ENZO BIOCHEM INC		
Form SC 13G		
August 09, 2013		
August 09, 2013		

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

June 28, 2013

(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

- " Rule 13d-1(b)
- x Rule 13d-1(c)
- " Rule 13d-1(d)

The information required in the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

^{*}The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

CUSIP No. 29410010213G

Names of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only).

1.

RA Capital Management, LLC

- 2. Check the Appropriate Box if a Member of a Group (See Instructions)
 - (a) ·
 - (b)
- 3. SEC Use Only
- 4. Citizenship or Place of Organization Massachusetts

Sole Voting

5. Power **0** shares

Number of Shared Voting

Shares 6. Power **3,348,029**

Beneficially shares

Owned by

Each Sole Dispositive Reporting 7. Power **0**

Person With shares

Shared Dispositive

8. Power **3,348,029**

shares

Aggregate Amount Beneficially Owned by Each Reporting Person

3,348,029 shares

10. Check if the Aggregate Amount in Row (9) Excludes "

Certain Shares (See Instructions)

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Percent of Class Represented by
11. Amount in Row (9)
8.4%

Type of Reporting Person (See
12. Instructions)

IA
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CUSIP No. 294100102 13G

Names of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only).

1.

Peter Kolchinsky

Check the Appropriate Box if

- 2. a Member of a Group (See Instructions)
 - (a) "
 - (b) "
- 3. SEC Use Only

Citizenship or Place of

4. Organization United States

Sole Voting
5. Power 0

Number of Shares

Shares

Sole Voting

Shares

Shares

2 249 03

Shares 6 Power shares 3,348,029

Owned

With

by
Each
Reporting
7.
Reporting
7.
Reporting
8 Power
Shares
0

Person s

Shared Dispositive

8. Power **3,348,029 shares**

Aggregate Amount Beneficially Owned by Each

9. Reporting Person

3,348,029 shares

10. Check if the Aggregate
Amount in Row (9) Excludes "

Certain Shares (See Instructions)

Percent of Class Represented 11. by Amount in Row (9)

8.4%

Type of Reporting Person (See 12.

IN

CUSIP No. **294100102** 13G

Names of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only).

1.

RA Capital Healthcare Fund, L.P.

Check the Appropriate Box if a

- 2. Member of a Group (See Instructions)
 - (a)
 - (b)
- 3. SEC Use Only
- 4. Citizenship or Place of Organization **Delaware**

Sole Voting Power

0

0

Shares
Number of

5.

Shared Voting

Shares
Beneficially

Power 2,429,188
shares

Owned by

Each
Reporting 7. Sole Dispositive
Power

Person With shares

Shared Dispositive

8. Power **2,429,188 shares**

Aggregate Amount Beneficially
Owned by Each Reporting Person

2,429,188 shares

10. Check if the Aggregate Amount in Row (9) Excludes "

Certain Shares (See Instructions)

Percent of Class Represented by 11.

6.1%

Type of Reporting Person (See 12.

PN (Limited Partnership)

CUSIP No. 294100102
Item 1.
(a) Name of Issuer: Enzo Biochem, Inc. (the "Issuer").
(b) Address of the Issuer's Principal Executive Offices: 527 Madison Avenue, New York, NY 10022.
Item 2.
(a) Name of Person Filing: This joint statement on Schedule 13G is being filed by Peter Kolchinsky, RA Capital Management, LLC ("Capital"), and RA Capital Healthcare Fund, L.P. (the "Fund"). Mr. Kolchinsky, Capital and the Fund are collectively referred to herein as the "Reporting Persons."
(b) Address of Principal Business Office: The principal business office of the Reporting Persons is c/o RA Capital Management, LLC, 20 Park Plaza, Suite 1200, Boston, MA 02116.
(c) Citizenship: Capital is a Massachusetts limited liability company. The Fund is a Delaware limited partnership. Mr. Kolchinsky is a United States citizen.
(d) Title and Class of Securities: Common stock ("Common Stock").
(e) CUSIP Number: 294100102
Item 3. If this statement is filed pursuant to \$8240.13d-1(b) or 240.13d-2(b) or (c), check whether the person

filing is a:

Not applic	cable.
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Item 4. Ownership:

Provide the following information regarding the aggregate number and percentage of the class of securities of the issuer identified in Item 1.

