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UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, DC 20549

**SCHEDULE 13D**

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

**EnteroMedics Inc.**

(Name of Issuer)

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

**29365M 10 9**  
(CUSIP Number)

**LUKE EVNIN**  
**MPM ASSET MANAGEMENT**  
**THE JOHN HANCOCK TOWER**  
**200 CLARENDON STREET, 54<sup>TH</sup> FLOOR**  
**BOSTON, MASSACHUSETTS 02116**  
**TELEPHONE: (617) 425-9200**

(Name, Address and Telephone Number of Person  
Authorized to Receive Notices and Communications)

**February 24, 2009**  
(Date of Event Which Requires Filing of this Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of §§240.13d-1(e), 240.13d-1(f) or 240.13d-1(g), check the following box.

**Note:** Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See §240.13d-7 for other parties to whom copies are to be sent.

\* 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 disclosures provided in a prior cover page.

The information required on 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*).

**Explanatory Note**

The following constitutes the Schedule 13D filed by the undersigned (the "Schedule 13D"). This Schedule 13D is being filed by the MPM Entities and the Listed Persons (each as defined below) to report the acquisition of shares of Common Stock (as defined below) and warrants to purchase Common Stock, of the Issuer (as defined below) on February 24, 2009 as described in Item 3 below.

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<b>1</b>	NAME OF REPORTING PERSONS MPM BioVentures III-QP, L.P	
<b>2</b>	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="radio"/> (b) <input checked="" type="checkbox"/> (1)	
<b>3</b>	SEC USE ONLY	
<b>4</b>	SOURCE OF FUNDS (SEE INSTRUCTIONS) WC	
<b>5</b>	CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="radio"/>	
<b>6</b>	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	<b>7</b>	SOLE VOTING POWER 4,923,671(2)
	<b>8</b>	SHARED VOTING POWER 0
	<b>9</b>	SOLE DISPOSITIVE POWER 4,923,671(2)
	<b>10</b>	SHARED DISPOSITIVE POWER 0
<b>11</b>	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 4,923,671(2)	
<b>12</b>	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="radio"/>	
<b>13</b>	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 11 16.4%(3)	
<b>14</b>	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) PN	

- (1) This Schedule is filed by MPM BioVentures III-QP, L.P. (“BV III QP”), MPM BioVentures III, L.P. (“BV III”), MPM BioVentures III Parallel Fund, L.P. (“BV III PF”), MPM BioVentures III GmbH & Co. Beteiligungs KG (“BV III KG”), MPM Asset Management Investors 2002 BVIII LLC (“AM LLC”), MPM BioVentures III GP, L.P. (“BV III GP”) and MPM BioVentures III LLC (“BV III LLC” and collectively with BV III QP, BV III, BV III PF, BV III KG, AM LLC and BV III GP, the “MPM Entities”) and Luke Evnin, Ansbert Gadicke, Nicholas Galakatos, Michael Steinmetz, Kurt Wheeler, Nicholas Simon III and Dennis Henner (collectively, the “Listed Persons”). BVIII GP and BVIII LLC are the direct and indirect general partners of BV III QP, BV III, BV III PF and BV III KG. The Listed Persons are Series A members of BV III LLC and managers of AM LLC. The MPM Entities and the Listed Persons expressly disclaim status as a “group” for purposes of this Schedule 13D.
- (2) Includes 104,816 shares of common stock, par value \$0.01 per share (the “Common Stock”) issuable pursuant to warrants, which are exercisable within 60 days of the date of this filing.
- (3) This percentage is calculated based upon 29,991,497 shares of EnteroMedics Inc.’s (the “Issuer’s”) Common Stock outstanding as adjusted pursuant to Rule 13d-3(d)(1) promulgated under the Exchange Act of 1934, as amended (the “Exchange Act”), which is the sum of: (i) 16,881,104 shares of the Issuer’s Common Stock outstanding on October 31, 2008, as set forth in the Issuer’s most recent Quarterly Report on Form 10-Q, filed with the

Securities and Exchange Commission on November 7, 2008 and (ii) 13,110,393 shares of the Issuer's Common Stock issued pursuant to the securities purchase agreement dated as of February 19, 2009 (the "SPA").

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<b>1</b>	NAME OF REPORTING PERSONS MPM BioVentures III, L.P	
<b>2</b>	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="radio"/> (b) <input checked="" type="checkbox"/> (1)	
<b>3</b>	SEC USE ONLY	
<b>4</b>	SOURCE OF FUNDS (SEE INSTRUCTIONS) WC	
<b>5</b>	CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="radio"/>	
<b>6</b>	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	<b>7</b>	SOLE VOTING POWER 331,045(2)
	<b>8</b>	SHARED VOTING POWER 0
	<b>9</b>	SOLE DISPOSITIVE POWER 331,045(2)
	<b>10</b>	SHARED DISPOSITIVE POWER 0
<b>11</b>	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 331,045(2)	
<b>12</b>	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="radio"/>	
<b>13</b>	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 11 1.1% (3)	
<b>14</b>	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) PN	

- (1) This Schedule is filed by the MPM Entities and the Listed Persons. The MPM Entities and the Listed Persons expressly disclaim status as a "group" for purposes of this Schedule 13D.
- (2) Includes 7,049 shares of Common Stock issuable pursuant to warrants, which are exercisable within 60 days of the date of this filing.
- (3) This percentage is calculated based upon 29,991,497 shares of the Issuer's Common Stock outstanding as adjusted pursuant to Rule 13d-3(d)(1) promulgated under the Exchange Act, which is the sum of: (i) 16,881,104 shares of the Issuer's Common Stock outstanding on October 31, 2008, as set forth in the Issuer's most recent Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on November 7, 2008 and (ii) 13,110,393 shares of the Issuer's Common Stock issued pursuant to the SPA.

