

SCHEDULE 14A
(Rule 14a-101)

INFORMATION REQUIRED IN PROXY STATEMENT

SCHEDULE 14A INFORMATION

Proxy Statement Pursuant to Section 14(a) of the
Securities Exchange Act of 1934 (Amendment No.)

Filed by the Registrant /X/
Filed by a Party other than the Registrant / /

Check the appropriate box:

- / / Preliminary Proxy Statement
- / / Confidential, for Use of the Commission Only
(as permitted by Rule 14a-6(e)(2))
- /X/ Definitive Proxy Statement
- / / Definitive Additional Materials
- / / Soliciting Material Under Rule 14a-12

Enzo Biochem, Inc.

(Name of Registrant as Specified in Its Charter)

(Name of Person(s) Filing Proxy Statement, if other than the Registrant)

Payment of Filing Fee (Check the appropriate box):

- /X/ No fee required
- / / Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.

1) Title of each class of securities to which transaction applies:

2) Aggregate number of securities to which transaction applies:

3) Per unit price or other underlying value of transaction computed pursuant
to Exchange Act Rule 0-11 (set forth the amount on which the filing fee
is calculated and state how it was determined):

4) Proposed maximum aggregate value of transaction:

5) Total fee paid:

/ / Fee paid previously with preliminary materials:

/ / Check box if any part of the fee is offset as provided by Exchange Act
Rule 0-11(a)(2) and identify the filing for which the offsetting fee was
paid previously. Identify the previous filing by registration statement
number, or the form or schedule and the date of its filing.

1) Amount Previously Paid:

2) Form, Schedule or Registration Statement No.:

3) Filing Party:

4) Date Filed:

ENZO BIOCHEM, INC.
60 Executive Boulevard
Farmingdale, New York 11735
(631) 755-5500

NOTICE OF ANNUAL MEETING OF SHAREHOLDERS
TO BE HELD ON TUESDAY, JANUARY 16, 2001

To the Shareholders of Enzo Biochem, Inc.:

NOTICE IS HEREBY GIVEN that the Annual Meeting of Shareholders of Enzo Biochem, Inc., a New York corporation (the "Company"), will be held at The Yale Club of New York, 50 Vanderbilt Avenue, Grand Ballroom, 20th Floor, New York, New York, on Tuesday, January 16, 2001, 9:00 a.m. local time (the "Annual Meeting"), for the following purposes:

1. To elect Shahram K. Rabbani as a Class I Director for a term of three (3) years or until his successor is elected and qualified;
2. To ratify the appointment of Ernst & Young LLP as the independent auditors for the Company for the Company's fiscal year ending July 31, 2001; and
3. To transact such other business as may properly come before the Annual Meeting or any adjournment thereof.

The close of business on Monday, November 27, 2000 has been fixed as the record date for the determination of shareholders entitled to notice of and to vote at the Annual Meeting. The transfer books of the Company will not be closed.

All shareholders are cordially invited to attend the Annual Meeting. Whether or not you expect to attend, you are requested to sign, date and return the enclosed proxy promptly. Shareholders who execute proxies retain the right to revoke them at any time prior to the voting thereof by filing written notice of such revocation with the Secretary of the Company, by submission of a duly executed proxy bearing a later date or by voting in person at the Annual Meeting of Shareholders. Attendance at the Annual Meeting will not in and of itself constitute revocation of a proxy. Any written notice revoking a proxy should be sent to Enzo Biochem, Inc., 60 Executive Boulevard, Farmingdale, New York 11735, Attention: Shahram K. Rabbani, Secretary. A return envelope which requires no postage if mailed in the United States is enclosed for your convenience.

By Order of the Board of Directors

Shahram K. Rabbani, Secretary

Farmingdale, New York
November 28, 2000

ENZO BIOCHEM, INC.
60 Executive Boulevard
Farmingdale, New York 11735
(631) 755-5500

PROXY STATEMENT

ANNUAL MEETING OF SHAREHOLDERS
TO BE HELD ON TUESDAY, JANUARY 16, 2001

This Proxy Statement is furnished in connection with the solicitation, by the Board of Directors of Enzo Biochem, Inc., a New York corporation (the "Company"), of proxies in the enclosed form for the Annual Meeting of Shareholders to be held at The Yale Club of New York, 50 Vanderbilt Avenue, Grand Ballroom, 20th Floor, New York, New York, on Tuesday, January 16, 2001, at 9:00 a.m. local time (the "Annual Meeting"), and for any adjournment or adjournments thereof, for the purposes set forth in the preceding Notice of Annual Meeting of Shareholders. The persons named in the enclosed proxy form will vote the shares for which they are appointed in accordance with the directions of the shareholders appointing them. In the absence of such directions, such shares will be voted FOR Proposals 1 and 2 listed below and, in their best judgment, will be voted on any other matters as may come before the Annual Meeting. Any shareholder giving a proxy has the power to revoke the same at any time before it is voted by filing written notice of such revocation with the Secretary of the Company, by submission of a duly executed proxy bearing a later date or by voting in person at the Annual Meeting. Attendance at the Annual Meeting will not in and of itself constitute revocation of a proxy. Any written notice revoking a proxy should be sent to Enzo Biochem, Inc., 60

Executive Boulevard, Farmingdale, New York 11735, Attn.: Shahram K. Rabbani, Secretary. A return envelope which requires no postage if mailed in the United States is enclosed for your convenience.

The principal executive offices of the Company are located at 60 Executive Boulevard, Farmingdale, New York 11735. The approximate date on which this Proxy Statement and the accompanying form of proxy will first be sent or given to the Company's shareholders is Tuesday, November 28, 2000.

VOTING SECURITIES

Only holders of shares of common stock, par value \$.01 per share (the "Common Stock"), of the Company of record as of the close of business on Tuesday, November 28, 2000 are entitled to vote at the Annual Meeting (the "Record Date"). On the Record Date there were issued and outstanding 25,670,620 shares of Common Stock. Each outstanding share of Common Stock is entitled to one (1) vote upon all matters to be acted upon at the Annual Meeting. The holders of a majority of the outstanding shares of Common Stock as of the Record Date shall constitute a quorum.

