by the Company to own beneficially 5% or more of the shares of Common Stock of the Company, the executive officers named under "Compensation of Directors and Executive Officers," all current directors, and all current directors and executive officers of the Company as a group based upon the number of outstanding shares of Common Stock as of the close of business on the Record Date. Except as otherwise indicated, each of the persons named has sole voting and investment power with respect to the shares shown.

Name and Address of Beneficial Owner	Amount and Nature of Beneficial Ownership (1)		Percent of Class (2)
Elazar Rabbani, Ph.D.	2,109,143	(3)	5.5%
Barry W. Weiner	1,316,167	(4)	3.4%
Shahram K. Rabbani	1,458,222	(5)	3.8%
Carl W. Balezentis, Ph.D.	14,588	(6)	*
Dr. Kevin Krenitsky	6,600		*
Andrew R. Crescenzo, CPA	16,110	(7)	*
Irwin C. Gerson	93,344	(8)	*
Melvin F. Lazar, CPA	112,047	(9)	*
Stephen B.H. Kent, Ph.D.	30,154	(10)	*
Bernard L. Kasten, MD.	26,654	(11)	*
Clearbridge Advisors, LLC and Smith Barney Fund Management LLC	4,516,010	(12)	11.89%
J. Morton Davis	2,942,240	(13)	7.75%
Barclays Global Investors, NA., Barclays Global Fund Advisors and Barclays Global Investors, Ltd.	2,264,029	(14)	5.96%
All directors and executive officers as a group (15 persons) (15)	5,504,067	(16)	14.15%

\* Represents beneficial ownership of less than 1%.

- (1) Except as otherwise noted, all shares of Common Stock are beneficially owned and the sole investment and voting power is held by the persons named, and such persons' address is c/o Enzo Biochem, Inc., 527 Madison Avenue, New York, New York 10022.
- (2) Based upon 37,978,000 shares of Common Stock of the Company outstanding as of the close of business on the Record Date. Common Stock not outstanding but deemed beneficially owned by virtue of the right of an individual to acquire shares within 60 days from the date is treated as outstanding only when determining the amount and percentage of Common Stock owned by such individual.
- (3) Includes (i) 325,842 shares of Common Stock issuable upon the exercise of options which are exercisable within 60 days from the date hereof, (ii) 3,469 shares of Common Stock held in the name of Dr. Rabbani as custodian for certain of his children, (iii) 2,168 shares of Common Stock held in the name of Dr. Rabbani's wife as custodian for certain of their children, (iv) an aggregate of 5,100 shares of Common Stock held in the name of Dr. Rabbani's children and (v) 7,500 shares of restricted Common Stock that vest within 60 days from the date hereof. Includes 8,031 shares of Common Stock held in the Company's 401(k) plan.
- (4) Includes (i) 325,842 shares of Common Stock issuable upon the exercise of options which are exercisable within 60 days from the date hereof, (ii) 3,642 shares of Common Stock that Mr. Weiner holds as custodian for certain of his children and (iii) 6,000 shares of restricted Common Stock that vest within 60 days from the date hereof. Includes 8,038 shares of Common Stock held in the Company's 401(k) plan.
- (5) Includes (i) 1,354 shares of Common Stock held in the name of Mr. Rabbani's son, (ii) 1,671 shares of Common Stock that Mr. Rabbani holds as custodian for certain of his nephews and (iv) 4,500 shares of restricted Common Stock that vest within 60 days from the date hereof. Includes 7,995 shares of Common Stock held in an Individual Retirement Account.
- (6) Includes (i) 3,085 shares of Common Stock held in the Company's 401(k) plan and (ii) 5,833 shares of restricted Common Stock vesting 60 days from the hereof.
- (7) Includes (i) 3,110 shares of Common Stock held in the Company's 401(k) plan and (ii) 5,000 shares of restricted Common Stock vesting 60 days from the hereof.
- (8) Includes (i) 54,690 shares of Common Stock issuable upon the exercise of options which are exercisable within 60 days from the date hereof and (ii) 20,490 shares of restricted Common Stock vesting 60 days from the date hereof.
- (9) Includes (i) 28,644 shares of Common Stock issuable upon the exercise of options which are exercisable within 60 days from the date hereof, (ii) 26,249 shares of Common Stock owned by Mr. Lazar's wife, (iii) 20,490 shares of restricted Common Stock vesting 60 days from the date hereof and (iv) 10,500 shares in an Individual Retirement Account.
- (10) Includes 20,490 shares of restricted Common Stock vesting 60 days from the date hereof.
- (11) Includes 20,490 shares of restricted Common Stock vesting 60 days from the date hereof.

