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

SCHEDULE 13G

UNDER THE SECURITIES EXCHANGE ACT OF 1934
(Amendment No. 1)*

EnteroMedics, Inc.

(Name of Issuer)

Common Stock
(Title of Class of Securities)

29365M 10 9
(CUSIP Number)

December 31, 2008
(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 disclosures 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 that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

| | | |
|---|---|------------------------------------|
| 1 | NAME OF REPORTING PERSONS MPM BioVentures III, L.P. | |
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="radio"/> (b) <input checked="" type="checkbox"/> | |
| 3 | SEC USE ONLY | |
| 4 | CITIZENSHIP OR PLACE OF ORGANIZATION Delaware | |
| NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH: | 5 | SOLE VOTING POWER 232,265* |
| | 6 | SHARED VOTING POWER 0 |
| | 7 | SOLE DISPOSITIVE POWER 232,265* |
| | 8 | SHARED DISPOSITIVE POWER 0 |
| 9 | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 232,265* | |
| 10 | CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="radio"/> | |
| 11 | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 1.4% | |
| 12 | TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) PN | |

*Includes 7,049 shares issuable pursuant to warrants exercisable within 60 days of December 31, 2008.

CUSIP No. 29365M 10 9

| | | |
|---|---|--|
| 1 | NAME OF REPORTING PERSONS MPM BioVentures III-QP, L.P. | |
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="radio"/> (b) <input checked="" type="checkbox"/> | |
| 3 | SEC USE ONLY | |
| 4 | CITIZENSHIP OR PLACE OF ORGANIZATION Delaware | |
| NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH: | 5 | SOLE VOTING POWER 3,454,511* |
| | 6 | SHARED VOTING POWER 0 |
| | 7 | SOLE DISPOSITIVE POWER 3,454,511* |
| | 8 | SHARED DISPOSITIVE POWER 0 |
| 9 | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 3,454,511* | |
| 10 | CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="radio"/> | |
| 11 | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 20.3% | |
| 12 | TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) PN | |

*Includes 104,816 shares issuable pursuant to warrants exercisable within 60 days of December 31, 2008.

| | | |
|---|---|--|
| 1 | NAME OF REPORTING PERSONS MPM BioVentures III Parallel Fund, L.P. | |
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="radio"/> (b) <input checked="" type="checkbox"/> | |
| 3 | SEC USE ONLY | |
| 4 | CITIZENSHIP OR PLACE OF ORGANIZATION Delaware | |
| NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH: | 5 | SOLE VOTING POWER 104,363* |
| | 6 | SHARED VOTING POWER 0 |
| | 7 | SOLE DISPOSITIVE POWER 104,363* |
| | 8 | SHARED DISPOSITIVE POWER 0 |
| 9 | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 104,363* | |
| 10 | CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="radio"/> | |
| 11 | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 0.6% | |
| 12 | TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) PN | |

*Includes 3,168 shares issuable pursuant to warrants exercisable within 60 days of December 31, 2008.

| | | |
|---|---|--|
| 1 | NAME OF REPORTING PERSONS MPM BioVentures III GmbH & Co. Beteiligungs KG | |
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="radio"/> (b) <input checked="" type="checkbox"/> | |
| 3 | SEC USE ONLY | |
| 4 | CITIZENSHIP OR PLACE OF ORGANIZATION Germany | |
| NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH: | 5 | SOLE VOTING POWER 291,918* |
| | 6 | SHARED VOTING POWER 0 |
| | 7 | SOLE DISPOSITIVE POWER 291,918* |
| | 8 | SHARED DISPOSITIVE POWER 0 |
| 9 | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 291,918* | |
| 10 | CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="radio"/> | |
| 11 | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 1.7% | |
| 12 | TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) PN | |

*Includes 8,858 shares issuable pursuant to warrants exercisable within 60 days of December 31, 2008.