The election of a nominee for director requires a plurality (i.e., an excess of votes over those cast for an opposing candidate) if in the event that more than one candidate is running for a vacancy. An affirmative vote of the majority of the votes cast is required for approval of Proposal 2 and all other matters submitted to the shareholders at the Annual Meeting. Abstentions and broker non-votes are not counted as votes cast on any matter to which they relate and will have no effect on the outcome of the vote. A broker non-vote occurs when a broker or other nominee does not have discretionary authority and has not received instructions with respect to a particular proposal. Proxy ballots are received and tabulated by the Company's transfer agent and certified by the inspector of election.

1

STOCK OWNERSHIP OF PRINCIPAL SHAREHOLDERS 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 "Executive Compensation of Directors and Executive Officers," all directors, and all 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.

<TABLE>
<CAPTION>

Name and Address of Beneficial Owner -----	Amount and Nature of Beneficial Ownership (1) -----	Percent of Class (2) -----
<S>	<C>	<C>
Elazar Rabbani, Ph.D.	1,678,422 (3)	6.4%
Shahram K. Rabbani	1,680,720 (4)	6.5%
Barry W. Weiner	954,765 (5)	3.7%
J. Morton Davis	1,779,040 (6)	6.9%
John B. Sias	133,665 (7)	*
John J. Delucca	16,625 (8)	*
Dean Engelhardt, Ph.D.	196,136 (9)	*
Herbert B. Bass	112,151 (10)	*
All directors and executive officers as a group (10 persons)	4,981,011 (11) (12)	18.5%

</TABLE>

* 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., 60 Executive Boulevard, Farmingdale, New York 11735.

(2) Based upon 25,670,620 shares of Common Stock of the Company outstanding as of the close of business on the Record Date.

- (3) Includes (i) 379,949 shares of Common Stock issuable upon the exercise of options which are exercisable within 60 days from the date hereof, (ii) 2,998 shares of Common Stock held in the name of Dr. Rabbani as custodian for certain of his children and (iii) 1,784 shares of Common Stock held in the name of Dr. Rabbani's wife as custodian for certain of their children. Does not include 83,125 shares of Common Stock issuable upon the exercise of options which are not exercisable within 60 days from the date hereof.
- (4) Includes (i) 379,949 shares of Common Stock issuable upon the exercise of options which are exercisable within 60 days from the date hereof, (ii) 779 shares of Common Stock held in the name of Mr. Rabbani's son and (iii) 1,444 shares of Common Stock that Mr. Rabbani holds as custodian for certain of his nephews. Does not include 83,125 shares of Common Stock issuable upon the exercise of options which are not exercisable within 60 days from the date hereof.

2

- (5) Includes (i) 308,144 shares of Common Stock issuable upon the exercise of options which are exercisable within 60 days from the date hereof and (ii) 2,998 shares of Common Stock which Mr. Weiner holds as custodian for certain of his children. Does not include 83,125 shares of Common Stock issuable upon the exercise of options which are not exercisable within 60 days from the date hereof.
- (6) Mr. Davis' address is c/o D.H. Blair Investment Banking Corp., 44 Wall Street, New York, New York 10005. Includes (i) 1,233,178 shares of Common Stock owned by D.H. Blair Investment Banking Corp. of which Mr. Davis is the Chairman of the Board of Directors and sole shareholder and (ii) 545,862 shares of Common Stock owned by Engex, Inc., a close-end registered investment company of which Mr. Davis is the Chairman of the Board of Directors.
- (7) Includes 58,815 shares of Common Stock issuable upon the exercise of options which are exercisable within 60 days from the date hereof. Does not include 11,250 shares of Common Stock issuable upon the exercise of options which are not exercisable within 60 days from the date hereof.
- (8) Includes 16,625 shares of Common Stock issuable upon the exercise of options which are exercisable within 60 days from the date hereof. Does not include 11,250 shares of Common Stock issuable upon the exercise of options which are not exercisable within 60 days from the date hereof.
- (9) Includes 41,402 shares of Common Stock issuable upon the exercise of options which are exercisable within 60 days from the date hereof. Does not include 12,500 shares of Common Stock issuable upon the exercise of options which are not exercisable within 60 days from the date hereof.
- (10) Includes -0- shares of Common Stock issuable upon the exercise of options which are exercisable within 60 days from the date hereof. Does not include 13,250 shares of Common Stock issuable upon the exercise of options which are not exercisable within 60 days from the date hereof.
- (11) Includes 1,271,838 shares of Common Stock issuable upon the exercise of options which are exercisable within 60 days from the date hereof. Does not include 321,937 shares of Common Stock issuable upon the exercise of options held by such individuals which are not exercisable within 60 days from the date hereof.
- (12) The total number of directors and executive officers includes three (3) executive officers who were not named under "Executive Compensation of Directors and Executive Officers."

3

PROPOSAL 1
ELECTION OF DIRECTOR

The Company has three (3) staggered classes of Directors, each of which serves for a term of three (3) years. At the Annual Meeting, the Company's Class I Director will be elected to hold office for a term of three (3) years or until his successor is elected and qualified. Unless otherwise instructed, the accompanying form of proxy will be voted for the election of the below-listed nominee, who currently serves as a Class I Director, to continue such service as a Class I Director. Management has no reason to believe that the nominee will not be a candidate or will be unable to serve as a director. However, in the event that the nominee should become unable or unwilling to serve as a director,

the form of proxy will be voted for the election of such person as shall be designated by the Class II and Class III Directors.

CLASS I DIRECTOR NOMINEES TO SERVE UNTIL
THE 2004 ANNUAL MEETING, IF ELECTED:

Class I: New Term To Expire In 2004

Name - ----	Age ---	Year First Became A Director -----
Shahram K. Rabbani	48	1976

THE BOARD OF DIRECTORS OF THE COMPANY RECOMMENDS A VOTE "FOR" THE ELECTION OF THE ABOVE-NAMED NOMINEES. PROXIES SOLICITED BY THE BOARD OF DIRECTORS WILL BE SO VOTED UNLESS SHAREHOLDERS SPECIFY IN THEIR PROXIES A CONTRARY CHOICE.