<b>1</b>	NAME OF REPORTING PERSONS MPM Asset Management Investors 2002 BVIII LLC	
<b>2</b>	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="radio"/> (b) <input checked="" type="checkbox"/> (1)	
<b>3</b>	SEC USE ONLY	
<b>4</b>	SOURCE OF FUNDS (SEE INSTRUCTIONS) WC	
<b>5</b>	CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="radio"/>	
<b>6</b>	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	<b>7</b>	SOLE VOTING POWER 97,273(2)
	<b>8</b>	SHARED VOTING POWER 0
	<b>9</b>	SOLE DISPOSITIVE POWER 97,273(2)
	<b>10</b>	SHARED DISPOSITIVE POWER 0
<b>11</b>	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 97,273(2)	
<b>12</b>	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="radio"/>	
<b>13</b>	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 11 0.3%(3)	
<b>14</b>	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) 00	

- (1) This Schedule is filed by the MPM Entities and the Listed Persons. The MPM Entities and the Listed Persons expressly disclaim status as a "group" for purposes of this Schedule 13D.
- (2) Includes 2,072 shares of Common Stock issuable pursuant to warrants, which are exercisable within 60 days of the date of this filing.
- (3) This percentage is calculated based upon 29,991,497 shares of the Issuer's Common Stock outstanding as adjusted pursuant to Rule 13d-3(d)(1) promulgated under the Exchange Act, which is the sum of: (i) 16,881,104 shares of the Issuer's Common Stock outstanding on October 31, 2008, as set forth in the Issuer's most recent Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on November 7, 2008 and (ii) 13,110,393 shares of the Issuer's Common Stock issued pursuant to the SPA.

<b>1</b>	NAME OF REPORTING PERSONS MPM BioVentures III Parallel Fund, L.P	
<b>2</b>	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="radio"/> (b) <input checked="" type="checkbox"/> (1)	
<b>3</b>	SEC USE ONLY	
<b>4</b>	SOURCE OF FUNDS (SEE INSTRUCTIONS) WC	
<b>5</b>	CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="radio"/>	
<b>6</b>	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	<b>7</b>	SOLE VOTING POWER 148,747(2)
	<b>8</b>	SHARED VOTING POWER 0
	<b>9</b>	SOLE DISPOSITIVE POWER 148,747(2)
	<b>10</b>	SHARED DISPOSITIVE POWER 0
<b>11</b>	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 148,747(2)	
<b>12</b>	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="radio"/>	
<b>13</b>	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 11 0.5%(3)	
<b>14</b>	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) PN	

- (1) This Schedule is filed by the MPM Entities and the Listed Persons. The MPM Entities and the Listed Persons expressly disclaim status as a "group" for purposes of this Schedule 13D.
- (2) Includes 3,168 shares of Common Stock issuable pursuant to warrants, which are exercisable within 60 days of the date of this filing.
- (3) This percentage is calculated based upon 29,991,497 shares of the Issuer's Common Stock outstanding as adjusted pursuant to Rule 13d-3(d)(1) promulgated under the Exchange Act, which is the sum of: (i) 16,881,104 shares of the Issuer's Common Stock outstanding on October 31, 2008, as set forth in the Issuer's most recent Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on November 7, 2008 and (ii) 13,110,393 shares of the Issuer's Common Stock issued pursuant to the SPA.

<b>1</b>	NAME OF REPORTING PERSONS MPM BioVentures III GmbH & Co. Beteiligungs KG	
<b>2</b>	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="radio"/> (b) <input checked="" type="checkbox"/> (1)	
<b>3</b>	SEC USE ONLY	
<b>4</b>	SOURCE OF FUNDS (SEE INSTRUCTIONS) WC	
<b>5</b>	CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="radio"/>	
<b>6</b>	CITIZENSHIP OR PLACE OF ORGANIZATION Germany	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	<b>7</b>	SOLE VOTING POWER 416,068(2)
	<b>8</b>	SHARED VOTING POWER 0
	<b>9</b>	SOLE DISPOSITIVE POWER 416,068(2)
	<b>10</b>	SHARED DISPOSITIVE POWER 0
<b>11</b>	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 416,068(2)	
<b>12</b>	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="radio"/>	
<b>13</b>	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 11 1.4%(3)	
<b>14</b>	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) PN	

- (1) This Schedule is filed by the MPM Entities and the Listed Persons. The MPM Entities and the Listed Persons expressly disclaim status as a "group" for purposes of this Schedule 13D.
- (2) Includes 8,858 shares of Common Stock issuable pursuant to warrants, which are exercisable within 60 days of the date of this filing.
- (3) This percentage is calculated based upon 29,991,497 shares of the Issuer's Common Stock outstanding as adjusted pursuant to Rule 13d-3(d)(1) promulgated under the Exchange Act, which is the sum of: (i) 16,881,104 shares of the Issuer's Common Stock outstanding on October 31, 2008, as set forth in the Issuer's most recent Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on November 7, 2008 and (ii) 13,110,393 shares of the Issuer's Common Stock issued pursuant to the SPA.

<b>1</b>	NAME OF REPORTING PERSONS MPM BioVentures III GP, L.P	
<b>2</b>	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="radio"/> (b) <input checked="" type="checkbox"/> (1)	
<b>3</b>	SEC USE ONLY	
<b>4</b>	SOURCE OF FUNDS (SEE INSTRUCTIONS) WC	
<b>5</b>	CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="radio"/>	
<b>6</b>	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	<b>7</b>	SOLE VOTING POWER 0
	<b>8</b>	SHARED VOTING POWER 5,819,531(2)
	<b>9</b>	SOLE DISPOSITIVE POWER 0
	<b>10</b>	SHARED DISPOSITIVE POWER 5,819,531(2)
<b>11</b>	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 5,819,531(2)	
<b>12</b>	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="radio"/>	
<b>13</b>	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 11 19.3%(3)	
<b>14</b>	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) PN	

- (1) This Schedule is filed by the MPM Entities and the Listed Persons. The MPM Entities and the Listed Persons expressly disclaim status as a "group" for purposes of this Schedule 13D.
- (2) Consists of 4,818,855 shares of Common Stock and 104,816 shares of Common Stock issuable upon exercise of warrants held by BV III QP; 323,996 shares of Common Stock and 7,049 shares of Common Stock issuable upon exercise of warrants held by BV III; 145,579 shares of Common Stock and 3,168 shares of Common Stock issuable upon exercise of warrants held by BV III PF; and 407,210 shares of Common Stock and 8,858 shares of Common Stock issuable upon exercise of warrants held by BV III KG. The warrants listed above are exercisable within 60 days of the date of this filing. BV III GP and BV III LLC are the direct and indirect general partners of BV III QP, BV III, BV III PF and BV III KG.
- (3) This percentage is calculated based upon 29,991,497 shares of the Issuer's Common Stock outstanding as adjusted pursuant to Rule 13d-3(d)(1) promulgated under the Exchange Act, which is the sum of: (i) 16,881,104 shares of the Issuer's Common Stock outstanding on October 31, 2008, as set forth in the Issuer's most recent Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on November 7, 2008 and (ii) 13,110,393 shares of the Issuer's Common Stock issued pursuant to the SPA.