| | | |
|---|---|---------------------------------------|
| 1 | NAME OF REPORTING PERSONS MPM Asset Management Investors 2002 BVIII LLC | |
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="radio"/> (b) <input checked="" type="checkbox"/> | |
| 3 | SEC USE ONLY | |
| 4 | CITIZENSHIP OR PLACE OF ORGANIZATION Delaware | |
| NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH: | 5 | SOLE VOTING POWER 68,248* |
| | 6 | SHARED VOTING POWER 0 |
| | 7 | SOLE DISPOSITIVE POWER 68,248* |
| | 8 | SHARED DISPOSITIVE POWER 0 |
| 9 | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 68,248* | |
| 10 | CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="radio"/> | |
| 11 | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 0.4% | |
| 12 | TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) OO | |

*Includes 2,072 shares issuable pursuant to warrants exercisable within 60 days of December 31, 2008.

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|---|---|--|
| 1 | NAME OF REPORTING PERSONS MPM BioVentures III GP, L.P. | |
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="radio"/> (b) <input checked="" type="checkbox"/> | |
| 3 | SEC USE ONLY | |
| 4 | CITIZENSHIP OR PLACE OF ORGANIZATION Delaware | |
| NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH: | 5 | SOLE VOTING POWER 0 |
| | 6 | SHARED VOTING POWER 4,083,057* |
| | 7 | SOLE DISPOSITIVE POWER 0 |
| | 8 | SHARED DISPOSITIVE POWER 4,083,057* |
| 9 | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 4,083,057* | |
| 10 | CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="radio"/> | |
| 11 | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 24.0% | |
| 12 | TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) PN | |

* The shares are held as follows: 3,349,695 by MPM BioVentures III-QP, L.P. ("BV III QP"); 225,216 by MPM BioVentures III, L.P. ("BV III"); 101,195 by MPM BioVentures III Parallel Fund, L.P. ("BV III PF"); and 283,060 by MPM BioVentures III GmbH & Co. Beteiligungs KG ("BV III KG"). Also includes shares issuable pursuant to warrants exercisable within 60 days of December 31, 2008 as follows: 104,816 by BV III QP; 7,049 by BV III; 3,168 by BV III PF; and 8,858 by BV III KG. The Reporting Person is the direct general partner of BV III, BV III QP, BV III PF and BV III KG.

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|---|---|--------------------------|------------|
| 1 | NAME OF REPORTING PERSONS MPM BioVentures III LLC | | |
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="radio"/> (b) <input checked="" type="checkbox"/> | | |
| 3 | SEC USE ONLY | | |
| 4 | CITIZENSHIP OR PLACE OF ORGANIZATION Delaware | | |
| NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH: | 5 | SOLE VOTING POWER | 0 |
| | 6 | SHARED VOTING POWER | 4,083,057* |
| | 7 | SOLE DISPOSITIVE POWER | 0 |
| | 8 | SHARED DISPOSITIVE POWER | 4,083,057* |
| 9 | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 4,083,057* | | |
| 10 | CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="radio"/> | | |
| 11 | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 24.0% | | |
| 12 | TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) OO | | |

* The shares are held as follows: 3,349,695 by BV III QP; 225,216 by BV III; 101,195 by BV III PF; and 283,060 by BV III KG. Also includes shares issuable pursuant to warrants exercisable within 60 days of December 31, 2008 as follows: 104,816 by BV III QP; 7,049 by BV III; 3,168 by BV III PF; and 8,858 by BV III KG. The Reporting Person is the indirect general partner of BV III, BV III QP, BV III PF and BV III KG.

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|---|---|--|
| 1 | NAME OF REPORTING PERSONS Ansbert Gadicke | |
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="radio"/> (b) <input checked="" type="checkbox"/> | |
| 3 | SEC USE ONLY | |
| 4 | CITIZENSHIP OR PLACE OF ORGANIZATION United States | |
| NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH: | 5 | SOLE VOTING POWER 0 |
| | 6 | SHARED VOTING POWER 4,151,305* |
| | 7 | SOLE DISPOSITIVE POWER 0 |
| | 8 | SHARED DISPOSITIVE POWER 4,151,305* |
| 9 | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 4,151,305* | |
| 10 | CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="radio"/> | |
| 11 | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 24.4% | |
| 12 | TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) IN | |