DIRECTORS WHO ARE CONTINUING IN OFFICE:

Class II: Term To Expire In 2002

Name - ----	Age ---	Year First Became a Director -----
Barry W. Weiner	50	1976
John J. Delucca	57	1982

Class III: Term To Expire In 2003

Name - ----	Age ---	Year First Became a Director -----
Elazar Rabbani, Ph.D.	56	1976
John B. Sias	73	1982

4

DIRECTORS AND EXECUTIVE OFFICERS

The directors and executive officers of the Company are identified in the table below. Each executive officer of the Company serves at the pleasure of the Board of Directors.

<TABLE>
<CAPTION>

Name - ----	Age ---	Year Became An Executive Officer -----	Position -----
<S>	<C>	<C>	<C>
Elazar Rabbani, Ph.D.....	56	1976	Chairman of the Board of Directors and Chief Executive Officer
Shahram K. Rabbani.....	48	1976	Chief Operating Officer, Treasurer, Secretary and Director
Barry W. Weiner.....	50	1977	President and Director
Dean Engelhardt, Ph.D.....	60	1981	Executive Vice President
Norman E. Kelker, Ph.D.....	61	1981	Senior Vice President
Herbert B. Bass.....	52	1995	Vice President of Finance
Barbara E. Thalenfeld, Ph.D.....	60	1995	Vice President, Corporate Development
David C. Goldberg.....	43	1995	Vice President, Business Development
John J. Delucca.....	57	1982	Director
John B. Sias.....	73	1982	Director

Biographical Information Regarding Directors and Executive Officers

ELAZAR RABBANI, PH.D., has served as Chairman of the Board of Directors and Chief Executive Officer of the Company since the Company's inception in 1976 and has served as the Company's President from its inception to November 1996. Dr.

Rabbani received his B.A. degree from New York University in Chemistry and his Ph.D. degree in Biochemistry from Columbia University. He is a member of the American Society for Microbiology. Elazar Rabbani is Shahram K. Rabbani's brother and Barry W. Weiner's brother-in-law.

SHAHRAM K. RABBANI , a Class I Director nominee, has served as Chief Operating Officer and Secretary of the Company since November 1996, as Executive Vice President from September 1981 to November 1996 and as Vice President, Treasurer and a Director since the Company's inception in 1976. Mr. Shahram K. Rabbani currently serves as a Class I Director whose term expires in 2001. Mr. Shahram K. Rabbani received a B.A. degree in Chemistry from Adelphi University. Shahram Rabbani is Elazar Rabbani's brother and Barry W. Weiner's brother-in-law.

BARRY W. WEINER has served as President of the Company since November 1996 and as a Director of the Company since its inception in 1976. Mr. Weiner has served as Executive Vice President of the Company from September 1981 to November 1996, as a Vice President of the Company from the Company's inception to November 1996 and as Secretary of the Company from March 1980 to November 1996. He was employed by Colgate-Palmolive Company, New York, New York from August 1974 until March 1980, when he joined the Company on a full-time basis. Mr. Weiner received his B.A. degree in Economics from New York University and an M.B.A. from Boston University. Barry W. Weiner is the brother-in-law of Elazar Rabbani and Shahram K. Rabbani, both of whom are brothers.

DEAN ENGELHARDT, PH.D. has served as Executive Vice President since July 13, 2000, as Senior Vice President since January 1989, and as Vice President since September 1981. Prior to joining the Company, he was an Associate Professor of Microbiology at Columbia University College of Physicians and Surgeons. He obtained his Ph.D. from Rockefeller University.

5

NORMAN E. KELKER, PH.D. has been a Vice President of the Company since September 1981. Effective January 1, 1989, he was promoted to Senior Vice President. From 1975 until he joined the Company, Dr. Kelker was an Associate Professor in the Department of Microbiology of the New York University School of Medicine. He holds a Ph.D. from Michigan State University.

HERBERT B. BASS is Vice President of Finance and has been with the Company since 1986. Prior to his position as Vice President of Finance, Mr. Bass was the Corporate Controller of the Company. From 1979 to 1986, Mr. Bass held various positions at Danziger & Friedman, Certified Public Accountants, the most recent of which was audit manager. For the preceding seven (7) years, he held various positions at Berenson & Berenson, C.P.A. Mr. Bass holds a Bachelor degree in Business Administration from Baruch College.

BARBARA E. THALENFELD, PH.D. is Vice President of Corporate Development and has been with the Company since 1982. Prior to joining the Company, she held an NIH research fellowship at Columbia University. She received a Ph.D. from Hebrew University-Hadassah Medical Center and an M.S. from Yale University.

DAVID C. GOLDBERG is Vice President of Business Development. Prior to joining the Company in 1985, he was employed at DuPont NEN Products. He received an M.S. from Rutgers University and an M.B.A. from New York University.

JOHN J. DELUCCA has been a Director of the Company since January 1982. Since January 1999, Mr. Delucca has been Chief Financial Officer and Executive Vice President, Finance and Administration of Coty, Inc. From October 1993 until January 1999, he was Senior Vice President and Treasurer of RJR Nabisco, Inc. From January 1992 until October 1993, he was the Chief Financial Officer and Managing Director of Hascoe Associates, Inc. From October 1, 1990 until January 1992, he served as President and Chief Financial Officer of The Lexington Group, Ltd. From September 1988 until September 1990, he has served as Senior Vice President-Finance of The Trump Group. From May 1986 until August 1988, he served as Senior Vice President-Finance at International Controls Corp. From February 1985 until May 1986, he was a Vice President and Treasurer of Textron, Inc. Prior to that he was a Vice President and Treasurer of the Avco Corporation, which was acquired by Textron.

