

Pursuant to Rule 424(B) (3)

PROSPECTUS

494,928 Shares

ENZO BIOCHEM, INC.

Common Stock

This Prospectus relates to the offering by certain creditors (the "Creditors") of Enzo Biochem, Inc., a New York corporation ("Enzo" or the "Company"), to whom the Company had been indebted of up to an aggregate of 284,928 shares of Common Stock, par value \$.01 per share ("Common Stock"), of Enzo, which shares were issued to the Creditors in May 1995 in private transactions pursuant to Section 4(2) of the Securities Act of 1933, as amended (the "Act") primarily in consideration of an aggregate of \$2,853,976 of indebtedness owed or to be owed by the Company to the Creditors, which obligations have been satisfied through the issuance of such Common Stock. This Prospectus also relates to the offering by Granmill Properties Limited ("Granmill") and Stockton Group Nominees Inc. ("Stockton") of (i) an aggregate of 100,000 shares of Common Stock which shares have been issued in private transactions pursuant to Regulation S promulgated under the Act prior to the date hereof and (ii) an aggregate of 110,000 shares of Common Stock which may be issued by the Company upon exercise of outstanding Warrants issued to Granmill and Stockton in private transactions pursuant to Regulation S promulgated under the Act prior to the date hereof. The Creditors, Granmill and Stockton are sometimes referred to collectively herein as the "Selling Stockholders". The Company will not receive any proceeds from the sale of such shares of Common Stock by the Selling Stockholders. The shares of Common Stock offered from time to time by the Selling Stockholders are hereinafter referred to as the "Shares." The Shares may be sold from time to time directly by the Selling Stockholders or by pledgees, donees, transferees or other successors in interest. Alternatively, the Shares may be offered from time to time by the Selling Stockholders to or through brokers or dealers who may act solely as agent, or may acquire shares as principal. The distribution of the Shares may be effected in one or more transactions that take place on the American Stock Exchange, including block trades, ordinary broker's transactions, privately negotiated transactions or through sales to one or more broker/dealers for resale of such securities as principals, at market prices prevailing at the time of sale, at prices related to such prevailing market prices or at negotiated prices. Usual and customary or specifically negotiated brokerage fees or commissions may be paid by these holders in connection with such sales. In connection with such sales, the Selling Stockholders and any participating brokers or dealers may be deemed "underwriters" as such term is defined in the Securities Act of 1933, as amended.

None of the proceeds from the sale of the Shares by the Selling Stockholders will be received by the Company. The proceeds from the exercise of the Warrants by Granmill and Stockton will be received by the Company. There can be no assurance, however, that either

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of Granmill or Stockton will exercise their respective Warrants. The Company will bear all expenses (other than underwriting discounts and selling commissions, state and local transfer taxes, and fees and expenses of counsel or other advisers to the Selling Stockholders) in connection with the registration of the Shares being offered by the Selling Stockholders, except that Stockton and Granmill has paid an aggregate of \$9,000 of the expenses of this offering.

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AN INVESTMENT IN THE SHARES OFFERED HEREBY INVOLVES A HIGH DEGREE OF RISK.

SEE "RISK FACTORS" FOR A DISCUSSION OF CERTAIN FACTORS THAT SHOULD BE CONSIDERED BY PROSPECTIVE INVESTORS.

THESE SECURITIES HAVE NOT BEEN APPROVED OR DISAPPROVED BY THE SECURITIES AND EXCHANGE COMMISSION OR ANY STATE SECURITIES COMMISSION NOR HAS THE SECURITIES AND EXCHANGE COMMISSION OR ANY STATE SECURITIES COMMISSION PASSED UPON THE ACCURACY OR ADEQUACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The Common Stock of the Company is traded on the American Stock Exchange. On June 12 1995, the reported closing price of the Common Stock on the American Stock Exchange was \$11.00 per share.

No dealer, salesman or any other person has been authorized to give any information or to make any representations in connection with this offering other than those contained in this Prospectus and, if given or made, such information or representations must not be relied upon as having been authorized by the Company or by any other person. This Prospectus does not constitute an offer to sell or a solicitation of an offer to buy any securities other than the registered securities to which it relates or an offer to or solicitation of any person in any jurisdiction in which such offer or solicitation would be unlawful. Neither the delivery of this Prospectus nor any sale or distribution made hereunder shall, under any circumstances, create any implication that there has been no change in the affairs of the Company since the date hereof.