* The shares are held as follows: 3,349,695 by BV III QP; 225,216 by BV III; 101,195 by BV III PF; 283,060 by BV III KG; and 66,176 by MPM Asset Management Investors 2002 BVIII LLC ("BV AM LLC"). Also includes shares issuable pursuant to warrants exercisable within 60 days of December 31, 2008 as follows: 104,816 by BV III QP; 7,049 by BV III; 3,168 by BV III PF; 8,858 by BV III KG; and 2,072 by BV AM LLC. MPM BioVentures III GP, L.P. ("BV III GP") and MPM BioVentures III LLC ("BV III LLC") are the direct and indirect general partners of BV III, BV III QP, BV III PF and BV III KG. The Reporting Person is a Series A member of BV III LLC and a manager of BV AM LLC. The Reporting Person disclaims beneficial ownership of all such shares except to the extent of his proportionate pecuniary interests therein.

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| 1 | NAME OF REPORTING PERSONS Luke Evnin | | |
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="radio"/> (b) <input checked="" type="checkbox"/> | | |
| 3 | SEC USE ONLY | | |
| 4 | CITIZENSHIP OR PLACE OF ORGANIZATION United States | | |
| NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH: | 5 | SOLE VOTING POWER 11,980* | |
| | 6 | SHARED VOTING POWER 4,151,305** | |
| | 7 | SOLE DISPOSITIVE POWER 11,980* | |
| | 8 | SHARED DISPOSITIVE POWER 4,151,305** | |
| 9 | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 4,163,285* ** | | |
| 10 | CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="radio"/> | | |
| 11 | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 24.5% | | |
| 12 | TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) IN | | |

*Includes 11,980 shares issuable pursuant to exercisable options within 60 days of December 31, 2008.

** The shares are held as follows: 3,349,695 by BV III QP; 225,216 by BV III; 101,195 by BV III PF; 283,060 by BV III KG; and 66,176 by BV AM LLC. Also includes warrants exercisable within 60 days of December 31, 2008 as follows: 104,816 by BV III QP; 7,049 by BV III; 3,168 by BV III PF; 8,858 by BV III KG; and 2,072 by BV AM LLC. BV III GP and BV III LLC are the direct and indirect general partners of BV III, BV III QP, BV III PF and BV III KG. The Reporting Person is a Series A member of BV III LLC and a manager of BV AM LLC. The Reporting Person disclaims beneficial ownership of all such shares except to the extent of his proportionate pecuniary interests therein.

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|---|---|--------------------------|------------|
| 1 | NAME OF REPORTING PERSONS Nicholas Galakatos | | |
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="radio"/> (b) <input checked="" type="checkbox"/> | | |
| 3 | SEC USE ONLY | | |
| 4 | CITIZENSHIP OR PLACE OF ORGANIZATION United States | | |
| NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH: | 5 | SOLE VOTING POWER | 0 |
| | 6 | SHARED VOTING POWER | 4,151,305* |
| | 7 | SOLE DISPOSITIVE POWER | 0 |
| | 8 | SHARED DISPOSITIVE POWER | 4,151,305* |
| 9 | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 4,151,305* | | |
| 10 | CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="radio"/> | | |
| 11 | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 24.4% | | |
| 12 | TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) IN | | |

* The shares are held as follows: 3,349,695 by BV III QP; 225,216 by BV III; 101,195 by BV III PF; 283,060 by BV III KG; and 66,176 by BV AM LLC. Also includes warrants exercisable within 60 days of December 31, 2008 as follows: 104,816 by BV III QP; 7,049 by BV III; 3,168 by BV III PF; 8,858 by BV III KG; and 2,072 by BV AM LLC. BV III GP and BV III LLC are the direct and indirect general partners of BV III, BV III QP, BV III PF and BV III KG. The Reporting Person is a Series A member of BV III LLC and a manager of BV AM LLC. The Reporting Person disclaims beneficial ownership of all such shares except to the extent of his proportionate pecuniary interests therein.