<b>1</b>	NAME OF REPORTING PERSONS MPM BioVentures III LLC	
<b>2</b>	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="radio"/> (b) <input checked="" type="checkbox"/> (1)	
<b>3</b>	SEC USE ONLY	
<b>4</b>	SOURCE OF FUNDS (SEE INSTRUCTIONS) WC	
<b>5</b>	CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="radio"/>	
<b>6</b>	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	<b>7</b>	SOLE VOTING POWER 0
	<b>8</b>	SHARED VOTING POWER 5,819,531(2)
	<b>9</b>	SOLE DISPOSITIVE POWER 0
	<b>10</b>	SHARED DISPOSITIVE POWER 5,819,531(2)
<b>11</b>	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 5,819,531(2)	
<b>12</b>	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="radio"/>	
<b>13</b>	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 11 19.3%(3)	
<b>14</b>	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) OO	

(1) This Schedule is filed by the MPM Entities and the Listed Persons. The MPM Entities and the Listed Persons expressly disclaim status as a "group" for purposes of this Schedule 13D.

(2) Consists of 4,818,855 shares of Common Stock and 104,816 shares of Common Stock issuable upon exercise of warrants held by BV III QP; 323,996 shares of Common Stock and 7,049 shares of Common Stock issuable upon exercise of warrants held by BV III; 145,579 shares of Common Stock and 3,168 shares of Common Stock issuable upon exercise of warrants held by BV III PF; and 407,210 shares of Common Stock and 8,858 shares of Common Stock issuable upon exercise of warrants held by BV III KG. The warrants listed above are exercisable within 60 days of the date of this filing. BV III GP and BV III LLC are the direct and indirect general partners of BV III QP, BV III, BV III PF and BV III KG.

(3) This percentage is calculated based upon 29,991,497 shares of the Issuer's Common Stock outstanding as adjusted pursuant to Rule 13d-3(d)(1) promulgated under the Exchange Act, which is the sum of: (i) 16,881,104 shares of the Issuer's Common Stock outstanding on October 31, 2008, as set forth in the Issuer's most recent Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on November 7, 2008 and (ii) 13,110,393 shares of the Issuer's Common Stock issued pursuant to the SPA.

<b>1</b>	NAME OF REPORTING PERSONS Luke Evnin	
<b>2</b>	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="radio"/> (b) <input checked="" type="checkbox"/> (1)	
<b>3</b>	SEC USE ONLY	
<b>4</b>	SOURCE OF FUNDS (SEE INSTRUCTIONS) OO	
<b>5</b>	CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="radio"/>	
<b>6</b>	CITIZENSHIP OR PLACE OF ORGANIZATION United States	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	<b>7</b>	SOLE VOTING POWER 12,500(2)
	<b>8</b>	SHARED VOTING POWER 5,916,804(3)
	<b>9</b>	SOLE DISPOSITIVE POWER 12,500(2)
	<b>10</b>	SHARED DISPOSITIVE POWER 5,916,804(3)
<b>11</b>	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 5,929,304(2)(3)	
<b>12</b>	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="radio"/>	
<b>13</b>	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 11 19.7%(4)	
<b>14</b>	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) IN	

(1) This Schedule is filed by the MPM Entities and the Listed Persons. The MPM Entities and the Listed Persons expressly disclaim status as a "group" for purposes of this Schedule 13D.

(2) Consists of shares of Common Stock issuable pursuant to options which are exercisable within 60 days of the date of this filing.

(3) Consists of 4,818,855 shares of Common Stock and 104,816 shares of Common Stock issuable upon exercise of warrants held by BV III QP; 323,996 shares of Common Stock and 7,049 shares of Common Stock issuable upon exercise of warrants held by BV III; 145,579 shares of Common Stock and 3,168 shares of Common Stock issuable upon exercise of warrants held by BV III PF; 407,210 shares of Common Stock and 8,858 shares of Common Stock issuable upon exercise of warrants held by BV III KG; and 95,201 shares of Common Stock and 2,072 shares of Common Stock issuable upon exercise of warrants held by AM LLC. The warrants listed above are exercisable within 60 days of the date of this filing. BV III GP and BV III LLC are the direct and indirect general partners of BV III QP, BV III, BV III PF and BV III KG. The Reporting Person is a Series A member of BV III LLC and a manager of AM LLC.

(4) This percentage is calculated based upon 29,991,497 shares of the Issuer's Common Stock outstanding as adjusted pursuant to Rule 13d-3(d)(1) promulgated under the Exchange Act, which is the sum of: (i) 16,881,104 shares of the Issuer's Common Stock outstanding on October 31, 2008, as set

forth in the Issuer's most recent Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on November 7, 2008 and (ii) 13,110,393 shares of the Issuer's Common Stock issued pursuant to the SPA.

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<b>1</b>	NAME OF REPORTING PERSONS Ansbert Gadicke	
<b>2</b>	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="radio"/> (b) <input checked="" type="checkbox"/> (1)	
<b>3</b>	SEC USE ONLY	
<b>4</b>	SOURCE OF FUNDS (SEE INSTRUCTIONS) OO	
<b>5</b>	CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="radio"/>	
<b>6</b>	CITIZENSHIP OR PLACE OF ORGANIZATION United States	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	<b>7</b>	SOLE VOTING POWER 0
	<b>8</b>	SHARED VOTING POWER 5,916,804(2)
	<b>9</b>	SOLE DISPOSITIVE POWER 0
	<b>10</b>	SHARED DISPOSITIVE POWER 5,916,804(2)
<b>11</b>	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 5,916,804(2)	
<b>12</b>	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="radio"/>	
<b>13</b>	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 11 19.7%(3)	
<b>14</b>	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) IN	

(1) This Schedule is filed by the MPM Entities and the Listed Persons. The MPM Entities and the Listed Persons expressly disclaim status as a "group" for purposes of this Schedule 13D.

