

SCHEDULE 14A  
Proxy Statement Pursuant to Section 14(a)  
of the Securities Exchange Act of 1934

Filed by the Registrant

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))
- Definitive Proxy Statement
- Definitive Additional Materials
- Soliciting Material Under Rule 14a-12

**Enzo Biochem, Inc.**

(Name of Registrant as Specified In Its Charter)

Harbert Discovery Fund, LP  
Harbert Discovery Co-Investment Fund I, LP  
Harbert Discovery Fund GP, LLC  
Harbert Discovery Co-Investment Fund I GP, LLC  
Harbert Fund Advisors, Inc.  
Harbert Management Corporation  
Jack Bryant  
Kenan Lucas  
Raymond Harbert  
Fabian Blank  
Peter J. Clemens, IV

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

Payment of Filing Fee (check the appropriate box):

- No fee required.
- Fee computed on table below per Exchange Act Rule 14a-6(i)(4) 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:

On January 10, 2020, Harbert Discovery Fund, LP; Harbert Discovery Co-Investment Fund I, LP; Harbert Discovery Fund GP, LLC; Harbert Discovery Co-Investment Fund I GP, LLC; Harbert Fund Advisors, Inc.; Harbert Management Corporation; Jack Bryant; Kenan Lucas; Raymond Harbert (collectively, (“HDF”) Fabian Blank; and Peter J. Clemens, IV made an update to their form of proxy card in response to Enzo Biochem, Inc.’s (the “Company”) nomination of Rebecca J. Fischer as a Class I director (the “Updated Proxy Card”).

Form of BLUE Proxy Card

ENZO BIOCHEM, INC.

Proxy Card for 2019 Annual Meeting of Shareholders
Scheduled for January 31, 2020 (the "Annual Meeting"):

THIS PROXY SOLICITATION IS BEING MADE BY HARBERT DISCOVERY FUND, LP AND HARBERT DISCOVERY CO-INVESTMENT FUND I, LP AND CERTAIN OF THEIR AFFILIATES ("HARBERT DISCOVERY", "WE" OR "US") AND THE INDIVIDUALS NAMED IN PROPOSAL 1 (THE "NOMINEES")

THIS BOARD OF DIRECTORS OF ENZO BIOCHEM, INC. IS NOT SOLICITING THIS PROXY

The undersigned appoints Kenan Lucas, Kevin McGovern, Bruce H. Goldfarb and Eleazer Klein, and each of them, attorneys and agents with full power of substitution to vote all shares of common stock of Enzo Biochem, Inc., a New York corporation (the "Company"), that the undersigned would be entitled to vote at the Annual Meeting of shareholders of the Company scheduled to be held on January 31, 2020 at The Yale Club of New York City, 50 Vanderbilt Avenue, New York, NY 10017 at 9:00 a.m., New York City time, including at any adjournments or postponements thereof, with all powers that the undersigned would possess if personally present, upon and in respect of the instructions indicated herein, with discretionary authority as to any and all other matters that may properly come before the meeting or any adjournment, postponement or substitution thereof that are unknown to Harbert Discovery a reasonable time before this solicitation.

The undersigned hereby revokes any other proxy or proxies heretofore given to vote or act with respect to said shares, and hereby ratifies and confirms all action the herein named attorneys and proxies, their substitutes, or any of them may lawfully take by virtue hereof. This proxy will be valid until the sooner of one year from the date indicated on the reverse side and the completion of the Annual Meeting (including any adjournments or postponements thereof).

If this proxy is signed and returned, it will be voted in accordance with your instructions. If you do not specify how the proxy should be voted, this proxy will be voted "FOR ALL" of the nominees in Proposal 1, "AGAINST" Proposal 2, "FOR" Proposal 3, and "FOR" Proposal 4. None of the matters currently intended to be acted upon pursuant to this proxy are conditioned on the approval of other matters. No assurance can be given that the Company's nominees will serve if elected with any of the Nominees.

INSTRUCTIONS: OUR VOTING RECOMMENDATIONS ARE INDICATED BY HIGHLIGHTED TEXT OVER THE BOXES (FILL IN VOTING BOXES "X" IN BLACK OR BLUE INK)

We recommend that you vote "FOR ALL" of the Nominees below:

Proposal 1 - Election of the two individuals nominated by Harbert Discovery and the Company's nominee for election at the Annual Meeting other than Barry W. Weiner and Bruce A. Hanna.

- Nominees:
a. Fabian Blank [FOR ALL] [WITHHOLD ALL] [FOR ALL EXCEPT]
b. Peter J. Clemens, IV

(INSTRUCTIONS: To withhold authority to vote for any individual nominee, mark the "For All Except" box above and write the name of the nominee(s) from which you wish to withhold in the space provided below.)

We recommend that you vote "AGAINST" Proposal 2:

Proposal 2 - Company proposal to vote to approve, by a nonbinding advisory vote, the compensation of the Company's Named Executive Officers. [FOR] [AGAINST] [ABSTAIN]

We recommend that you vote "FOR" Proposal 3:

Proposal 3 - Company proposal to ratify the Company's appointment of EisnerAmper LLP to serve as the Company's independent registered public accounting firm for the Company's fiscal year ending July 31, 2020. [FOR] [AGAINST] [ABSTAIN]

**We recommend that you vote “FOR” Proposal 4:**

**Proposal 4** – Company proposal to amend the by-laws to implement majority voting in uncontested director elections.

**FOR**

**AGAINST**

**ABSTAIN**

\_\_\_\_\_  
Signature (Capacity)

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature (Joint Owner) (Capacity/Title)

\_\_\_\_\_  
Date

**NOTE:** Please sign exactly as your name(s) appear(s) on stock certificates or on the label affixed hereto. When signing as attorney, executor, administrator or other fiduciary, please give full title as such. Joint owners must each sign personally. **ALL HOLDERS MUST SIGN.** If a corporation or partnership, please sign in full corporate or partnership name by an authorized officer and give full title as such.

**PLEASE SIGN, DATE AND PROMPTLY RETURN THIS PROXY IN THE ENCLOSED RETURN ENVELOPE THAT IS POSTAGE PREPAID IF MAILED IN THE UNITED STATES.**