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|---|---|--------------------------|------------|
| 1 | NAME OF REPORTING PERSONS Michael Steinmetz | | |
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="radio"/> (b) <input checked="" type="checkbox"/> | | |
| 3 | SEC USE ONLY | | |
| 4 | CITIZENSHIP OR PLACE OF ORGANIZATION United States | | |
| NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH: | 5 | SOLE VOTING POWER | 0 |
| | 6 | SHARED VOTING POWER | 4,151,305* |
| | 7 | SOLE DISPOSITIVE POWER | 0 |
| | 8 | SHARED DISPOSITIVE POWER | 4,151,305* |
| 9 | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 4,151,305* | | |
| 10 | CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="radio"/> | | |
| 11 | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 24.4% | | |
| 12 | TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) IN | | |

* The shares are held as follows: 3,349,695 by BV III QP; 225,216 by BV III; 101,195 by BV III PF; 283,060 by BV III KG; and 66,176 by BV AM LLC. Also includes warrants exercisable within 60 days of December 31, 2008 as follows: 104,816 by BV III QP; 7,049 by BV III; 3,168 by BV III PF; 8,858 by BV III KG; and 2,072 by BV AM LLC. BV III GP and BV III LLC are the direct and indirect general partners of BV III, BV III QP, BV III PF and BV III KG. The Reporting Person is a Series A member of BV III LLC and a manager of BV AM LLC. The Reporting Person disclaims beneficial ownership of all such shares except to the extent of his proportionate pecuniary interests therein.

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|---|---|--------------------------|------------|
| 1 | NAME OF REPORTING PERSONS Kurt Wheeler | | |
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="radio"/> (b) <input checked="" type="checkbox"/> | | |
| 3 | SEC USE ONLY | | |
| 4 | CITIZENSHIP OR PLACE OF ORGANIZATION United States | | |
| NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH: | 5 | SOLE VOTING POWER | 0 |
| | 6 | SHARED VOTING POWER | 4,151,305* |
| | 7 | SOLE DISPOSITIVE POWER | 0 |
| | 8 | SHARED DISPOSITIVE POWER | 4,151,305* |
| 9 | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 4,151,305* | | |
| 10 | CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="radio"/> | | |
| 11 | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 24.4% | | |
| 12 | TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) IN | | |

* The shares are held as follows: 3,349,695 by BV III QP; 225,216 by BV III; 101,195 by BV III PF; 283,060 by BV III KG; and 66,176 by BV AM LLC. Also includes warrants exercisable within 60 days of December 31, 2008 as follows: 104,816 by BV III QP; 7,049 by BV III; 3,168 by BV III PF; 8,858 by BV III KG; and 2,072 by BV AM LLC. BV III GP and BV III LLC are the direct and indirect general partners of BV III, BV III QP, BV III PF and BV III KG. The Reporting Person is a Series A member of BV III LLC and a manager of BV AM LLC. The Reporting Person disclaims beneficial ownership of all such shares except to the extent of his proportionate pecuniary interests therein.

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| 1 | NAME OF REPORTING PERSONS Nicholas Simon III | |
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="radio"/> (b) <input checked="" type="checkbox"/> | |
| 3 | SEC USE ONLY | |
| 4 | CITIZENSHIP OR PLACE OF ORGANIZATION United States | |
| NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH: | 5 | SOLE VOTING POWER 0 |
| | 6 | SHARED VOTING POWER 4,151,305* |
| | 7 | SOLE DISPOSITIVE POWER 0 |
| | 8 | SHARED DISPOSITIVE POWER 4,151,305* |
| 9 | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 4,151,305* | |
| 10 | CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="radio"/> | |
| 11 | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 24.4% | |
| 12 | TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) IN | |

* The shares are held as follows: 3,349,695 by BV III QP; 225,216 by BV III; 101,195 by BV III PF; 283,060 by BV III KG; and 66,176 by BV AM LLC. Also includes warrants exercisable within 60 days of December 31, 2008 as follows: 104,816 by BV III QP; 7,049 by BV III; 3,168 by BV III PF; 8,858 by BV III KG; and 2,072 by BV AM LLC. BV III GP and BV III LLC are the direct and indirect general partners of BV III, BV III QP, BV III PF and BV III KG. The Reporting Person is a Series A member of BV III LLC and a manager of BV AM LLC. The Reporting Person disclaims beneficial ownership of all such shares except to the extent of his proportionate pecuniary interests therein.