- (12) The address of each entity in the group is 620 8<sup>th</sup> Ave, New York, New York 10022. This information is based solely on a Schedule 13G filed on February 19, 2009.
- (13) Mr. Davis' address is D.H. Blair Investment Banking Corp., 44 Wall Street, New York, New York 10005. Includes (i) 33,425 shares owned directly by Mr. Davis, (ii) 1,024,345 shares owned directly by Blair Investment, (iii) 691,396 shares owned by Engex, Inc., (iv) 12,733 shares owned by an investment advisor whose principal is Mr. Davis and (v) 1,180,341 shares owned by Rosalind Davidowitz, Mr. Davis' wife. This information is based solely on a Schedule 13G filed on February 10, 2009.
- (14) The address of Barclays Global Investors, NA. and Barclays Global Fund Advisors is 400 Howard Street, San Francisco, California 94105; the address of Barclays Global Investors, Ltd is Murray House, 1 Royal Mint Court, London EC3N 4HH. This information is based solely on a Schedule 13G filed on February 5, 2009.
- (15) The total number of directors and executive officers includes five (5) executive officers or key employees who were not named under "Security Ownership of Certain Beneficial Owners and Management".
- (16) Includes 822,422 shares of Common Stock issuable upon the exercise of options which are exercisable within 60 days from the date hereof and 117,293 shares of vesting of restricted stock and non-voting restricted stock units within 60 days from the date hereof.

#### Securities Authorized For Issuance Under Equity Compensation

The following table sets forth information regarding our existing equity compensation plans as of July 31, 2009:

Plan Category	Number of Securities to be Issued Upon Exercise of Outstanding Options, Warrants and Rights (a)	Weighted Average Exercise Price of Outstanding Options, Warrants and Rights (b)	Number of Securities Remaining Available for Future Issuance Under Equity Compensation Plans (Excluding Securities Reflected in Column (a)) (c) (3)
Equity compensation plans approved by security holders (1)	1,191,519 (1)	\$ 14.41	
Equity compensation plans approved by security holders (2)	377,400 (2)	\$ 6.05	401,000
Equity compensation plans not approved by security holders	—	—	
<b>Total</b>	<b>2,841,519</b>		<b>401,000</b>

- (1) Shares to be issued upon exercise of options under the 1994, 1999 and 2005 plans
- (2) Unvested restricted shares and restricted stock units under the 2005 plan
- (3) Shares available for grant under the 2005 plan.

**Item 13. Certain Relationships and Related Transactions and Director Independence**

**Certain Relationships and Related Transactions**

Enzo Clinical Labs, Inc. (“Enzo Lab”), a subsidiary of the Company, leases a facility located in Farmingdale, New York from Pari Management Corporation (“Pari”). Pari is owned equally by Elazar Rabbani, Ph.D., Shahram Rabbani and Barry Weiner and his wife, who are the officers and directors of Pari. The lease originally commenced on December 20, 1989, but was amended and extended in March 2005 and now terminates on March 31, 2017. During fiscal year ended July 31, 2009, Enzo Lab paid approximately \$1,424,000 (including approximately \$150,000 in real estate taxes) to Pari with respect to such facility and future payments are subject to cost of living adjustments.

In accordance with the terms of Article 9 of the Company’s Articles of Incorporation, the non-interested members of the Board of Directors has reviewed the terms of this transaction and believes that the transaction is fair and reasonable to the Company, which has guaranteed Enzo Lab’s obligations to Pari under the lease, and that the existing lease terms are as favorable to the Company as terms that would be available from an unaffiliated party. Accordingly, the Board of Directors has approved this transaction.

**Director Independence**

Messrs. Irwin C. Gerson and Melvin F. Lazar and Drs. Bernard L. Kasten and Stephen Kent qualify as “independent directors” under the criteria established by the New York Stock Exchange (“NYSE”).

**Item 14. Principal Accountant Fees and Services**

The following table sets forth the aggregate fees billed by Ernst & Young LLP for the years ended July 31, 2009 and 2008 for audit and non-audit services and are categorized as Audit Fees, Audit-Related Fees, Tax Fees and All Other Fees, which have all been pre-approved by the Audit Committee. The nature of the services provided in each such category is described following the table:

	2009	2008
Audit Fees	\$ 1,272,000	\$ 919,000
Audit-Related Fees	88,000	120,000
Tax Fees	104,000	10,000
All Other Fees	0	0
<b>Total Fees</b>	<b>\$ 1,464,000</b>	<b>\$ 1,049,000</b>

**Audit Fees**— Consists of fees for professional services necessary to perform an audit or review in accordance with the Public Company Accounting Oversight Board, including services rendered for the audit of our annual financial statements (including services incurred with rendering an opinion under Section 404 of the Sarbanes-Oxley Act of 2002) and quarterly reviews of the Company’s interim financial statements. Audit fees also include fees for services performed by Ernst & Young LLP that are closely related to the audit and in many cases could only be provided by the Company’s independent registered public accountants. Such services include the issuance of consents related to the Company’s registration statements and capital raising activities, assistance with and review of other documents filed with the Commission and accounting advice on completed transactions.