JOHN B. SIAS has been a Director of the Company since January 1982. Mr. Sias had been President and Chief Executive Officer of Chronicle Publishing Company from April 1993 to August 2000. From January 1986 until December 1992, Mr. Sias served as President of ABC Television Network Division and Executive Vice President, Capital Cities/ABC, Inc. From 1977 until January 1986 he was the Executive Vice President, President of the Publishing Division (which includes Fairchild Publications) of Capital Cities Communications, Inc.

Meetings of The Board of Directors

During the fiscal year ended July 31, 2000, there were four (4) formal meetings of the Board of Directors, several actions by unanimous consent and

several informal meetings. The Board of Directors has an Audit Committee and Stock Option Committee, each of which was organized in November 1982. During the fiscal year ended July 31, 2000, there was one (1) formal meeting of the Audit Committee and the Stock Option Committee had two (2) formal meetings. Each director of the Company attended at least 75% of all Board meetings during the fiscal year ended July 31, 2000.

Committees of The Board Of Directors

The Audit Committee is authorized to review proposals of the Company's auditors regarding annual audits, 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, to review the scope of the annual audit, to approve or disapprove each professional service or type of service other than standard auditing services to be provided by the auditors, and to review and discuss the audited financial statements with the auditors. Its members are Shahram K. Rabbani (a Class I Director nominee), John B. Sias and John J. Delucca.

6

The Stock Option Committee has the plenary authority in its discretion to determine the purchase price of the Common Stock issuable upon the exercise of each option, to determine the employees to whom, and the time or times at which options shall be granted and the number of shares to be issuable upon the exercise of each option, to interpret the plans, to prescribe, amend and rescind rules and regulations relating to them, to determine the term and provisions of the respective option agreements and to make all other determinations deemed necessary or advisable for the administration of the plans. Its members are John B. Sias and John J. Delucca.

The Company does not have a formal Compensation Committee, Nominating Committee or Executive Committee of the Board of Directors.

Audit Committee Report

In connection with the preparation and filing of the Company's Annual Report on Form 10-K for the year ended July 31, 2000:

- (1) The Audit Committee reviewed and discussed the audited financial statements with management;
- (2) The Audit Committee discussed with the independent auditors the material required to be discussed by SAS 61 (as may be modified or supplemented);
- (3) The Audit Committee reviewed the written disclosures and the letter from the independent auditors required by the Independence Standards Board Standard No. 1, as may be modified or supplemented, and discussed with the auditors any relationships that may impact their objectivity and independence and satisfied itself as to the auditors' independence.
- (4) Based on the review and discussions referred to above, the Audit Committee recommended to the Board that the audited financial statements be included in the 2000 Annual Report on Form 10K.

Audit Committee Charter

In May 2000, the Board of Directors of the Company formally adopted a charter for the Audit Committee. The Audit Committee Charter is set forth in Exhibit A to this Proxy Statement.

Independence of Audit Committee Members

Two Audit Committee members, John B. Sias and John J. Delucca, are independent, as defined in the NYSE's listing standards. The third member of the Audit Committee, Shahram K. Rabbani, is not independent under the NYSE's listing standards. However, inasmuch as he continues to serve and the Company has a limited number of directors, it was considered in the best interests of the Company for him to remain a member of the Audit Committee at this time.

Members of Audit Committee

Shahram K. Rabbani
John B. Sias
John J. Delucca

Section 16(a) Beneficial Ownership Reporting Compliance

Section 16(a) of the Securities Exchange Act of 1934, as amended, 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.

Certain Relationship and Related Transactions

Enzo Clinical Labs, Inc. ("Enzolabs"), 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, the officers and directors of Pari. The lease which commenced on December 20, 1989 and terminates on November 30, 2004 provides for a minimum net annual rent of \$515,000 through December 31, 1996 and \$818,250 for the period beginning January 1, 1997, subject to annual cost of living adjustments. During fiscal 2000, Enzolabs paid \$1,017,000 (including \$112,000 in real estate taxes) to Pari with respect to such facility. An amendment to the foregoing lease was effected on January 1, 2000, to provide for the lease of an additional 3,000 square feet by Enzolabs. As a result thereof, the minimum net annual rent for the period beginning January 1, 2000, subject to annual cost of living adjustments, is \$95,140. The Company, which has guaranteed Enzolabs' obligations to Pari under the lease, believes that the lease terms are as favorable to the Company as would be available from an unaffiliated party.

EXECUTIVE COMPENSATION OF DIRECTORS AND EXECUTIVE OFFICERS

The following summary compensation table sets forth the aggregate compensation paid by the Company to its chief executive officer and to the Company's four other most highly compensated executive officers whose annual compensation exceeded \$100,000 for the fiscal year ended July 31, 2000 (each, a "Named Executive Officer") for services during the fiscal years ended July 31, 2000, 1999 and 1998:

Summary Compensation Table

<TABLE>
<CAPTION>

Term	Name and Principal Position	Year	Annual Compensation		Long Compensation Securities
Awards	Options/SARs (#)		Salary (\$)	Bonus (\$)	
	-----	----	-----	-----	-----
<S>		<C>	<C>	<C>	
<C>					
Elazar Rabbani, Ph.D., 0- Chairman of the Board of 110,000		2000	\$301,091	\$195,000	-
Directors and CEO 52,500		1999	\$282,237	\$145,000	
		1998	\$271,043	\$145,000	
Shahram K. Rabbani, 0- Chief Operating Officer, 110,000		2000	\$269,708	\$170,000	-
Treasurer, Secretary and Director 52,500		1999	\$251,996	\$120,000	
		1998	\$235,783	\$120,000	
Barry W. Weiner, 0- President and Director 110,000		2000	\$269,708	\$170,000	-
		1999	\$251,996	\$120,000	
52,500		1998	\$235,783	\$120,000	

Dean Engelhardt, Ph.D., 5,000 Executive Vice President 15,000	2000	\$176,150	\$40,000
--	1999	\$166,154	\$30,000
	1998	\$156,731	\$25,000
Herbert B. Bass, 2,500 Vice President of Finance 15,000	2000	\$143,074	\$30,000
	1999	\$138,076	\$20,000
5,000 </TABLE>	1998	\$132,118	\$15,000

The Company does not have a Compensation Committee or other board committee performing equivalent functions. During the fiscal year ended July 31, 2000, deliberations concerning executive officer compensation were made by the Company's Board of Directors, which board includes Elazar Rabbani, Ph.D. (Chairman of the Board and Chief Executive Officer of the Company), Shahram K. Rabbani (Chief Operating Officer, Secretary and Treasurer of the Company and a Class I Director nominee), Barry W. Weiner (President of the Company), John J. Delucca and John B. Sias.