(2) Consists of 4,818,855 shares of Common Stock and 104,816 shares of Common Stock issuable upon exercise of warrants held by BV III QP; 323,996 shares of Common Stock and 7,049 shares of Common Stock issuable upon exercise of warrants held by BV III; 145,579 shares of Common Stock and 3,168 shares of Common Stock issuable upon exercise of warrants held by BV III PF; 407,210 shares of Common Stock and 8,858 shares of Common Stock issuable upon exercise of warrants held by BV III KG; and 95,201 shares of Common Stock and 2,072 shares of Common Stock issuable upon exercise of warrants held by AM LLC. The warrants listed above are exercisable within 60 days of the date of this filing. BV III GP and BV III LLC are the direct and indirect general partners of BV III QP, BV III, BV III PF and BV III KG. The Reporting Person is a Series A member of BV III LLC and a manager of AM LLC.

(3) This percentage is calculated based upon 29,991,497 shares of the Issuer's Common Stock outstanding as adjusted pursuant to Rule 13d-3(d)(1) promulgated under the Exchange Act, which is the sum of: (i) 16,881,104 shares of the Issuer's Common Stock outstanding on October 31, 2008, as set forth in the Issuer's most recent Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on November 7, 2008 and (ii) 13,110,393 shares of the Issuer's Common Stock issued pursuant to the SPA.

<b>1</b>	NAME OF REPORTING PERSONS Nicholas Galakatos	
<b>2</b>	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="radio"/> (b) <input checked="" type="checkbox"/> (1)	
<b>3</b>	SEC USE ONLY	
<b>4</b>	SOURCE OF FUNDS (SEE INSTRUCTIONS) OO	
<b>5</b>	CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="radio"/>	
<b>6</b>	CITIZENSHIP OR PLACE OF ORGANIZATION United States	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	<b>7</b>	SOLE VOTING POWER 0
	<b>8</b>	SHARED VOTING POWER 5,916,804(2)
	<b>9</b>	SOLE DISPOSITIVE POWER 0
	<b>10</b>	SHARED DISPOSITIVE POWER 5,916,804(2)
<b>11</b>	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 5,916,804(2)	
<b>12</b>	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="radio"/>	
<b>13</b>	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 11 19.7%(3)	
<b>14</b>	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) IN	

(1) This Schedule is filed by the MPM Entities and the Listed Persons. The MPM Entities and the Listed Persons expressly disclaim status as a "group" for purposes of this Schedule 13D.

(2) Consists of 4,818,855 shares of Common Stock and 104,816 shares of Common Stock issuable upon exercise of warrants held by BV III QP; 323,996 shares of Common Stock and 7,049 shares of Common Stock issuable upon exercise of warrants held by BV III; 145,579 shares of Common Stock and 3,168 shares of Common Stock issuable upon exercise of warrants held by BV III PF; 407,210 shares of Common Stock and 8,858 shares of Common Stock issuable upon exercise of warrants held by BV III KG; and 95,201 shares of Common Stock and 2,072 shares of Common Stock issuable upon exercise of warrants held by AM LLC. The warrants listed above are exercisable within 60 days of the date of this filing. BV III GP and BV III LLC are the direct and indirect general partners of BV III QP, BV III, BV III PF and BV III KG. The Reporting Person is a Series A member of BV III LLC and a manager of AM LLC.

(3) This percentage is calculated based upon 29,991,497 shares of the Issuer's Common Stock outstanding as adjusted pursuant to Rule 13d-3(d)(1) promulgated under the Exchange Act, which is the sum of: (i) 16,881,104 shares of the Issuer's Common Stock outstanding on October 31, 2008, as set forth in the Issuer's most recent Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on November 7, 2008 and (ii) 13,110,393 shares of the Issuer's Common Stock issued pursuant to the SPA.

<b>1</b>	NAME OF REPORTING PERSONS Michael Steinmetz	
<b>2</b>	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="radio"/> (b) <input checked="" type="checkbox"/> (1)	
<b>3</b>	SEC USE ONLY	
<b>4</b>	SOURCE OF FUNDS (SEE INSTRUCTIONS) OO	
<b>5</b>	CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="radio"/>	
<b>6</b>	CITIZENSHIP OR PLACE OF ORGANIZATION United States	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	<b>7</b>	SOLE VOTING POWER 0
	<b>8</b>	SHARED VOTING POWER 5,916,804(2)
	<b>9</b>	SOLE DISPOSITIVE POWER 0
	<b>10</b>	SHARED DISPOSITIVE POWER 5,916,804(2)
<b>11</b>	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 5,916,804(2)	
<b>12</b>	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="radio"/>	
<b>13</b>	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 11 19.7%(3)	
<b>14</b>	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) IN	

(1) This Schedule is filed by the MPM Entities and the Listed Persons. The MPM Entities and the Listed Persons expressly disclaim status as a "group" for purposes of this Schedule 13D.

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(3) This percentage is calculated based upon 29,991,497 shares of the Issuer's Common Stock outstanding as adjusted pursuant to Rule 13d-3(d)(1) promulgated under the Exchange Act, which is the sum of: (i) 16,881,104 shares of the Issuer's Common Stock outstanding on October 31, 2008, as set forth in the Issuer's most recent Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on November 7, 2008 and (ii) 13,110,393 shares of the Issuer's Common Stock issued pursuant to the SPA.

<b>1</b>	NAME OF REPORTING PERSONS Kurt Wheeler	
<b>2</b>	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="radio"/> (b) <input checked="" type="checkbox"/> (1)	
<b>3</b>	SEC USE ONLY	
<b>4</b>	SOURCE OF FUNDS (SEE INSTRUCTIONS) OO	
<b>5</b>	CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="radio"/>	
<b>6</b>	CITIZENSHIP OR PLACE OF ORGANIZATION United States	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	<b>7</b>	SOLE VOTING POWER 0
	<b>8</b>	SHARED VOTING POWER 5,916,804(2)
	<b>9</b>	SOLE DISPOSITIVE POWER 0
	<b>10</b>	SHARED DISPOSITIVE POWER 5,916,804(2)
<b>11</b>	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 5,916,804(2)	
<b>12</b>	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="radio"/>	
<b>13</b>	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 11 19.7%(3)	
<b>14</b>	TYPE OF REPORTING PERSON (SEE INSTRUCTIONS) IN	

(1) This Schedule is filed by the MPM Entities and the Listed Persons. The MPM Entities and the Listed Persons expressly disclaim status as a "group" for purposes of this Schedule 13D.