(a) Amount Beneficially Owned:**

RA Capital Management, LLC - 3,348,029 shares

Peter Kolchinsky - 3,348,029 shares

RA Capital Healthcare Fund, L.P. - 2,429,188 shares

(b) Percent of Class: **

RA Capital Management, LLC – 8.4%

Peter Kolchinsky – 8.4%

RA Capital Healthcare Fund, L.P. – 6.1%

- (c) Number of shares as to which such person has:
 - (i) sole power to vote or to direct the vote **

RA Capital Management, LLC - 0 shares

Peter Kolchinsky - 0 shares

RA Capital Healthcare Fund, L.P. - 0 shares

CUSIP No. 294100102

(ii) shared power to vote or to direct the vote**

RA Capital Management, LLC - 3,348,029 shares

Peter Kolchinsky - 3,348,029 shares

RA Capital Healthcare Fund, L.P. - 2,429,188 shares

(iii) Sole power to dispose or to direct the disposition of**

RA Capital Management, LLC - 0 shares

Peter Kolchinsky - 0 shares

RA Capital Healthcare Fund, L.P. - 0 shares

(iv) shared power to dispose or to direct the disposition of**

RA Capital Management, LLC - 3,348,029 shares

Peter Kolchinsky - 3,348,029 shares

RA Capital Healthcare Fund, L.P. - 2,429,188 shares

Item 5. Ownership of Five Percent or Less of a Class:

Not applicable.

^{**} Shares reported herein for the Fund represent shares of Common Stock beneficially owned and held of record by the Fund. Shares reported herein for Capital represent (a) the above-referenced shares of Common Stock reported for the Fund, for which the LLC serves as the sole general partner, and (b) shares of Common Stock held in a separately managed account for which Capital serves as investment adviser. Shares reported herein for Mr. Kolchinsky represent the above-referenced shares of Common Stock reported for Capital, for which Mr. Kolchinsky serves as the manager. Each of the Reporting Persons disclaims beneficial ownership of the shares reported herein except to the extent of its or his pecuniary interest therein.

Item 6. Ownership of More than Five Percent on Behalf of Another Person:
Not applicable.
Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on By the Parent Holding Company or Control Person:
Not applicable.

CUSIP No. 294100102
Item 8. Identification and Classification of Members of the Group:
Not applicable.
Item 9. Notice of Dissolution of Group:
Not applicable.
Item 10. Certification:
By signing below I hereby certify that, to the best of my knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

CUSIP No. 294100102
SIGNATURE
After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.
Date: August 09, 2013
RA CAPITAL MANAGEMENT, LLC
By: /s/ Peter Kolchinsky
Peter Kolchinsky
Manager
PETER KOLCHINSKY
/s/ Peter Kolchinsky

RA CAPITAL HEALTHCARE FUND, L.P.
By: RA Capital Management, LLC
General Partner
By: /s/ Peter Kolchinsky
Peter Kolchinsky
Manager

Exhibit 1
JOINT FILING AGREEMENT
This Joint Filing Agreement, dated as of August 09, 2013, is by and among RA Capital Management, LLC, Peter Kolchinsky and RA Capital Healthcare Fund, L.P. (the foregoing are collectively referred to herein as the "Filers").
Each of the Filers may be required to file with the United States Securities and Exchange Commission a statement on Schedule 13G and/or 13D with respect to Common Shares, par value \$0.01 per share, of Enzo Biochem, Inc. beneficially owned by them from time to time.
Pursuant to and in accordance with Rule 13(d)(1)(k) promulgated under the Securities Exchange Act of 1934, as amended, the Filers hereby agree to file a single statement on Schedule 13G and/or 13D (and any amendments thereto) on behalf of each of such parties, and hereby further agree to file this Joint Filing Agreement as an exhibit to such statement, as required by such rule.
This Joint Filing Agreement may be terminated by any of the Filers upon one week's prior written notice or such lesser period of notice as the Filers may mutually agree.
Executed and delivered as of the date first above written.
RA CAPITAL MANAGEMENT, LLC
By: /s/ Peter Kolchinsky
Peter Kolchinsky
Manager

ETER KOLCHINSKY
d Peter Kolchinsky
A CAPITAL HEALTHCARE FUND, L.P.
y: RA Capital Management, LLC
General Partner
y: /s/ Peter Kolchinsky
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