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|---|---|--|
| 1 | NAME OF REPORTING PERSONS Dennis Henner | |
| 2 | CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="radio"/> (b) <input checked="" type="checkbox"/> | |
| 3 | SEC USE ONLY | |
| 4 | CITIZENSHIP OR PLACE OF ORGANIZATION United States | |
| NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH: | 5 | SOLE VOTING POWER 0 |
| | 6 | SHARED VOTING POWER 4,151,305* |
| | 7 | SOLE DISPOSITIVE POWER 0 |
| | 8 | SHARED DISPOSITIVE POWER 4,151,305* |
| 9 | AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 4,151,305* | |
| 10 | CHECK IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="radio"/> | |
| 11 | PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 24.4% | |
| 12 | TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) IN | |

* The shares are held as follows: 3,349,695 by BV III QP; 225,216 by BV III; 101,195 by BV III PF; 283,060 by BV III KG; and 66,176 by BV AM LLC. Also includes warrants exercisable within 60 days of December 31, 2008 as follows: 104,816 by BV III QP; 7,049 by BV III; 3,168 by BV III PF; 8,858 by BV III KG; and 2,072 by BV AM LLC. BV III GP and BV III LLC are the direct and indirect general partners of BV III, BV III QP, BV III PF and BV III KG. The Reporting Person is a Series A member of BV III LLC and a manager of BV AM LLC. The Reporting Person disclaims beneficial ownership of all such shares except to the extent of his proportionate pecuniary interests therein.

Item 1.

(a) Name of Issuer

EnteroMedics, Inc.

(b) Address of Issuer's Principal Executive Offices

2800 Patton Road
St. Paul, MN 55113

Item 2.

(a) Name of Person Filing

MPM BioVentures III, L.P.
MPM BioVentures III-QP, L.P.
MPM BioVentures III Parallel Fund, L.P.
MPM BioVentures III GmbH & Co. Beteiligungs KG
MPM Asset Management Investors 2002 BVIII LLC
MPM BioVentures III GP, L.P.
MPM BioVentures III LLC
Ansbert Gadicke
Luke Evin
Nicholas Galakatos
Michael Steinmetz
Kurt Wheeler
Nicholas Simon III
Dennis Henner

(b) Address of Principal Business Office or, if none, Residence

c/o MPM Capital L.P.
The John Hancock Tower
200 Clarendon Street, 54th Floor
Boston, MA 02116

(c) Citizenship

All entities were organized in Delaware except MPM BioVentures III GmbH & Co. Beteiligungs KG, which was organized in Germany. The individuals are all United States citizens.

(d) Title of Class of Securities

Common Stock

(e) CUSIP Number

29365M 10 9

Item 3. If this statement is filed pursuant to §§240.13d-1(b), or 240.13d-2(b) or (c), check whether the person filing is a:

Not applicable

Item 4. Ownership

(a) Amount Beneficially Owned:

| | |
|--|-----------------|
| MPM BioVentures III, L.P. | 232,265(1) |
| MPM BioVentures III-QP, L.P. | 3,454,511(2) |
| MPM BioVentures III Parallel Fund, L.P. | 104,363(3) |
| MPM BioVentures III GmbH & Co. Beteiligungs KG | 291,918(4) |
| MPM Asset Management Investors 2002 BVIII LLC | 68,248(5) |
| MPM BioVentures III GP, L.P. | 4,083,057(6) |
| MPM BioVentures III LLC | 4,083,057(7) |
| Ansbert Gadicke | 4,151,305(8) |
| Luke Evnin | 4,163,285(8)(9) |
| Nicholas Galakatos | 4,151,305(8) |
| Michael Steinmetz | 4,151,305(8) |
| Kurt Wheeler | 4,151,305(8) |
| Nicholas Simon III | 4,151,305(8) |
| Dennis Henner | 4,151,305(8) |