**Audit-Related Fees**— Audit-related fees in fiscal 2009 and 2008 related to Merger & Acquisition due diligence performed in connection with acquisitions in both fiscal years.

**Tax Fees**— During fiscal 2009 and 2008, Ernst & Young LLP performed certain tax compliance services.

**All Other Fees**— There were no professional services rendered by Ernst & Young LLP that would be classified as other fees during the years ended July 31, 2009 and 2008.

## Pre-Approval Policies and Procedures

The Audit Committee has adopted a policy that requires advance approval of all audit, audit-related, tax services, and other services performed by the independent auditor. The policy provides for pre-approval by the Audit Committee of specifically defined audit and non-audit services. Unless the specific service has been previously pre-approved with respect to that year, the Audit Committee must approve the permitted service before the independent auditor is engaged to perform it. The Audit Committee has delegated to the Chair of the Audit Committee authority to approve permitted services provided that the Chair reports any decisions to the Audit Committee at its next scheduled meeting.

### Item 15. *Exhibits and Financial Statement Schedules*

Exhibit No.	Description
3(a)	Certificate of Incorporation, as amended March 17, 1980. (1)
3(b)	June 16, 1981 Certificate of Amendment of the Certificate of Incorporation. (2)
3(c)	Certificate of Amendment to the Certificate of Incorporation. (3)
3(d)	Amended and restated Bylaws. (14)
10 (c)	Employment Agreements with Elazar Rabbani. (5)
10(d)	Employment Agreement with Shahram Rabbani. (5)
10(e)	Employment Agreement with Barry Weiner. (5)
10(f)	1994 Stock Option Plan. (6)
10(g)	1999 Stock Option Plan. (7)
10 (h)	Amendment to Elazar Rabbani's employment agreement. (8)
10 (i)	Amendment to Shahram Rabbani's employment agreement. (8)
10 (j)	Amendment to Barry Weiner's employment agreement. (8)
10 (k)	2005 Equity Compensation Incentive Plan (10)
10 (l)	Lease agreement with Pari Management (11)
10 (m)	Settlement and Release Agreement between the Company and Sigma Aldrich (12)
10 (n)	Stock Purchase Agreement By and Among Enzo Life Sciences, Inc., Axxora Life Sciences Inc., and the Stock holders, Option holders and Warrant holders (13)
10 (o)	Stock Asset Purchase Agreement By and Among Buyer Parties and Seller Parties (14)



- 10 (p) Asset Purchase Agreement By and Among Enzo Life Sciences, Acquisition, Inc. and Assay Designs, Inc. (15).
- 14 (a) Code of Ethics (10)
- 21 Subsidiaries of the registrant:
- Enzo Clinical Labs, Inc., a New York corporation.  
Enzo Life Sciences, Inc., a New York corporation.  
Enzo Therapeutics, Inc., a New York corporation.  
Enzo Realty, LLC, a New York Corporation
- 23 Consent of Independent Registered Public Accounting Firm (16)
- 31 (a) Certification of CEO Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (16)
- 31 (b) Certification of CFO Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 (16)
- 31 (c) Certification of CEO Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 filed herewith
- 31 (d) Certification of CFO Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002 filed herewith
- 32 (a) Certification of CEO Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (16)
- 32 (b) Certification of CFO Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (16)

**Notes to exhibits**

- (1) The exhibits were filed as exhibits to the Company's Registration Statement on Form S-18 (File No. 2-67359) and are incorporated herein by reference.
- (2) This exhibit was filed as an exhibit to the Company's Form 10-K for the year ended July 31, 1981 and is incorporated herein by reference.
- (3) This exhibit was filed with the Company's Annual Report on Form 10-K for the year ended July 31, 1989 and is incorporated herein by reference.
- (5) This exhibit was filed with the Company's Annual Report on Form 10-K for the year ended July 31, 1994 and is incorporated herein by reference.
- (6) This exhibit was filed with the Company's Annual Report on Form 10-K for the year ended July 31, 1995 and is incorporated herein by reference.
- (7) This exhibit was filed with the Company's Registration Statement on Form S-8 (333-87153) and is incorporated herein by reference.
- (8) This exhibit was filed with the Company's Annual Report on Form 10-K for the year ended July 31, 2000 and is incorporated herein by reference.
- (9) This exhibit was filed with the Company's Annual Report on Form 10-K for the year ended July 31, 2004 and is incorporated herein by reference.
- (10) This exhibit was filed as an exhibit to the Company's Proxy Statement of Schedule 14A filed on January 19, 2005 and is incorporated herein by reference.
- (11) This exhibit was filed with the Company's Annual Report on Form 10-K for the year ended July 31, 2006 and is incorporated herein by reference.

