

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

SCHEDULE 13G

UNDER THE SECURITIES EXCHANGE ACT OF 1934

Hybridon, Inc.  
-----  
(Name of Issuer)

Common Stock  
-----  
(Title of Class of Securities)

44860M801  
-----  
(CUSIP Number)

April 20, 2004  
-----  
(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)  
 Rule 13d-1(c)  
 Rule 13d-1(d)

\* 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 disclosure provided in a prior cover page.

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 the section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

1

1. NAME OF REPORTING PERSON  
I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY)  
  
Great Point Partners, LLC
2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP  
  
(a)   
  
(b)
3. SEC USE ONLY
4. CITIZENSHIP OR PLACE OF ORGANIZATION

U.S.A.

- Number of Shares Beneficially Owned by Each Reporting Person
- 5. SOLE VOTING POWER
  - 6. SHARED VOTING POWER  
7,899,274
  - 7. SOLE DISPOSITIVE POWER
  - 8. SHARED DISPOSITIVE POWER  
7,899,274
9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  
7,899,274
10. CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES [ ]
11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)  
7.7%
12. TYPE OF REPORTING PERSON  
OO

2

1. NAME OF REPORTING PERSON  
I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY)  
Biomedical Value Fund, L.P.
2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP
- (a) [ ]
  - (b) [ ]
3. SEC USE ONLY
4. CITIZENSHIP OR PLACE OF ORGANIZATION  
Delaware, U.S.A.
- Number of Shares Beneficially Owned by Each Reporting Person
- 5. SOLE VOTING POWER  
5,371,478
  - 6. SHARED VOTING POWER
  - 7. SOLE DISPOSITIVE POWER  
5,371,478
  - 8. SHARED DISPOSITIVE POWER
9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON  
5,371,478

10. CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES [ ]
11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)
- 5.2%
12. TYPE OF REPORTING PERSON
- PN

3

1. NAME OF REPORTING PERSON  
I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY)
- Great Point GP, LLC
2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP
- (a) [ ]
- (b) [ ]
3. SEC USE ONLY
4. CITIZENSHIP OR PLACE OF ORGANIZATION
- Delaware, U.S.A.

- |  |                             |
|--|-----------------------------|
| Number of<br>Shares<br>Beneficially<br>Owned by<br>Each<br>Reporting<br>Person | 5. SOLE VOTING POWER        |
|  | 6. SHARED VOTING POWER      |
|  | 5,371,478                   |
|  | 7. SOLE DISPOSITIVE POWER   |
|  | 8. SHARED DISPOSITIVE POWER |
|  | 5,371,478                   |

9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON
- 5,371,478
10. CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES [ ]
11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)
- 5.2%
12. TYPE OF REPORTING PERSON
- OO

4

1. NAME OF REPORTING PERSON  
I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY)
- Biomedical Offshore Value Fund, Ltd.

2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

(a)

(b)

3. SEC USE ONLY

4. CITIZENSHIP OR PLACE OF ORGANIZATION

Cayman Islands

Number of 5. SOLE VOTING POWER

Shares

Beneficially 2,527,796

Owned by

Each 6. SHARED VOTING POWER

Reporting

Person

7. SOLE DISPOSITIVE POWER

2,527,796

8. SHARED DISPOSITIVE POWER

9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

2,527,796

10. CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES

11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

2.5%

12. TYPE OF REPORTING PERSON

CO

5

1. NAME OF REPORTING PERSON

I.R.S. IDENTIFICATION NOS. OF ABOVE PERSONS (ENTITIES ONLY)

Dr. Jeffrey R. Jay, M.D.

2. CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP

(a)

(b)

3. SEC USE ONLY

4. CITIZENSHIP OR PLACE OF ORGANIZATION

Delaware, U.S.A.

Number of 5. SOLE VOTING POWER

Shares

Beneficially

Owned by

Each 6. SHARED VOTING POWER

Reporting

Person

7,899,274

7. SOLE DISPOSITIVE POWER

8. SHARE DISPOSITIVE POWER

7,899,274

9. AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON

7,899,274

10. CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES [ ]

11. PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9)

7.7%

12. TYPE OF REPORTING PERSON

IN

6

ITEM 1(A) NAME OF ISSUER:

Hybridon, Inc.

ITEM 1(B) ADDRESS OF ISSUER'S PRINCIPAL EXECUTIVE OFFICES:

345 Vassar Street  
Cambridge, MA 02139  
U.S.A.

ITEM 2(A) NAME OF PERSON FILING:

Great Point Partners, LLC  
Biomedical Value Fund, L.P.  
Great Point GP, LLC  
Biomedical Offshore Value Fund, Ltd.  
Dr. Jeffrey M. Jay, M.D.

ITEM 2(B) ADDRESS OF PRINCIPAL BUSINESS OFFICE:

2 Pickwick Plaza  
Suite 450  
Greenwich, CT 06830

ITEM 2(C) CITIZENSHIP:

Great Point Partners, LLC is a limited liability company organized under the laws of the State of Delaware. Biomedical Value Fund, L.P. is a limited partnership organized under the laws of the State of Delaware. Great Point GP, LLC is a limited liability company organized under the laws of the State of Delaware. Biomedical Offshore Value Fund, Ltd. is a limited liability corporation organized under the laws of the Cayman Islands. Dr. Jeffrey M. Jay, M.D. is a citizen of the United States.