9

Option/SAR Grants in Last Fiscal Year

<TABLE>
<CAPTION>

Name	Individual Grants			Potential Realizable Value At Assumed Annual Rates of Stock Price Appreciation For Option Term		
	Number of Securities Underlying Option/SARs Granted (#)	Percent of Total Options/SARs Granted to Employees in Fiscal Year	Exercise of Base Price (\$ / Sh)	Expiration Date	5% (\$)	10% (\$)
----- ----- <S>	<C>	<C>	<C>	<C>	<C>	<C>
Elazar Rabbani, Ph.D., Chairman of the Board of Directors and Chief Executive Officer	-0-	N/A	N/A	N/A	N/A	N/A
Shahram K. Rabbani, Chief Operating Officer, Treasurer, Secretary and Director	-0-	N/A	N/A	N/A	N/A	N/A
Barry W. Weiner, President and Director	-0-	N/A	N/A	N/A	N/A	N/A
Dean Engelhardt, Ph.D., Executive Vice President	5,000	5.95%	\$21.370	11/1/09	\$67,197	\$170,291
Herbert B. Bass, Vice President of Finance </TABLE>	2,500	2.98%	\$21.370	11/1/09	\$33,599	\$85,146

* Less than 1%.

Aggregated Option Exercises in Last Fiscal Year and Fiscal Year-End Option Values

The following table sets forth certain information with respect to stock option exercises by the Named Executive Officers and Messrs. John B. Sias and John J. Delucca (both of whom serve as Outside Directors of the Company's Board of Directors) during the fiscal year ended July 31, 2000 and the value of unexercised options held by them at fiscal year-end.

<TABLE>
<CAPTION>

Shares of Common Stock	Number of Unexercised Options at Fiscal Year End#	Value of Unexercised In-the-Money Options at Fiscal Year End (\$) (1)
	-----	-----

Name	Acquired on	Value		Unexercisable	Exercisable	Unexercisable
	Exercise (#)	Realized(\$)	Exercisable			
<S>	<C>	<C>	<C>	<C>	<C>	<C>
Elazar Rabbani, Ph.D.	--	--	379,949	83,125	\$ 16,581,300	\$ 3,635,144
Shahram K. Rabbani	--	--	379,949	83,125	\$ 16,581,300	\$ 3,635,144
Barry W. Weiner	34,729	\$ 930,737	308,144	83,125	\$ 13,365,893	\$ 3,635,144
Dean Engelhardt, Ph.D.	23,153	\$ 620,500	99,283	12,500	\$ 4,803,877	\$ 515,144
Herbert B. Bass	15,076	\$ 988,788	28,339	13,250	\$ 1,201,021	\$ 560,351
John B. Sias	12,403	\$ 699,624	58,815	11,250	\$ 2,357,672	\$ 238,566
John J. Delucca	24,826	\$ 1,846,356	16,625	11,250	\$ 886,279	\$ 238,566

(1) Market value of the underlying securities at fiscal year end minus the exercise price.

10

Employment Agreements

Each of Mr. Barry Weiner, Mr. Shahram Rabbani and Dr. Elazar Rabbani (the "Executives") are parties to an employment agreement effective May 4, 1994 (the "Employment Agreement(s)") with the Company. Pursuant to the terms of their respective Employment Agreements, as amended, Messrs. Weiner and Rabbani and Dr. Rabbani are currently compensated at a base annual salary of \$280,000, \$280,000 and \$312,000, respectively. Each Executive will also receive an annual bonus, the amount of which shall be determined by the Board of Directors in their discretion. Each Employment Agreement provides that, in the event of termination of the Executive for good reason or without cause (or, additionally, in the case of Dr. Rabbani, a nonrenewal), as such terms are defined therein, each Executive shall be entitled to receive: (a) a lump sum in an amount equal to three (3) 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 (3); (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 (3) additional years. If the Executive is terminated by reason of his disability, he shall be entitled to receive, for three (3) years after such termination, his base annual salary less any amounts received under a long term disability plan. If the Executive is terminated by reason of his death, his legal representatives shall receive the balance of any remuneration due him. The term of each of the Executive's Employment Agreement, as amended, provides for a term expiring on May 4, 2002 and a renewal period of two (2) years, such renewal to occur automatically unless either the Company or the Executive terminates the Employment Agreement upon 180 days prior written notice.

Compensation of Directors

Each director who is not otherwise an officer or an employee (such director being classified as an "Outside Director") of the Company received \$18,000 in compensation for the fiscal year ended July 31, 2000. Under the Company's 1999 Plan, on the date persons are first elected to serve as Outside Directors of the Company's Board of Directors, such persons shall receive options ("Initial Director Options") to purchase 15,000 shares of Common Stock of the Company, and will automatically receive options ("Automatic Director Options" and together with the Initial Director Options, the "Director Options") to purchase 7,500 shares of the Company's Common Stock immediately following the date of each annual meeting of the Company's shareholders, provided, however, that such persons did not receive Initial Director Options since the most recent grant of Automatic Director Options and continue to serve as directors of the Company's Board of Directors. The exercise price for each share subject to a Director Option shall be equal to the fair market value of the Company's Common Stock on the date of grant. Director Options shall become exercisable at the discretion of the Board of Directors, subject to acceleration in certain circumstances, and shall expire the earlier of ten (10) years after the date of grant or ninety (90) days after the termination of the director's service on the Board of Directors. During fiscal year 2000, each Outside Director received an option to purchase 7,500 shares of Common Stock.