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<b>1</b>	NAME OF REPORTING PERSONS Nicholas Simon III	
<b>2</b>	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="radio"/> (b) <input checked="" type="checkbox"/> (1)	
<b>3</b>	SEC USE ONLY	
<b>4</b>	SOURCE OF FUNDS (SEE INSTRUCTIONS) OO	
<b>5</b>	CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="radio"/>	
<b>6</b>	CITIZENSHIP OR PLACE OF ORGANIZATION United States	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	<b>7</b>	SOLE VOTING POWER 0
	<b>8</b>	SHARED VOTING POWER 5,916,804(2)
	<b>9</b>	SOLE DISPOSITIVE POWER 0
	<b>10</b>	SHARED DISPOSITIVE POWER 5,916,804(2)
<b>11</b>	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 5,916,804(2)	
<b>12</b>	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="radio"/>	
<b>13</b>	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 11 19.7%(3)	
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(3) This percentage is calculated based upon 29,991,497 shares of the Issuer's Common Stock outstanding as adjusted pursuant to Rule 13d-3(d)(1) promulgated under the Exchange Act, which is the sum of: (i) 16,881,104 shares of the Issuer's Common Stock outstanding on October 31, 2008, as set forth in the Issuer's most recent Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on November 7, 2008 and (ii) 13,110,393 shares of the Issuer's Common Stock issued pursuant to the SPA.



<b>1</b>	NAME OF REPORTING PERSONS Dennis Henner	
<b>2</b>	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (SEE INSTRUCTIONS) (a) <input type="radio"/> (b) <input checked="" type="checkbox"/> (1)	
<b>3</b>	SEC USE ONLY	
<b>4</b>	SOURCE OF FUNDS (SEE INSTRUCTIONS) OO	
<b>5</b>	CHECK IF DISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEM 2(d) OR 2(e) <input type="radio"/>	
<b>6</b>	CITIZENSHIP OR PLACE OF ORGANIZATION United States	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	<b>7</b>	SOLE VOTING POWER 0
	<b>8</b>	SHARED VOTING POWER 5,916,804(2)
	<b>9</b>	SOLE DISPOSITIVE POWER 0
	<b>10</b>	SHARED DISPOSITIVE POWER 5,916,804(2)
<b>11</b>	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 5,916,804(2)	
<b>12</b>	CHECK IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES (SEE INSTRUCTIONS) <input type="radio"/>	
<b>13</b>	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 11 19.7%(3)	
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(1) This Schedule is filed by the MPM Entities and the Listed Persons. The MPM Entities and the Listed Persons expressly disclaim status as a "group" for purposes of this Schedule 13D.

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(3) This percentage is calculated based upon 29,991,497 shares of the Issuer's Common Stock outstanding as adjusted pursuant to Rule 13d-3(d)(1) promulgated under the Exchange Act, which is the sum of: (i) 16,881,104 shares of the Issuer's Common Stock outstanding on October 31, 2008, as set forth in the Issuer's most recent Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on November 7, 2008 and (ii) 13,110,393 shares of the Issuer's Common Stock issued pursuant to the SPA.

**Item 1. Security and Issuer**

(a) This statement on Schedule 13D relates to the common stock, par value \$0.01 per share (the “Common Stock”) of EnteroMedics Inc., a Delaware corporation (the “Issuer”).

(b) The principal executive offices of the Issuer are located at 2800 Patton Road, St. Paul, Minnesota 55113.

**Item 2. Identity and Background**

(a) The persons and entities filing this Schedule 13D are MPM BioVentures III-QP, L.P. (“BV III QP”), MPM BioVentures III, L.P. (“BV III”), MPM BioVentures III Parallel Fund, L.P. (“BV III PF”), MPM BioVentures III GmbH & Co. Beteiligungs KG (“BV III KG”), MPM Asset Management Investors 2002 BVIII LLC (“AM LLC”), MPM BioVentures III GP, L.P. (“BV III GP”) and MPM BioVentures III LLC (“BV III LLC” and collectively with BV III QP, BV III, BV III PF, BV III KG, AM LLC and BV III GP, the “MPM Entities”) and Luke Evnin, Ansbert Gadicke, Nicholas Galakatos, Michael Steinmetz, Kurt Wheeler, Nicholas Simon III and Dennis Henner (collectively, the “Listed Persons” and together with the MPM Entities, the “Filing Persons”).

(b) The address of the principal place of business of each of the Filing Persons is The John Hancock Tower, 200 Clarendon Street, 54<sup>th</sup> Floor, Boston, Massachusetts 02116.

(c) The principal business of each of the Filing Persons is the venture capital investment business.

(d) During the last five years, none of the Filing Persons has been convicted in any criminal proceeding (excluding traffic violations or similar misdemeanors).

(e) During the last five years, none of the Filing Persons has been a party to a civil proceeding of a judicial or administrative body of competent jurisdiction and as a result of such proceeding was or is subject to a judgment, decree or final order enjoining future violations of, or prohibiting or mandating activities subject to, federal or state securities laws or finding any violation with respect to such laws.

(f) Each of the Listed Persons is a United States citizen and each of the MPM Entities is a Delaware limited partnership or limited liability company, except BV III KG, which was organized in Germany.

In accordance with the provisions of General Instruction C to Schedule 13D, information concerning the managers and each other person controlling the general partners of the MPM Entities required by Item 2 of Schedule 13D is listed on Schedule 1 hereto and is incorporated by reference herein.

**Item 3. Source and Amount of Funds or Other Consideration**

Pursuant to the terms of that certain Securities Purchase Agreement by and among the Issuer, certain of the MPM Entities, and various other investors (collectively, the “PIPE Investors”), dated February 19, 2009 (the “Securities Purchase Agreement”), the MPM Entities purchased an aggregate of 1,765,499 shares of Common Stock (the “Shares”), at a price of \$1.15 per share, together with associated warrants (the “Warrants”) to acquire an aggregate of 882,749 shares of Common Stock at a price per share of \$0.125 (the “Financing”). The Warrants are exercisable at any time and from time to time beginning on August 25, 2009 and ending on February 24, 2013 at an exercise price of \$1.38 per share. The rights relating to the Warrants were set forth in a warrant, dated as of February 19, 2009. The applicable per share purchase price and the number of shares issuable upon exercise of the Warrants are subject to adjustment for the occurrence of certain events, including stock dividends, splits, subdivisions, combinations, reorganizations and reclassifications. The aggregate purchase price of the Shares and the Warrants was \$2,140,667.48.