Percent of Class:

| | |
|--|-------|
| MPM BioVentures III, L.P. | 1.4% |
| MPM BioVentures III-QP, L.P. | 20.3% |
| MPM BioVentures III Parallel Fund, L.P. | 0.6% |
| MPM BioVentures III GmbH & Co. Beteiligungs KG | 1.7% |
| MPM Asset Management Investors 2002 BVIII LLC | 0.4% |
| MPM BioVentures III GP, L.P. | 24.0% |
| MPM BioVentures III LLC | 24.0% |
| Ansbert Gadicke | 24.4% |
| Luke Evnin | 24.5% |
| Nicholas Galakatos | 24.4% |
| Michael Steinmetz | 24.4% |
| Kurt Wheeler | 24.4% |
| Nicholas Simon III | 24.4% |
| Dennis Henner | 24.4% |

(b) Number of shares as to which the person has:

(i) Sole power to vote or to direct the vote

| | |
|--|--------------|
| MPM BioVentures III, L.P. | 232,265(1) |
| MPM BioVentures III-QP, L.P. | 3,454,511(2) |
| MPM BioVentures III Parallel Fund, L.P. | 104,363(3) |
| MPM BioVentures III GmbH & Co. Beteiligungs KG | 291,918(4) |
| MPM Asset Management Investors 2002 BVIII LLC | 68,248(5) |
| MPM BioVentures III GP, L.P. | 0 |
| MPM BioVentures III LLC | 0 |
| Ansbert Gadicke | 0 |
| Luke Evnin | 11,980(9) |
| Nicholas Galakatos | 0 |
| Michael Steinmetz | 0 |
| Kurt Wheeler | 0 |
| Nicholas Simon III | 0 |
| Dennis Henner | 0 |

(ii) Shared power to vote or to direct the vote

| | |
|--|--------------|
| MPM BioVentures III, L.P. | 0 |
| MPM BioVentures III-QP, L.P. | 0 |
| MPM BioVentures III Parallel Fund, L.P. | 0 |
| MPM BioVentures III GmbH & Co. Beteiligungs KG | 0 |
| MPM Asset Management Investors 2002 BVIII LLC | 0 |
| MPM BioVentures III GP, L.P. | 4,083,057(6) |
| MPM BioVentures III LLC | 4,083,057(7) |
| Ansbert Gadicke | 4,151,305(8) |
| Luke Evnin | 4,151,305(8) |
| Nicholas Galakatos | 4,151,305(8) |
| Michael Steinmetz | 4,151,305(8) |
| Kurt Wheeler | 4,151,305(8) |
| Nicholas Simon III | 4,151,305(8) |
| Dennis Henner | 4,151,305(8) |

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

| | |
|--|--------------|
| MPM BioVentures III, L.P. | 232,265(1) |
| MPM BioVentures III-QP, L.P. | 3,454,511(2) |
| MPM BioVentures III Parallel Fund, L.P. | 104,363(3) |
| MPM BioVentures III GmbH & Co. Beteiligungs KG | 291,918(4) |
| MPM Asset Management Investors 2002 BVIII LLC | 68,248(5) |
| MPM BioVentures III GP, L.P. | 0 |
| MPM BioVentures III LLC | 0 |
| Ansbert Gadicke | 0 |
| Luke Evnin | 11,980(9) |
| Nicholas Galakatos | 0 |
| Michael Steinmetz | 0 |
| Kurt Wheeler | 0 |
| Nicholas Simon III | 0 |
| Dennis Henner | 0 |