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AVAILABLE INFORMATION

The Company is subject to the informational requirements of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and in accordance therewith files reports, proxy statements and other information with the Securities and Exchange Commission (the "Commission"). Such materials may be inspected and copied at the public reference facilities maintained by the Commission at 450 Fifth Street, N.W., Washington, D.C. 20549, and at the Commission's regional offices located at 7 World Trade Center, 13th Floor, New York, New York 10048 and Northwestern Atrium Center, 500 West Madison Street, Suite 1400, Chicago, Illinois 60661. Copies of such material can be obtained from the Public Reference Section of the Commission at 450 Fifth Street, N.W., Washington, D.C. 20549, at prescribed rates.

The Company's reports, proxy statements and other information filed with the Commission may also be inspected and copied at the American Stock Exchange, 86 Trinity Place, New York, New York, on which the Company's Common Stock is listed for trading.

This Prospectus does not contain all the information set forth in the Registration Statement on Form S-3 filed by the Company with the Commission (the "Registration Statement") with respect to the securities to which this Prospectus relates, certain parts of which are omitted in accordance with the rules and regulations of the Commission. For further information with respect to the Company and the shares offered hereby, reference is made to the Registration Statement, including the exhibits thereto. Each summary in this Prospectus of information included in the Registration Statement or any exhibit thereto is qualified in its entirety by reference to such information or exhibit.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The Company hereby incorporates by reference the following documents filed with the Securities and Exchange Commission:

- (a) The Registrant's Annual Report on Form 10-K for the fiscal year ended July 31, 1994;
- (b) The Registrant's Annual Report on Form 10-K/A for the fiscal year ended July 31, 1994;
- (c) The Registrant's Quarterly Report on Form 10-Q for the quarter ended

October 31, 1994;

- (d) The Registrant's Quarterly Report on Form 10-Q for the quarter ended January 31, 1995; and Form 10-Q/A for the quarter ended January 31, 1995;

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- (e) The Registrant's Quarterly Report on Form 10-Q for the quarter ended April 30, 1995;
- (f) The Registrant's definitive Proxy Statement, dated December 2, 1994, as filed with the Securities and Exchange Commission in connection with the Registrant's Annual Meeting of Shareholders; and
- (g) The description of the Registrant's Common Stock contained in the Registrant's registration statement on Form 8-A filed under the Exchange Act, including any amendment or report filed for the purpose of updating such description.

All documents filed by the Company with the Commission pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act subsequent to the date hereof, and prior to the termination of the offering made hereby, shall be deemed to be incorporated by reference into this Prospectus. Any statement contained in a document incorporated by reference herein shall be deemed to be modified or superseded for purposes of this Prospectus to the extent that a statement contained herein or in any other subsequently filed document which also is incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Prospectus.

The Company will provide a copy of any documents incorporated by reference herein (excluding exhibits to the documents so incorporated, unless such exhibits are specifically incorporated by reference into the information that this prospectus incorporates), free of charge, to each person to whom this Prospectus is delivered, upon written or oral request to Enzo Biochem, Inc., 60 Executive Blvd., Farmingdale, New York 11735, Attention: Corporate Secretary; telephone (516) 755-5500.

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THE COMPANY

Enzo Biochem, Inc. (the "Company" or "Enzo") employing biotechnology, develops, manufactures and markets health care products, and also provides medical diagnostic services to the medical community. The business activities of the Company are performed by one of the Company's three wholly-owned subsidiaries--Enzo Diagnostics, Inc., Enzo Therapeutics, Inc., and Enzo Clinical Labs, Inc. ("Enzo Diagnostics", "Enzo Therapeutics" and "EnzoLabs", respectively). These activities are: (1) diagnostic and research product development, manufacture and marketing through Enzo Diagnostics, (2) therapeutic product research and development through Enzo Therapeutics, and (3) the operation of a clinical reference laboratory through EnzoLabs.

For the fiscal year ended July 31, 1994 (fiscal 1994), approximately 23% of the Company's operating revenues was derived from product sales and approximately 77% was derived from clinical reference laboratory services. For the fiscal years ended July 31, 1993 and 1992 (fiscal 1993 and fiscal 1992, respectively), approximately 11% and 10%, respectively, of the Company's operating revenues were derived from clinical reference laboratory services.

The Company's principal executive offices are located at 60 Executive Boulevard, Farmingdale, New York 11735, and its telephone number is (516) 755-5500.