The sale of the Shares and Warrants to the MPM Entities described above was part of a private placement by the Issuer to a number of affiliated and unaffiliated investors (including the MPM Entities). The closing of the Financing occurred on February 24, 2009 (the “Closing Date”).

Prior to entering into the Securities Purchase Agreement, and prior to the initial public offering of the Issuer (the “IPO”), the MPM Entities acquired convertible stock and notes of the Issuer which, at the IPO, converted into an aggregate of 3,400,342 shares of common stock of the Issuer and immediately exercisable warrants to purchase an aggregate of 125,963 shares of common stock of the Issuer (collectively, the “Registrable Shares”) for an aggregate purchase price of \$19,140,312.33.

The MPM Entities purchased an aggregate of 625,000 shares of common stock of the Issuer in the IPO for an aggregate purchase price of \$5 million.

The funds used by the MPM Entities to acquire the securities described herein were obtained from capital contributions by their partners and from direct capital commitments by the MPM Entities.

References to and descriptions of the Financing as set forth in this Item 3 are qualified in their entirety by reference to the Securities Purchase Agreement and the form of Warrant, which are filed as exhibits to this Schedule and are incorporated by reference herein.

**Item 4. Purpose of Transaction**

The MPM Entities agreed to purchase the Shares and the Warrants for investment purposes with the aim of increasing the value of their investments and the Issuer.

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Luke Evnin is a member of the Board of Directors of the Issuer and is also a Series A member of BV III LLC and a manager of AM LLC. BV III LLC is the indirect general partner of BV III QP, BV III, BV III PF and BV III KG.

Subject to applicable legal requirements, one or more of the Filing Persons may purchase additional securities of the Issuer from time to time in open market or private transactions, depending on their evaluation of the Issuer's business, prospects and financial condition, the market for the Issuer's securities, other developments concerning the Issuer, the reaction of the Issuer to the Filing Persons' ownership of the Issuer's securities, other opportunities available to the Filing Persons and general economic, money market and stock market conditions. In addition, depending upon the factors referred to above, the Filing Persons may dispose of all or a portion of their securities of the Issuer at any time. Each of the Filing Persons reserves the right to increase or decrease its holdings on such terms and at such times as each may decide.

Other than as described above in this Item 4, none of the Filing Persons have any plan or proposal relating to or that would result in: (a) the acquisition by any person of additional securities of the Issuer or the disposition of securities of the Issuer; (b) an extraordinary corporate transaction, such as a merger, reorganization or liquidation, involving the Issuer or any of its subsidiaries; (c) a sale or transfer of a material amount of assets of the Issuer or any of its subsidiaries; (d) any change in the present Board of Directors or management of the Issuer, including any plans or proposals to change the number or terms of directors or to fill any existing vacancies on the Board of Directors of the Issuer; (e) any material change in the present capitalization or dividend policy of the Issuer; (f) any other material change in the Issuer's business or corporate structure; (g) any changes in the Issuer's charter, by-laws or instruments corresponding thereto or other actions which may impede the acquisition of control of the Issuer by any person; (h) a class of securities of the Issuer being delisted from a national securities exchange or ceasing to be authorized to be quoted in an inter-dealer quotation system of a registered national securities association; (i) a class of equity securities of the Issuer becoming eligible for termination of registration pursuant to Section 12(g)(4) of the Exchange Act; or (j) any action similar to those enumerated above.

#### Item 5. Interest in Securities of the Issuer

The following information with respect to the beneficial ownership of the Common Stock of the Issuer by the persons filing this Schedule 13D is provided as of the date of this filing:

MPM Entity	Shares Held Directly	Shares Issuable Upon Exercise of Warrants Held Directly(1)	Shares Issuable Upon Exercise of Options Held Directly	Sole Voting Power	Shared Voting Power	Sole Dispositive Power	Shared Dispositive Power	Beneficial Ownership	Percentage of Class (2)
BV III QP	4,818,855	104,816	0	4,923,671	0	4,923,671	0	4,923,671	16.4%
BV III	323,996	7,049	0	331,045	0	331,045	0	331,045	1.1%
AM LLC	95,201	2,072	0	97,273	0	97,273	0	97,273	0.3%
BV III PF	145,579	3,168	0	148,747	0	148,747	0	148,747	0.5%
BV III KG	407,210	8,858	0	416,068	0	416,068	0	416,068	1.4%
BV III GP(3)	0	0	0	0	5,819,531	0	5,819,531	5,819,531	19.3%
BV III LLC(3)	0	0	0	0	5,819,531	0	5,819,531	5,819,531	19.3%
Luke Evnin(4) (5)	0	0	12,500	12,500	5,916,804	12,500	5,916,804	5,929,304	19.7%
Ansbert Gadicke(4)	0	0	0	0	5,916,804	0	5,916,804	5,916,804	19.7%
Nicholas Galakatos(4)	0	0	0	0	5,916,804	0	5,916,804	5,916,804	19.7%
Michael Steinmetz(4)	0	0	0	0	5,916,804	0	5,916,804	5,916,804	19.7%
Kurt Wheeler(4)	0	0	0	0	5,916,804	0	5,916,804	5,916,804	19.7%
Nicholas Simon III(4)	0	0	0	0	5,916,804	0	5,916,804	5,916,804	19.7%
Dennis Henner(4)	0	0	0	0	5,916,804	0	5,916,804	5,916,804	19.7%

(1) Comprised of securities exercisable within 60 days of the filing date.