Board of Directors Compensation Report

The Company strives to apply a uniform philosophy to compensation for all of its employees, including the members of its senior management. 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 goals and objectives.

The goals of the Company's compensation program are to align remuneration with business objectives and performance, and to enable the Company to retain and competitively reward executive officers who contribute to the long-term success of the Company. The Company's compensation program for executive officers is based on the following principles, which are applicable to compensation decisions for all employees of the Company. The Company

11

attempts to pay its executive officers competitively in order that it will be able to retain the most capable people in the industry. Information with respect to levels of compensation being paid by comparable companies is obtained from various publications and surveys.

During the last fiscal year, the compensation of executive officers consisted principally of salary and bonus and the Company granted stock options to its executive officers, additional grants of which may be made in the future. The cash portion of such program includes base salary and annual bonuses, which are awarded in the discretion of the Board of Directors. Salary levels have been set based upon historical levels, amounts being paid by comparable companies and performance. The Company's equity-based compensation consists of the award of discretionary stock options, which are designed to provide additional incentives to executive officers to maximize shareholder value. Through the use of extended vesting periods, the option program is designed to encourage executive officers to remain in the employ of the Company. In addition, because the exercise prices of such options are typically set at or above the fair market value of the stock on the date the option is granted, executive officers can only benefit from such options if the trading price of the Company's shares of Common Stock increases, thus aligning their financial interests directly with those of the shareholders.

In consideration for Dr. Elazar Rabbani's services as Chairman of the Board of Directors and Chief Executive Officer of the Company for the fiscal year ended July 31, 2000, the Company paid Dr. Rabbani an annual salary of \$301,091 and a bonus of \$195,000 and granted Dr. Rabbani stock options to purchase -0- shares of the Company's Common Stock. Such compensation was determined pursuant to the Company's employment agreement with Dr. Rabbani and was based on the Board's view of Dr. Rabbani's successful performance as Chief Executive Officer. See "Employment Agreements."

401(k) Plan

The Company has adopted a salary reduction profit sharing plan which is generally available to employees of the Company and any subsidiary of the Company. Officers and directors who are employees of the Company participate in the Plan on the same basis as other employees.

The Plan permits voluntary contributions by employees in varying amounts up to 17% of annual earnings (not to exceed the maximum allowable in any calendar year which is \$10,500 for 2000). Employee contributions are made by salary reduction under Section 401(k) of the Internal Revenue Code of 1986, as amended (the "Code"), and are excluded from taxable income of the employee. The Company may also contribute additional discretionary amounts as it may determine.

All employees of the Company who are twenty-one (21) years or older and have been employed by the Company for a minimum of six (6) months are eligible to participate in the Plan. Employees who have more than 500 hours of service per service year, but less than 1,000 hours per service year, are still considered members of the Plan, but contribution allocations and vesting will not increase during such time.

A participant's account is distributed to him upon retirement or termination of employment for any reason and in certain other limited situations. The amount of the Plan allocation attributable to the Company's discretionary contributions will vest in accordance with a schedule. To date, the Company has made no discretionary contributions to the Plan.

1993 Stock Option Plan

Under the Company's 1993 Stock Option Plan (the "1993 Plan"), the Company's Board of Directors may grant incentive stock options ("ISOs") and non-qualified stock options ("NQSOs"), as those terms are defined by Section 422 of the Code, to selected key employees, directors, officers, consultants and advisors of the Company to purchase the Company's Common Stock. Options granted under the 1993 Plan generally vest no earlier than six (6) months after the date of grant and cannot be exercised later than the tenth (10th) anniversary date of the date of grant. When the optionee, however, holds more than 10% of all combined voting stock of the Company, ISOs granted under the 1993 Plan cannot be exercised later than the fifth (5th) anniversary date of the date of grant. The exercise prices of options granted under the 1993 Plan are set by the Board of Directors of the Company, or designated committee. In any event,

12

however, ISOs granted under the 1993 Plan may not be exercisable at a price lower than the fair market value of the Company's Common Stock on the date such options are granted, and, when the optionee holds more than 10% of all combined voting stock of the Company, the exercise prices such options may not be less than 110% of the fair market value of the Common Stock of the Company on the date of grant. ISOs granted under the 1993 Plan to any optionee which become exercisable for the first time in any one calendar year for shares of Common Stock of the Company with an aggregate fair market value, as of the respective date or dates of grant, of more than \$100,000 shall be treated as NQSOs. During the fiscal year ended July 31, 2000, no options were granted to officer-directors of the Company. As of the Record Date, of the 1,396,120 shares reserved for issuance upon the exercise of options authorized for grant under the 1993 Plan, 49,564 shares of the Company's Common Stock remain available for issuance upon the exercise of options authorized for grant under the 1993 Plan.

1994 Stock Option Plan

Under the Company's 1994 Stock Option Plan (the "1994 Plan"), the Company's Board of Directors may grant ISOs and NQSOs to selected key employees, directors, executive officers, consultants and advisors of the Company to purchase the Company's Common Stock. ISOs and NQSOs granted under the 1994 Plan generally vest no earlier than six (6) months after the date of grant and can be exercised no later than the tenth (10th) anniversary date of the date of grant. When the optionee, however, holds more than 10% of all combined voting stock of the Company, ISOs granted under the 1994 Plan can not be exercised later than the fifth (5th) anniversary date of the date of grant. The exercise prices of options granted under the 1994 Plan are set by the Board of Directors of the Company, or designated committee. In any event, however, ISOs granted under the 1994 Plan may not be exercisable at a price lower than the fair market value of the Company's Common Stock on the date such options are granted, and, when the optionee holds more than 10% of all combined voting stock of the Company, the exercise prices of such options may not be less than 110% of the fair market value of the Common Stock of the Company on the date of grant. ISOs granted under the 1994 Plan to any optionee which become exercisable for the first time in any one calendar year for shares of Common Stock of the Company with an aggregate fair market value, as of the respective date or dates of grant, of more than \$100,000 shall be treated as NQSOs. The awards under the 1994 Plan are subject to restrictions on transferability, are forfeitable in certain circumstances and are exercisable at such time or times and during such period as shall be set forth in the option agreement evidencing such option. During the fiscal year ended July 31, 2000, no options to purchase shares of the Company's Common Stock were awarded under the 1994 Plan. As of the Record Date, of the 917,961 shares of the Company's Common Stock reserved for issuance upon the exercise of options authorized for grant under the 1994 Plan, no shares of the Company's Common Stock remain available for issuance upon the exercise of options authorized for grant under the 1994 Plan.