- (12) This exhibit was filed with the Company's Current Report on Form 8-K on September 21, 2006 and is incorporated herein by reference.
- (13) This exhibit was filed with the Company's Current Report on Form 8-K on May 30, 2007 and is incorporated herein by reference.
- (14) This exhibit was filed with the Company's Current Report on Form 8-K on May 8, 2008 and is incorporated herein by reference.
- (15) This exhibit was filed with the Company's Current Report on Form 8-K on March 13, 2009 and is incorporated herein by reference.
- (16) This exhibit was filed with the Company's Annual Report on Form 10-K for the year ended July 31, 2009 and is incorporated herein by reference.
- (b) See Item 15(a) (3), above.
- (c) See Item 15(a) (2), above.

**SIGNATURES**

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this amendment to the Annual Report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized on the 25<sup>th</sup> day of November, 2009.

ENZO BIOCHEM, INC.

By: /s/ Elazar Rabbani Ph.D.

\_\_\_\_\_  
Name: Elazar Rabbani Ph.D.  
Title: Chairman of the Board of Directors,  
Chief Executive Officer and Secretary

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in the capacities and on the dates indicated.

By: /s/ Elazar Rabbani, Ph.D _____ Elazar Rabbani, Ph.D Chairman of Board of Directors, Chief Executive Officer and Secretary (Principal Executive Officer)	November 25, 2009 _____
By: /s/ Barry W. Weiner _____ Barry W. Weiner, President, Chief Financial Officer, Principal Accounting Officer, Treasurer and Director	November 25, 2009 _____
By: /s/ Irwin Gerson _____ Irwin Gerson, Director	November 25, 2009 _____
By: /s/ Stephen B. H. Kent _____ Stephen B. H. Kent, Ph.D, Director	November 25, 2009 _____
By: /s/ Bernard L. Kasten, MD _____ Bernard L. Kasten, MD, Director	November 25, 2009 _____
By: /s/ Melvin F. Lazar, CPA _____ Melvin F. Lazar, CPA, Director	November 25, 2009 _____
By: _____ Shahram K. Rabbani, Director	

**CERTIFICATIONS**

In connection with Amendment No. 1 to the Annual Report on Form 10-K of Enzo Biochem, Inc. ("the Company") for the fiscal year ended July 31, 2009 as filed with the Securities and Exchange Commission on the date hereof, I, Elazar Rabbani, Ph.D., Chief Executive Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 302 of the Sarbanes-Oxley Act of 2002, that:

1. I have reviewed this Amendment No. 1 to the Annual Report on Form 10-K of Enzo Biochem, Inc.
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. *[Intentionally omitted]* \*
4. *[Intentionally omitted]* \*
5. *[Intentionally omitted]* \*

Date: November 25, 2009

By: /s/ Elazar Rabbani, Ph.D.

---

Elazar Rabbani, Ph.D.  
Chairman of the Board of Directors,  
Chief Executive Officer and Secretary

\* Paragraphs 3 through 5 are included in Exhibit 31(a) to the Annual Report on Form 10-K. See Note 16 to the Exhibits

---

**CERTIFICATIONS**

In connection with Amendment No. 1 to the Annual Report on Form 10-K of Enzo Biochem, Inc. ("the Company") for the fiscal year ended July 31, 2009 as filed with the Securities and Exchange Commission on the date hereof, I, Barry Weiner, Chief Financial Officer of the Company, certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 302 of the Sarbanes-Oxley Act of 2002, that:

1. I have reviewed this Annual Report on Form 10-K of Enzo Biochem, Inc.
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. *[Intentionally omitted]* \*
4. *[Intentionally omitted]* \*
5. *[Intentionally omitted]* \*

Date: November 25, 2009

By: /s/ Barry Weiner

---

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

\* Paragraphs 3 through 5 are included in Exhibit 31(b) to the Annual Report on Form 10-K. See Note 16 to the Exhibits

---