- (2) This percentage is calculated based upon 29,991,497 shares of the Issuer's Common Stock outstanding as adjusted pursuant to Rule 13d-3(d)(1) promulgated under the Exchange Act, which is the sum of: (i) 16,881,104 shares of the Issuer's Common Stock outstanding on October 31, 2008, as set forth in the Issuer's most recent Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on November 7, 2008 and (ii) 13,110,393 shares of the Issuer's Common Stock issued pursuant to the SPA.
- (3) BV III GP and BV III LLC are the direct and indirect general partners of BV III QP, BV III, BV III PF and BV III KG. The securities are held as follows: BV III QP: 4,818,855 shares of Common Stock and warrants to purchase 104,816 shares of Common Stock; BV III: 323,996 shares of Common Stock and warrants to purchase 7,049 shares of Common Stock; BV III PF: 145,579 shares of Common Stock and warrants to purchase 3,168 shares of Common Stock; and BV III KG: 407,210 shares of Common Stock and warrants to purchase 8,858 shares of Common Stock.
- (4) The Reporting Person is a Series A member of BV III LLC and a manager of AM LLC. The securities are held as follows: BV III QP: 4,818,855 shares of Common Stock and warrants to purchase 104,816 shares of Common Stock; BV III: 323,996 shares of Common Stock and warrants to purchase 7,049 shares of Common Stock; BV III PF: 145,579 shares of Common Stock and warrants to purchase 3,168 shares of Common Stock; BV III KG: 407,210 shares of Common Stock and warrants to purchase 8,858 shares of Common Stock; and AM LLC: 95,201 shares of Common Stock and warrants to purchase 2,072 shares of Common Stock.
- (5) Includes shares issuable upon the exercise of options within 60 days of the filing date.

The information provided and incorporated by reference in Item 3 is hereby incorporated by reference.

#### **Item 6. Contracts, Arrangements, Understandings or Relationships with Respect to Securities of the Issuer**

The Securities Purchase Agreement includes standard representations and warranties of the Issuer and the PIPE Investors, as well as additional terms and conditions, including those set forth below. The Issuer has agreed to indemnify the PIPE Investors and specified related parties against damages with respect to breaches of the representations and warranties or failure to comply with the covenants and agreements of the Issuer in the Securities Purchase Agreement. The Securities Purchase Agreement may be modified, waived or amended pursuant to an instrument in writing signed by the Issuer and PIPE Investors. Each of the Warrants is exercisable as described in Item 3 above.

#### **Registration Rights**

Pursuant to the terms of the Amended and Restated Investors' Rights Agreement (the "Rights Agreement"), the Issuer has granted certain stockholders, including the MPM Entities, the following registration rights with regard to the Registrable Shares.

*Demand Registration Rights.* On no more than one occasion during any twelve-month period, the holders of at least 50% of the Issuer's Registrable Securities (as defined in the Rights Agreement) have the right to request that the Issuer register all or a portion of the Registrable Securities then held by the requesting stockholders, provided that the shares requested to be registered have an aggregate value of at least \$5.0 million. The Issuer is required to use its commercially reasonable best efforts to cause any such demand registration to become effective under the Securities Act of 1933, as amended (the "Securities Act") as soon as practicable. The demand registration rights will cease after the Issuer has effected two such demand registrations. In addition to the demand registration rights, the holders of the Registrable Securities have the right to request that the Issuer register on Form S-3 all or a portion of the Registrable Securities held by them, provided that the holders propose to sell Registrable Securities at an aggregate price of at least \$1,000,000 (less any underwriter discounts or fees) pursuant to such registration statement on Form S-3 (a "Form S-3 Registration"). The Issuer is not obligated to effect a demand registration or a Form S-3 Registration within 180 calendar days of the effective date of an immediately preceding Form S-3 registration of its securities.

*Incidental Registration Rights.* If the Issuer proposes to register shares of its common stock under the Securities Act (other than a registration relating solely to the sale of securities of participants in its stock option plans, a registration relating to a corporate reorganization or transaction under Rule 145 of the Securities Act, a registration on any form that does not include substantially the same information as would be required to be included in a registration statement covering the sale of Registrable Securities, or a registration in which the only common stock being registered is common stock issuable upon conversion of debt securities that are also being registered), the holders of Registrable Securities have the right to require the Issuer to register all or a portion of the Registrable Securities then held by them. In the event that any registration in which the holders of Registrable Securities participate pursuant to the Rights Agreement is an underwritten public offering, the number of Registrable Securities to be included may, in specified circumstances, be limited due to market conditions.

The registration rights described in the Rights Agreement are subject to customary restrictions such as minimums, blackout periods and, if a registration is underwritten, any limitations on the number of shares to be included in the underwritten offering imposed by the managing underwriter. The Rights Agreement also contains customary indemnification and contribution provisions. All expenses of registration under the Rights Agreement, including the legal fees of one counsel for the holders, but excluding underwriting discounts and commissions will be paid by the Issuer. The foregoing description of the terms of the Rights Agreement is intended as a summary only and is qualified in its entirety by reference to the Rights Agreement, which is filed as Exhibit C to this Schedule 13D.

Luke Evin is a member of the Board of Directors of the Issuer and is also a Series A member of BV III LLC and a manager of AM LLC. BV III LLC is the indirect general partner of BV III QP, BV III, BV III PF and BV III KG.

The information provided and incorporated by reference in Items 3, 4 and 5 is hereby incorporated by reference.

Other than as described in this Schedule 13D, to the best of the MPM Entities' and Listed Persons' knowledge, there are no other contracts, arrangements, understandings or relationships (legal or otherwise) among the persons named in Item 2 and between such persons and any person with respect to any securities of the Issuer.

#### **Item 7. Material to Be Filed as Exhibits**

- A. Form of Securities Purchase Agreement by and among the Issuer and certain purchasers, dated February 19, 2009 (incorporated by reference to Exhibit 10.1 to the Issuer's Current Report on Form 8-K filed on February 25, 2009 (SEC File No. 001-33818)).
  - B. Form of Warrant to purchase shares of common stock (incorporated by reference to Exhibit 10.2 to the Issuer's Current Report on Form 8- K filed on February 25, 2009 (SEC File No. 001-33818)).
  - C. Amended and Restated Investors' Rights Agreement by and among the Issuer and certain investors, dated as of July 6, 2006 (incorporated by reference to Exhibit 4.2 to the Issuer's Registration Statement on Form S-1 filed on May 25, 2007 (File No. 333-143265)).
  - D. Agreement regarding filing of joint Schedule 13D.
-

**SIGNATURES**

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: March 4, 2009

MPM BIOVENTURES III, L.P.

By: MPM BioVentures III GP, L.P.,  
its General Partner

By: MPM BioVentures III LLC,  
its General Partner

By: /s/ Luke Evnin  
Name: Luke Evnin  
Title: Series A Member

MPM BIOVENTURES III-QP, L.P.