ITEM 2(D) TITLE OF CLASS OF SECURITIES:

Common Stock

ITEM 2(E) CUSIP NUMBER:

44860M801

ITEM 3. IF THIS STATEMENT IS FILED PURSUANT TO RULES 13D-1(B), OR

13D-2(B) OR (C), CHECK WHETHER THE PERSON FILING IS A:

Not Applicable.

7

ITEM 4. OWNERSHIP (A) THROUGH (C)

Biomedical Value Fund, L.P. ("BMVF") is the direct beneficial owner of 5,371,478 shares, consisting of 4,552,100 Common Shares and 819,378 warrants for the purchase of Common Shares (the "BMVF Shares"). Great Point GP, LLC, is the general partner of BMVF, and by virtue of such status may be deemed to be the beneficial owner of the BMVF Shares. Great Point Partners, LLC is the investment manager of BMVF, and by virtue of such status may be deemed to be the beneficial owner of the BMVF Shares. Dr. Jeffrey R. Jay, M.D. has voting and investment power with respect to the BMVF Shares, and therefore is the beneficial owner of the BMVF Shares.

Biomedical Offshore Value Fund, Ltd. ("BOVF") is the direct beneficial owner of 2,527,796 shares, consisting of 2,142,200 Common Shares and 385,596 warrants for the exercise of Common Shares (the "BOVF Shares"). Great Point Partners, LLC is the investment manager of BOVF, and by virtue of such status may be deemed to be the beneficial owner of the BOVF Shares. Dr. Jeffrey R. Jay, M.D. has voting and investment power with respect to the BOVF Shares, and therefore is the beneficial owner of the BOVF Shares.

The information in items 1 and 5 through 11 on the coverpages to this Schedule 13G is hereby incorporated by reference.

ITEM 5. OWNERSHIP OF FIVE PERCENT OR LESS OF A CLASS.

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities, check the following [ ]:

Not Applicable.

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.

Not Applicable.

ITEM 8. IDENTIFICATION AND CLASSIFICATION OF MEMBERS OF THE GROUP.

Not Applicable.

ITEM 9. NOTICE OF DISSOLUTION OF GROUP.

Not Applicable.

8

ITEM 10. CERTIFICATION.

By signing below I 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 participant in any transaction having that purpose or effect.

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: April 27, 2004

BIOMEDICAL VALUE FUND L.P.

Signature: /s/ Dr. Jeffrey R. Jay, M.D.  
-----  
By Great Point GP, LLC,  
as general partner,  
By Dr. Jeffrey R. Jay, M.D.,  
as senior managing member

GREAT POINT GP, LLC

Signature: /s/ Dr. Jeffrey R. Jay, M.D.  
-----  
By Dr. Jeffrey R. Jay, M.D.,  
as senior managing member

BIOMEDICAL OFFSHORE VALUE FUND, LTD.

Signature: /s/ Dr. Jeffrey R. Jay, M.D.  
-----  
By Great Point Partners, LLC,  
as investment manager,  
By Dr. Jeffrey R. Jay, M.D.,  
as senior managing member

GREAT POINT PARTNERS, LLC

Signature: /s/ Dr. Jeffrey R. Jay, M.D.  
-----  
By Dr. Jeffrey R. Jay, M.D.,  
as senior managing member

DR. JEFFREY R. JAY, M.D.

Signature: /s/ Dr. Jeffrey R. Jay, M.D.  
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JOINT FILING STATEMENT

Pursuant to Rule 13d-1(k)(1) promulgated under the Securities Exchange Act of 1934, as amended, the undersigned agree that the Statement on Schedule 13G and any amendments thereto to which this exhibit is attached is filed on behalf of each of them.

Date: April 27, 2004

BIOMEDICAL VALUE FUND L.P.

Signature: /s/ Dr. Jeffrey R. Jay, M.D.  
-----  
By Great Point GP, LLC,

as general partner,  
By Dr. Jeffrey R. Jay, M.D.,  
as senior managing member

GREAT POINT GP, LLC

Signature: /s/ Dr. Jeffrey R. Jay, M.D.

-----  
By Dr. Jeffrey R. Jay, M.D.,  
as senior managing member

BIOMEDICAL OFFSHORE VALUE FUND, LTD.

Signature: /s/ Dr. Jeffrey R. Jay, M.D.

-----  
By Great Point Partners, LLC,  
as investment manager,  
By Dr. Jeffrey R. Jay, M.D.,  
as senior managing member

GREAT POINT PARTNERS, LLC

Signature: /s/ Dr. Jeffrey R. Jay, M.D.

-----  
By Dr. Jeffrey R. Jay, M.D.,  
as senior managing member

DR. JEFFREY R. JAY, M.D.

Signature: /s/ Dr. Jeffrey R. Jay, M.D.

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