RISK FACTORS

In evaluating the Company and its business, prospective purchasers of the Shares offered hereby should consider carefully the following factors in evaluating the Company and its operations:

LITIGATION WITH CALGENE, INC. In March 1993, the Company filed suit in the United States District Court for the District of Delaware charging patent infringement and acts of unfair competition against Calgene, Inc. and seeking a declaratory judgment of invalidity concerning Calgene, Inc.'s antisense patent. On February 9, 1994 the Company filed a second suit in the United States District Court for the District of Delaware charging Calgene with infringement of a second antisense patent owned by the Company. Calgene has filed a counterclaim in the second Delaware action seeking a declaration that a third

patent belonging to the Company is invalid. The two Delaware actions have been consolidated and were tried to the Court in April 1995. The parties are awaiting the Court's decision. In addition, the Company filed suit on March 22, 1994 in the United States District Court for the Western District of Washington against Calgene and the Fred Hutchinson Cancer Research Center, alleging that the defendants had conspired to issue a false and misleading press release regarding a supposed "patent license" from Hutchinson to Calgene, and conspired to subvert the Company's antisense patents by improperly using confidential

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information to challenge them in the Patent Office. The Complaint further charge that Hutchinson is infringing and inducing Calgene to infringe the Company's antisense patents. There can be no assurance that the Company will be successful in any of the foregoing matters or that Calgene, Inc. and/or Hutchinson will not be successful. However, even if the Company is not successful management does not believe there will be a significant monetary impact.

COMPETITION; TECHNOLOGICAL ADVANCES BY OTHERS. Competitors engaged in genetic engineering in the United States and abroad are numerous and include, among others, major pharmaceutical, energy, food and chemical companies, as well as specialized genetic engineering firms. Many of the large corporations which are involved in genetic engineering have substantially greater resources than the Company and have the capability of developing products which compete directly with the Company's products. Genetic engineering has undergone, and is expected to continue to undergo, rapid and significant technological change. New developments in recombinant DNA, monoclonal antibody and other biotechnological processes are expected to continue at a rapid pace in both industry and academia. Although the Company believes that its products will be commercially viable, no assurance can be given that other developments will not render the Company's products uneconomical or obsolete, or that the Company's products can be marketed successfully.

SHARES ELIGIBLE FOR FUTURE SALE. Registration statements filed by the Company with the Securities and Exchange Commission had been declared effective with respect to significant amounts of the Company's Common Stock. Sales of Common Stock pursuant to such registration statements may have an adverse effect on the market price of the Common Stock.

UNCERTAINTY OF PRODUCT DEVELOPMENT. The products being pursued by the Company are at various stages of development and clinical evaluations and may require further technical development and investment to determine whether commercial application is practicable. There can be no assurance that the Company's efforts will result in products with valuable commercial applications.

UNCERTAINTY OF PATENT PROTECTION; PROPRIETARY TECHNOLOGY. The Company has filed applications for United States and foreign patents covering certain aspects of its technology, but there is no assurance that pending patents will issue or as to the degree of protection which any issued patent might afford. The Company also utilizes certain unpatented proprietary technology. There is no assurance that others may not independently develop similar technology.

RETENTION OF KEY PERSONNEL. The specialized scientific nature of the Company's business requires the Company to attract and retain personnel with a wide variety of scientific capabilities. To a large extent, the Company's success in developing proprietary technological products has been the result of the effective efforts of the Company's internal scientific staff and its experience and talent. Since its inception an insignificant number of

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key employees have left the Company. The Company has elected not to pursue the purchase of key man insurance on any of its officers. There can be no assurance, however, that the Company will continue to attract and retain personnel of high scientific caliber.

LAWS AND REGULATIONS. In order to manufacture and market therapeutic and diagnostic products, prior clearance of regulatory agencies, in particular the FDA and similar agencies in other countries, must be obtained. The Company has an in-house regulatory department to assist in the preparation and filing of documentation to expedite FDA approvals and patent issuances. The process of obtaining FDA and corresponding foreign approvals is likely to be costly and time consuming, and there can be no assurance that such approvals will be granted. The process of obtaining approvals for noninvasive diagnostic products is significantly less stringent than approvals for therapeutic products. The extent of potentially adverse government regulations which might arise from future legislation or administrative action cannot be predicted.

PRO FORMA (UNAUDITED) FINANCIAL INFORMATION

The following unaudited pro forma consolidated balance sheet gives effect to (i) the issuance by the Company of an aggregate of 284,928 shares of Common Stock to the Creditors primarily in consideration of an aggregate of \$2,853,976 amount of indebtedness owed or owing by the Company to the Creditors and (ii) the exercise in March 1995 of Warrants previously issued to Granmill and Stockton resulting in the receipt by the Company of gross proceeds of \$1,012,500 and the issuance of 50,000 shares of the Company's Common Stock to each of Granmill and Stockton. The pro forma consolidated balance sheets assume such issuances occurred as of July 31, 1994 and April 30, 1995, respectively. Such pro forma information should be read in conjunction with the Company's audited historical financial statements and related notes thereto, which are incorporated by reference in this Prospectus.