1999 Stock Option Plan

Under the Company's 1999 Stock Option Plan (the "1999 Plan"), the Company's Board of Directors may grant ISOs and NQSOs to selected key employees, directors, executive officers, consultants and advisors of the Company to purchase the Company's Common Stock. ISOs and NQSOs granted under the 1999 Plan generally vest no earlier than six (6) months after the date of grant and can be exercised no later than the tenth (10th) anniversary date of the date of grant. When the optionee, however, holds more than 10% of all combined voting stock of the Company, ISOs granted under the 1999 Plan can not be exercised later than the fifth (5th) anniversary date of the date of grant. The exercise prices of options granted under the 1999 Plan are set by the Board of Directors of the Company, or designated committee. In any event, however, ISOs granted under the 1999 Plan may not be exercisable at a price lower than the fair market value of the Company's Common Stock on the date such options are granted, and, when the optionee holds more than 10% of all combined voting stock of the Company, the exercise prices of such options may not be less than 110% of the fair market value of the Common Stock of the Company on the date of grant. ISOs granted under the 1999 Plan to any optionee which become exercisable for the first time in any one calendar year for shares of Common Stock of the Company with an aggregate fair market value, as of the respective date or dates of grant, of more than \$100,000 shall be treated as NQSOs. The awards under the 1999 Plan are subject to restrictions on transferability, are forfeitable in certain circumstances and are exercisable at such time or times and during such period as shall be set forth in the option agreement evidencing such option. During the fiscal year ended July 31, 2000, options to purchase up to 84,000 shares of the Company's Common Stock were awarded under the 1999 Plan. As of the Record Date, of the 934,375 shares of the Company's Common Stock reserved for issuance upon the exercise of options authorized for grant under

the 1999 Plan, 509,875 shares of the Company's Common Stock remain available for issuance upon the exercise of options authorized for grant under the 1999 Plan.

The Company has in effect, with American International Companies ("AIG") under a policy effective January 22, 2000, and expiring on January 22, 2001, insurance covering all of its directors and officers and certain other employees of the Company against certain liabilities and reimbursing the Company for obligations which it incurs as a result of its indemnification of such directors, officers and employees. Such insurance has been obtained in accordance with the provisions of Section 726 of the Business Corporation Law of the State of New York. The annual premium is \$140,000.

This report has been provided by the Board of Directors of the Company.

Elazar Rabbani, Ph.D.
Shahram K. Rabbani
Barry W. Weiner
John J. Delucca
John B. Sias

The compensation report shall not be deemed to be incorporated by reference in any filing by the Company under the Securities Act of 1933 or the Securities Exchange Act of 1934, except to the extent the Company specifically incorporates such report.

Performance Graph

The graph below compares the five-year cumulative shareholder total return based upon an initial \$100 investment (assuming the reinvestment of dividends) for Enzo Biochem, Inc. shares of Common Stock with the comparable return for the New York Stock Exchange Market Value Index and two peer issuer indices selected on an industry basis. The two peer group indices include: (i) 67 biotechnology companies engaged in the research and development of diagnostic substances and (ii) 21 companies engaged in the medical laboratories business. All of the indices include only companies whose common stock has been registered under Section 12 of the Securities Exchange Act of 1934 for at least the time frame set forth in the graph.

The total shareholder returns depicted in the graph are not necessarily indicative of future performance. The Performance Graph and related disclosure shall not be deemed to be incorporated by reference in any filing by the Company under the Securities Act of 1933 or the Securities Exchange Act of 1934, except to the extent that the Company specifically incorporates the graph and such disclosure by reference.

Comparison of 5-Year Cumulative Total Return of the Company, Two Peer Group Indices and the NYSE Market Index

PROPOSAL 2 APPROVAL OF INDEPENDENT AUDITORS

The Board of Directors has appointed Ernst & Young LLP, as independent auditors, to audit the accounts of the Company for the fiscal year ending July 31, 2001. The Board of Directors approved the reappointment of Ernst & Young LLP (the firm resulting from the merger of Ernst & Whinney and Arthur Young & Company, which has been engaged as the Company's independent auditors since 1983). Ernst & Young LLP has advised the Company that neither the firm nor any of its members or associates has any direct financial interest in the Company or any of its affiliates other than as auditors. Although the selection and appointment of independent auditors is not required to be submitted to a

14

vote of shareholders, the Directors deem it desirable to obtain the shareholders' ratification and approval of this appointment.

Representatives of Ernst & Young LLP are expected to be present at the Annual Meeting with the opportunity to make a statement if they desire to do so and are expected to be available to respond to appropriate questions.

THE BOARD OF DIRECTORS RECOMMENDS A VOTE "FOR" PROPOSAL 2 RELATING TO THE RATIFICATION OF THE APPOINTMENT OF THE AUDITORS. PROXIES SOLICITED BY THE BOARD OF DIRECTORS WILL BE SO VOTED UNLESS SHAREHOLDERS SPECIFY IN THEIR PROXIES A CONTRARY CHOICE.

GENERAL

The Management of the Company does not know of any matters other than those stated in this Proxy Statement which are to be presented for action at the meeting. If any other matters should properly come before the meeting, it is intended that proxies in the accompanying form will be voted on any such matters in accordance with the judgment of the persons voting such proxies. Discretionary authority to vote on such matters is conferred by such proxies upon the persons voting them.