(iv) Shared power to dispose or to direct the disposition of

| | |
|--|--------------|
| MPM BioVentures III, L.P. | 0 |
| MPM BioVentures III-QP, L.P. | 0 |
| MPM BioVentures III Parallel Fund, L.P. | 0 |
| MPM BioVentures III GmbH & Co. Beteiligungs KG | 0 |
| MPM Asset Management Investors 2002 BVIII LLC | 0 |
| MPM BioVentures III GP, L.P. | 4,083,057(6) |
| MPM BioVentures III LLC | 4,083,057(7) |
| Ansbert Gadicke | 4,151,305(8) |
| Luke Evnin | 4,151,305(8) |
| Nicholas Galakatos | 4,151,305(8) |
| Michael Steinmetz | 4,151,305(8) |
| Kurt Wheeler | 4,151,305(8) |
| Nicholas Simon III | 4,151,305(8) |
| Dennis Henner | 4,151,305(8) |

- (1) Includes 7,049 shares issuable pursuant to warrants exercisable within 60 days of December 31, 2008.
- (2) Includes 104,816 shares issuable pursuant to warrants exercisable within 60 days of December 31, 2008.
- (3) Includes 3,168 shares issuable pursuant to warrants exercisable within 60 days of December 31, 2008.
- (4) Includes 8,858 shares issuable pursuant to warrants exercisable within 60 days of December 31, 2008.
- (5) Includes 2,072 shares issuable pursuant to warrants exercisable within 60 days of December 31, 2008.
- (6) The shares are held as follows: 3,349,695 by BV III QP; 225,216 by BV III; 101,195 by BV III PF; and 283,060 by BV III KG. Also includes shares issuable pursuant to warrants exercisable within 60 days of December 31, 2008 as follows: 104,816 by BV III QP; 7,049 by BV III; 3,168 by BV III PF; and 8,858 by BV III KG. The Reporting Person is the direct general partner of BV III, BV III QP, BV III PF and BV III KG.
- (7) The shares are held as follows: 3,349,695 by BV III QP; 225,216 by BV III; 101,195 by BV III PF; and 283,060 by BV III KG. Also includes shares issuable pursuant to warrants exercisable within 60 days of December 31, 2008 as follows: 104,816 by BV III QP; 7,049 by BV III; 3,168 by BV III PF; and 8,858 by BV III KG. The Reporting Person is the indirect general partner of BV III, BV III QP, BV III PF and BV III KG.
- (8) The shares are held as follows: 3,349,695 by BV III QP; 225,216 by BV III; 101,195 by BV III PF; 283,060 by BV III KG; and 66,176 by BV AM LLC. Also includes shares issuable pursuant to warrants exercisable within 60 days of December 31, 2008 as follows: 104,816 by BV III QP; 7,049 by BV III; 3,168 by BV III PF; 8,858 by BV III KG; and 2,072 by BV AM LLC. BV III GP and BV III LLC are the direct and indirect general partners of BV III, BV III QP, BV III PF and BV III KG. The Reporting Person is a Series A member of BV III LLC and a manager of BV AM LLC. The Reporting Person disclaims beneficial ownership of all such shares except to the extent of his proportionate pecuniary interests therein.
- (9) Includes 11,980 shares pursuant to exercisable options within 60 days of December 31, 2008.

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 o.

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

Item 8. Identification and Classification of Members of the Group

Not Applicable

Item 9. Notice of Dissolution of a Group

Not Applicable

Item 10. Certification

Not Applicable

By: /s/ Luke Evin
Luke Evin

By: /s/ Nicholas Galakatos
Nicholas Galakatos

By: /s/ Michael Steinmetz
Michael Steinmetz

By: /s/ Kurt Wheeler
Kurt Wheeler

By: /s/ Nicholas Simon III
Nicholas Simon III

By: /s/ Dennis Henner
Dennis Henner

EXHIBITS

A: Joint Filing Agreement

By: /s/ Luke Evin
Luke Evin

By: /s/ Nicholas Galakatos
Nicholas Galakatos

By: /s/ Michael Steinmetz
Michael Steinmetz

By: /s/ Kurt Wheeler
Kurt Wheeler

By: /s/ Nicholas Simon III
Nicholas Simon III

By: /s/ Dennis Henner
Dennis Henner