<TABLE>
<CAPTION>

ASSETS

	July 31, 1994		April 30, 1995	
	(in thousands)		(in thousands)	
	Actual	Pro Forma	Actual	Pro Forma
<S>	<C>	<C>	<C>	<C>
Total current assets	\$ 25,749	\$ 29,616	\$ 31,879	\$ 32,679
Other assets	39,294	39,294	51,977	51,977
Total assets	\$ 65,043	\$ 68,910	\$ 83,856	\$ 84,656

LIABILITIES AND STOCKHOLDERS' EQUITY

Total current liabilities	\$ 8,597	\$ 8,647	\$ 6,734	4,730
Other liabilities	5,201	5,201	5,247	5,247
Total liabilities	\$13,798	\$ 13,848	\$11,981	\$ 9,977

</TABLE>

Stockholders' Equity

Preferred Stock, \$.01 par value;
authorized 25,000,000 shares; no
shares issued or outstanding

Common Stock, \$.01 par value;
authorized 75,000,000 shares
Shares issued and outstanding;
19,822,200 (actual) at July 31,
1994; 20,207,128 (pro forma)
at July 31, 1994; 19,953,800
(actual) at April 30, 1995;
20,238,728 (pro forma)
at April 30, 1995.

198	202	200	203
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<TABLE>

<S>	<C>	<C>	<C>	<C>
Additional paid-in capital	71,753	75,566	72,860	75,661
Accumulated deficit	(20,706)	(20,706)	(1,185)	(1,185)
Total Stockholders' Equity	51,245	55,062	71,875	74,679
	\$65,043	\$ 68,910	\$83,856	\$ 84,656

</TABLE>

USE OF PROCEEDS

None of the proceeds from the sale of the shares by the Selling Stockholders will be received by the Company. The proceeds from the March 1995 exercise of the warrants previously exercised by Granmill and Stockton will be used for working capital. The proceeds, if any, received by the Company upon exercise of Warrants by Granmill and Stockton will be used for working capital purposes.

THE OFFERING

The Company hereby offers an aggregate of up to 110,000 shares of its Common Stock by Granmill and Stockton upon the exercise of outstanding warrants issued to them by the Company. In August 1993 the Company issued, pursuant to Regulation S of the Act, to each of Granmill and Stockton, 450,000 shares of the Company's Common Stock in consideration received from each party of \$3,600,000. In connection with such purchases the Company granted to each of Granmill and Stockton an aggregate of 125,000 warrants to purchase shares of the Company's Common Stock at exercise prices ranging from \$8.00 to \$12.00. In September 1993 each of Granmill and Stockton exercised a portion of such warrants to purchase 20,000 shares of Common Stock of the Company. In March 1995 each of Granmill and Stockton exercised an additional portion of such warrants to purchase 50,000 shares of the Company's Common Stock. The remaining 55,000 warrants held by each of Granmill and Stockton are exercisable with respect to (i) 25,000 shares at an exercise price of \$8.00 per share during the period September 3, 1994 through September 2, 1999; (ii) 22,500 shares at an exercise price of \$9.60 per share during the period September 3, 1994 through September 2, 1999; (iii) 5,000 shares at an exercise price of \$8.00 per share during the period March 2, 1996 through September 2, 1998; and (iv) 2,500 shares at an exercise price of \$9.60 per share during the period March 2, 1996 through September 2, 1998. If all of the outstanding 110,000 warrants are exercised, of which there can be no assurance, the Company will receive gross proceeds of \$960,000.

SELLING STOCKHOLDERS

The following table sets forth certain information, as of the date hereof, with respect to the Shares held by each Selling Stockholder.

The Creditors were issued the 284,928 shares of Common Stock being offered by them hereby in May 1995 primarily in exchange for the cancellation of an aggregate of \$2,853,976 owed or to be owed by the Company to them. The Company is currently incurring additional indebtedness to certain of the Creditors who continue to render legal services to the Company. The shares offered hereby by the Creditors were received primarily in cancellation of indebtedness owed or owing to each Creditor incurred in connection with legal services performed or to be performed for the Company. The number