By: MPM BioVentures III GP, L.P.,  
its General Partner

By: MPM BioVentures III LLC,  
its General Partner

By: /s/ Luke Evnin  
Name: Luke Evnin  
Title: Series A Member

MPM BIOVENTURES III PARALLEL FUND, L.P.

By: MPM BioVentures III GP, L.P.,  
its General Partner

By: MPM BioVentures III LLC,  
its General Partner

By: /s/ Luke Evnin  
Name: Luke Evnin  
Title: Series A Member

MPM BIOVENTURES III GMBH & CO. BETEILIGUNGS  
KG

By: MPM BioVentures III GP, L.P.,  
in its capacity as the Managing Limited Partner

By: MPM BioVentures III LLC,  
its General Partner

By: /s/ Luke Evnin  
Name: Luke Evnin  
Title: Series A Member

MPM ASSET MANAGEMENT INVESTORS 2002 BVIII LLC

By: /s/ Luke Evnin  
Name: Luke Evnin  
Title: Manager

MPM BIOVENTURES III GP, L.P.

By: MPM BioVentures III LLC,  
its General Partner

By: /s/ Luke Evnin  
Name: Luke Evnin  
Title: Series A Member

MPM BIOVENTURES III LLC

By: /s/ Luke Evnin  
Name: Luke Evnin  
Title: Series A Member

By: /s/ Luke Evnin

By: /s/ Ansbert Gadicke  
Name: Ansbert Gadicke

By: /s/ Nicholas Galakatos  
Name: Nicholas Galakatos

By: /s/ Michael Steinmetz  
Name: Michael Steinmetz

By: /s/ Kurt Wheeler  
Name: Kurt Wheeler

By: /s/ Nicholas Simon III  
Name: Nicholas Simon III

By: /s/ Dennis Henner  
Name: Dennis Henner

The original statement shall be signed by each person on whose behalf the statement is filed or his authorized representative. If the statement is signed on behalf of a person by his authorized representative (other than an executive officer or general partner of the filing person), evidence of the representative's authority to sign on behalf of such person shall be filed with the statement: provided, however, that a power of attorney for this purpose which is already on file with the Commission may be incorporated by reference. The name and any title of each person who signs the statement shall be typed or printed beneath his signature.

**Attention: Intentional misstatements or omissions of fact  
constitute Federal criminal violations (See 18 U.S.C. 1001)**

**SCHEDULE I****General Partners/Members:**

Luke Evnin  
c/o MPM Asset Management  
The John Hancock Tower  
200 Clarendon Street, 54<sup>th</sup> Floor  
Boston, Massachusetts 02116  
Principal Occupation: Series A member of the general partner of the general partner of MPM BioVentures III-QP, L.P., MPM BioVentures III, L.P., MPM BioVentures III Parallel Fund, L.P. and MPM BioVentures III GmbH & Co. Beteiligungs KG and manager of MPM Asset Management Investors 2002 BVIII LLC  
Citizenship: USA

Ansbert Gadicke  
c/o MPM Asset Management  
The John Hancock Tower  
200 Clarendon Street, 54<sup>th</sup> Floor  
Boston, Massachusetts 02116  
Principal Occupation: Series A member of the general partner of the general partner of MPM BioVentures III-QP, L.P., MPM BioVentures III, L.P., MPM BioVentures III Parallel Fund, L.P. and MPM BioVentures III GmbH & Co. Beteiligungs KG and manager of MPM Asset Management Investors 2002 BVIII LLC  
Citizenship: USA

Nicholas Galakatos  
c/o MPM Asset Management  
The John Hancock Tower  
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Boston, Massachusetts 02116  
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Citizenship: USA

Michael Steinmetz  
c/o MPM Asset Management  
The John Hancock Tower  
200 Clarendon Street, 54<sup>th</sup> Floor  
Boston, Massachusetts 02116  
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Citizenship: USA

Kurt Wheeler  
c/o MPM Asset Management  
The John Hancock Tower  
200 Clarendon Street, 54<sup>th</sup> Floor  
Boston, Massachusetts 02116  
Principal Occupation: Series A member of the general partner of the general partner of MPM BioVentures III-QP, L.P., MPM BioVentures III, L.P., MPM BioVentures III Parallel Fund, L.P. and MPM BioVentures III GmbH & Co. Beteiligungs KG and manager of MPM Asset Management Investors 2002 BVIII LLC  
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Nicholas Simon III  
c/o MPM Asset Management  
The John Hancock Tower  
200 Clarendon Street, 54<sup>th</sup> Floor  
Boston, Massachusetts 02116  
Principal Occupation: Series A member of the general partner of the general partner of MPM BioVentures III-QP, L.P., MPM BioVentures III, L.P., MPM BioVentures III Parallel Fund, L.P. and MPM BioVentures III GmbH & Co. Beteiligungs KG and manager of MPM Asset Management Investors 2002 BVIII LLC  
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Dennis Henner  
c/o MPM Asset Management  
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Citizenship: USA





**EXHIBIT INDEX**

- A. Form of Securities Purchase Agreement by and among the Issuer and certain purchasers, dated February 19, 2009 (incorporated by reference to Exhibit 10.1 to the Issuer's Current Report on Form 8-K filed on February 25, 2009 (SEC File No. 001-33818)).
  - B. Form of Warrant to purchase shares of common stock (incorporated by reference to Exhibit 10.2 to the Issuer's Current Report on Form 8-K filed on February 25, 2009 (SEC File No. 001-33818)).
  - C. Amended and Restated Investors' Rights Agreement by and among the Issuer and certain investors, dated as of July 6, 2006 (incorporated by reference to Exhibit 4.2 to the Issuer's Registration Statement on Form S-1 filed on May 25, 2007 (File No. 333-143265)).
  - D. Agreement regarding filing of joint Schedule 13D.
-

**JOINT FILING STATEMENT**

I, the undersigned, hereby express my agreement that the attached Schedule 13D (and any amendments thereto) relating to the Common Stock of EnteroMedics Inc. is filed on behalf of each of the undersigned.

Dated: March 4, 2009

MPM BIOVENTURES III, L.P.

By: MPM BioVentures III GP, L.P.,  
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