The Company will bear the cost of preparing, assembling and mailing the Proxy, Proxy Statement and other material which may be sent to the shareholders in connection with this solicitation. In addition to the solicitation of proxies by use of the mails, officers and regular employees may solicit the return of proxies. The Company may reimburse persons holding stock in their names or in the names of other nominees for their expense in sending proxies and proxy material to principals. In addition, Continental Stock Transfer & Trust Company, 2 Broadway, New York, New York 10004, the Company's transfer agent, has been engaged to solicit proxies on behalf of the Company for a fee, excluding expenses, of approximately \$5,000. Proxies may be solicited by mail, personal interview, telephone and telegraph.

The Company will provide without charge to each person being solicited by this Proxy Statement, upon the written request of any such person, a copy of the Annual Report of the Company on Form 10-K for the year ended July 31, 2000 (as filed with the Securities and Exchange Commission) including the financial statements and the schedules thereto. All such requests should be directed to Shahram K. Rabbani, Secretary, Enzo Biochem, Inc., 60 Executive Boulevard, Farmingdale, New York 11735.

SHAREHOLDER PROPOSALS TO BE PRESENTED AT THE NEXT ANNUAL MEETING

Shareholder Proposals. Proposals of shareholders intended to be presented at the Company's 2000 Annual Shareholder Meeting (i) must be received by the Company at its offices no later than August 29, 2001 (91 days preceding the one year anniversary of the Mailing Date), (ii) may not exceed 500 words and (iii) must otherwise satisfy the conditions established by the Securities and Exchange Commission for stockholder proposals to be included in the Company's Proxy Statement for that meeting.

Discretionary Proposals. Shareholders intending to commence their own proxy solicitations and present proposals from the floor of the 2001 Annual Shareholder Meeting in compliance with Rule 14a-4 promulgated under the Exchange Act of 1934, as amended, must notify the Company of such intentions before October 14, 2001 (45 days preceding the one year anniversary of the Mailing Date). After such date, the Company's proxy in connection with the 2001 Annual Shareholder Meeting may confer discretionary authority on the Board to vote.

By Order of the Board of Directors

Shahram K. Rabbani, Secretary

Dated: November 28, 2000

16

EXHIBIT A

AUDIT COMMITTEE CHARTER

The members of the Audit Committee shall be appointed by the Board of Directors to assist the Board in monitoring (1) the integrity of the Company's financial reporting process including its internal controls regarding financial reporting, (2) the compliance by the Company with legal and regulatory requirements, (3) the independence and performance of the Company's internal and external auditors and (4) provide an avenue of communication among the independent auditors, management, the internal auditing department and the Board of Directors.

The number of members of the Audit Committee and their independence and experience requirements shall meet NYSE requirements.

The Audit Committee shall have the authority to retain special legal, accounting or other consultants to advise the Committee. The Audit Committee may request any officer or employee of the Company or the Company's outside counsel or independent auditor to attend a meeting of the Committee or to meet with any members of, or consultants to, the Committee.

The Audit Committee shall:

1. Review and reassess the adequacy of this Charter annually and submit it to the Board for approval.
2. Review the annual audited financial statements with management, including major issues regarding accounting and auditing principles and practices as well as the adequacy of internal controls that could significantly affect the Company's financial statements.
3. Review an analysis prepared by management and the independent auditor of significant financial reporting issues and judgments made in connection with the preparation of the Company's financial statements.
4. In consultation with management, the independent auditors, and the internal auditors, consider the integrity of the Company's financial reporting processes and controls.
5. Review with management and the independent auditor the Company's quarterly financial statements prior to the release of quarterly earnings.
6. Meet with management to review the Company's major financial risk exposures and the steps management has taken to monitor and control such exposures.
7. Review major changes to the Company's accounting principles and practices taking into consideration the views of the independent auditor, internal auditors or management.
8. Recommend to the Board the appointment of the independent auditor.
9. Approve the fees to be paid to the independent auditor.
10. Receive periodic reports from the independent auditor regarding the auditor's independence, discuss such reports with the auditor, and if so determined by the Audit Committee, recommend that the Board take appropriate action to assure the independence of the auditor.
11. Evaluate the performance of the independent auditor and, if so determined by the Audit Committee, recommend that the Board replace the independent auditor.
12. Review the appointment and replacement of the senior internal auditing executive.
13. Review the significant reports to management prepared by the internal auditing department and management's responses.

14. Meet with the independent auditor prior to the audit to review the planning and staffing of the audit.
15. Obtain from the independent auditor an understanding of whether there are any indications that Section 10A of the Private Securities Litigation Reform Act of 1995 is applicable and consult counsel if necessary.
16. Obtain reports from management, the Company's senior internal auditing executive and the independent auditor that the Company's subsidiary/foreign affiliated entities are in conformity with applicable legal requirements and the Company's Code of Conduct.
17. Discuss with the independent auditor the matters required to be discussed by Statement on Auditing Standards No. 61 relating to the conduct of the audit.
18. Review with the independent auditor any problems or difficulties the auditor may have encountered and any management letter provided by the auditor and the Company's response to that letter. Such review should include a discussion of any difficulties encountered in the course of the audit work, including any restrictions on the scope of activities or access to required information.
19. Prepare the report required by the rules of the Securities and Exchange Commission to be included in the Company's annual proxy statement.

Proposals 1 and 2.

PLEASE SIGN EXACTLY AS NAME APPEARS BELOW. WHEN SHARES OF COMMON STOCK ARE HELD BY JOINT TENANTS, BOTH SHOULD SIGN.

Dated: _____, 2000 / 2001 (circle one)

Signature: _____

Signature if held jointly: _____

(When signing as attorney, as executor, as administrator, trustee or guardian, please give full title as such. If a corporation, please sign in full corporate name by President or other authorized officer. If a partnership, please sign in partnership name by authorized person.)