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of shares of Common Stock issued in exchange for the indebtedness was negotiated between the Company and each of the Creditors. All of the indebtedness owing to the Creditors constituted unsecured obligations of the Company owing in payment of outstanding professional fees. Each of Granmill and Stockton, two European investors, had previously purchased 450,000 shares of Common Stock from the Company in August 1993 for which each paid a purchase price of \$3,600,000. In connection with such purchases, each of Granmill and Stockton were issued an aggregate of 125,000 warrants to purchase shares of Common Stock at exercise prices ranging from \$8.00 to \$12.00, which warrants are exercisable at various dates commencing on the date of issuance. In September 1993, each of Granmill and Stockton exercised warrants to purchase 20,000 shares of Common Stock at an aggregate exercise price each of \$160,000. In March 1995, each of Granmill and Stockton exercised warrants to purchase 50,000 shares of Common Stock at an aggregate price each of \$506,250. None of the Selling Stockholders is an affiliate of the Company. The shares offered by this Prospectus may be offered from time to time by the Selling Shareholders named below.

<TABLE>

<CAPTION>

Name of Selling Shareholder	Amount of Indebtedness Converted into Common Stock	Number of Shares Owned Before the Offering	Shares Being Offered	Number of Shares Owned After the Offering (1)
<S>	<C>	<C>	<C>	<C>
Anderson Kill Olick & Oshinsky, P.C.	\$1,102,955	5,000 (2)	110,296	5,000 (2)
Lieberman & Nowak	\$1,000,000	2,590	100,000	2,590
Bachner Tally Polevoy & Misher	\$215,453	0	21,546	0

Serle Mosoff	\$140,568	0	14,200	0
Vossius & Partner	\$100,000	0	9,639	0
Graubard Mollen				
Pomerantz & Shapiro	\$90,000	9,000	9,000	9,000
Stadtmauer, Bailkin LLP	\$70,000	0	7,000	0
John J. Santalone	\$70,000	1,466	6,747	1,466
Jackson, Lewis, Schnitzler				
& Krupman	\$35,000	0	3,500	0
Wilson Elser Moskowitz Edelman				
& Dicker	\$30,000	0	3,000	0
Granmill Properties				
Limited	0	851,500(3)	50,000	851,500(3)
Stockton Group				
Nominees Inc.	0	97,500(3)	50,000	97,500(3)

<FN>

(1) Assumes that all Shares offered by this Prospectus are sold.

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- (2) Includes 2,500 shares underlying options which are currently exercisable or which may be exercisable within 60 days.
- (3) Includes 47,500 shares of Common Stock issuable to each of Granmill and Stockton upon exercise of warrants which are currently exercisable. Does not include 7,500 shares of Common Stock issuable to each of Granmill and Stockton upon exercise of warrants which are not currently exercisable or exercisable within 60 days of the date hereof. The Company has been advised that Granmill and Stockton may be deemed a group under the Securities Exchange Act of 1934. See "The Offering", above.

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PLAN OF DISTRIBUTION

This Prospectus may be used from time to time by the Selling Stockholders who offer the Shares registered hereby for sale in transactions in which they are or may be deemed to be underwriters within the meaning of the Securities Act of 1933. The Shares may be sold from time to time directly by the Selling Stockholders or by pledgees, donees, transferees or other successors in interest. Alternatively, the Shares may be offered from time to time by the Selling Stockholders to or through brokers or dealers who may act solely as agent, or may acquire shares as principal. The distribution of the Shares may be effected in one or more transactions that may take place on the American Stock Exchange, including block trades, ordinary broker's transactions, privately negotiated transactions or through sales to one or more broker/dealers for resale of such securities as principals, at market prices prevailing at the time of sale, at prices related to such prevailing market prices or at negotiated prices. Usual and customary or specifically negotiated brokerage fees or commissions may be paid by these holders in connection with such sales. In connection with such sales, the Selling Stockholders and any participating brokers or dealers may be deemed "underwriters" as such term is defined in the Securities Act of 1933, as amended.

EXPERTS

The consolidated financial statements and schedules of Enzo Biochem, Inc. appearing in Enzo Biochem, Inc.'s Annual Report (Form 10-K) for the year ended July 31, 1994, have been audited by Ernst & Young LLP, independent auditors, as set forth in their report thereon included therein and incorporated herein by reference. Such consolidated financial statements and schedules are incorporated herein by reference in reliance upon such report given upon the authority of such firm as experts in accounting and auditing.

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LEGAL MATTERS

Certain legal matters relating to the Shares will be passed upon for the Company by Bryan Cave, 245 Park Avenue, New York, New York 10167-0034. Certain members of Bryan Cave are beneficial and/or record owners of securities of the Company.

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ENZO BIOCHEM, INC.

494,928 Shares

PROSPECTUS

June 22, 1995

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