

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

SCHEDULE 14A

(Rule 14a-101)
SCHEDULE 14A INFORMATION

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

Filed by the Registrant

Filed by a Party other than the Registrant

Check the appropriate box:

- Preliminary Proxy Statement
 Confidential, for Use of the Commission Only (as permitted by Rule 14a-6(e)(2))
 Definitive Proxy Statement
 Definitive Additional Materials
 Soliciting Material Pursuant to Rule 14a-12

EnteroMedics Inc.

(Name of Registrant as Specified In Its Charter)

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

Payment of Filing Fee (Check the appropriate box):

- No fee required
 Fee computed on table below per Exchange Act Rules 14a-6(i)(1) and 0-11.

(1) Title of each class of securities to which transaction applies:

(2) Aggregate number of securities to which transaction applies:

(3) Per unit price or other underlying value of transaction computed pursuant to Exchange Act Rule 0-11 (set forth the amount on which the filing fee is calculated and state how it was determined):

(4) Proposed maximum aggregate value of transaction:

(5) Total fee paid:

Fee paid previously with preliminary materials.

Check box if any part of the fee is offset as provided by Exchange Act Rule 0-11(a)(2) and identify the filing for which the offsetting fee was paid previously. Identify the previous filing by registration statement number, or the form or schedule and the date of its filing.

(1) Amount Previously Paid:

(2) Form, Schedule or Registration Statement No.:

(3) Filing Party:

(4) Date Filed:



2800 Patton Road
St. Paul, MN 55113
(651) 634-3003

June 1, 2009

Dear Stockholders:

You are cordially invited to join us for a special meeting of stockholders, which will be held on Thursday, July 2, 2009, at 10:00 a.m., Central Time, at the headquarters of the Company, 2800 Patton Road, St. Paul, MN 55113. For your convenience, a map showing the location of the Company's headquarters is provided on the back of the accompanying proxy statement. Holders of record of our common stock as of May 15, 2009, are entitled to notice of and to vote at the special meeting.

The Notice of Special Meeting of Stockholders and the proxy statement that follow describe the business to be conducted at the meeting.

We hope you will be able to attend the meeting. However, even if you plan to attend in person, please vote your shares promptly to ensure that they are represented at the meeting. You may submit your proxy vote by telephone or internet as described in the following materials or by completing and signing the enclosed proxy card and returning it in the envelope provided. If you decide to attend the meeting and wish to change your proxy vote, you may do so automatically by voting in person at the meeting.

We look forward to seeing you at the special meeting.

Sincerely,

A handwritten signature in black ink, appearing to read 'Mark B. Knudson', with a long, sweeping horizontal line extending to the right.

Mark B. Knudson, Ph.D.
President and Chief Executive Officer



NOTICE OF SPECIAL MEETING OF STOCKHOLDERS

Date and Time: Thursday, July 2, 2009 at 10:00 a.m., Central Time

Place: EnteroMedics Inc.
2800 Patton Road
St. Paul, MN 55113

- Item of Business:**
1. Amend Article IV, Section 1 of the Company's Fifth Amended and Restated Certificate of Incorporation to increase the number of shares of common stock authorized for issuance by 35 million shares from 50 million to 85 million.
 2. Such other matters as may properly come before the Special Meeting or any adjournment thereof.

Record Date: You may vote at the meeting if you were a stockholder of record at the close of business on May 15, 2009.

Voting by Proxy: If you cannot attend the special meeting in person, you may vote your shares by telephone or internet by no later than 12:00 p.m. Central Time on July 1, 2009 (as directed on the enclosed proxy card), or by completing, signing and promptly returning the enclosed proxy card by mail. We encourage you to vote by telephone or internet in order to reduce our mailing and handling expenses. If you choose to submit your proxy by mail, we have enclosed an envelope addressed to our transfer agent, Wells Fargo Shareowner Services, for which no postage is required if mailed in the United States.

By Order of the Board of Directors:

Greg S. Lea
Secretary

**PROXY STATEMENT
2009 SPECIAL MEETING OF STOCKHOLDERS
TO BE HELD ON JULY 2, 2009**

The Board of Directors of EnteroMedics Inc. (the "Company") is soliciting proxies for use at the special meeting of stockholders to be held on July 2, 2009, and at any adjournment of the meeting. This proxy statement and the enclosed proxy card are first being mailed or given to stockholders on or about June 1, 2009.

QUESTIONS AND ANSWERS ABOUT THE SPECIAL MEETING AND VOTING

What is the purpose of the meeting?

At our special meeting, stockholders will act upon the matters outlined in the Notice of Special Meeting of Stockholders, including an amendment to Article IV, Section 1 of the Company's Fifth Amended and Restated Certificate of Incorporation to increase the number of shares of common stock authorized for issuance by 35 million shares from 50 million to 85 million.

Who is entitled to vote at the meeting?

The Board has set May 15, 2009, as the record date for the special meeting. If you were a stockholder of record at the close of business on May 15, you are entitled to vote at the meeting.

As of the record date, 30,035,295 shares of our common stock were issued and outstanding and, therefore, eligible to vote at the meeting.

What are my voting rights?

Holders of our common stock are entitled to one vote per share. Therefore, a total of 30,035,295 votes are entitled to be cast at the meeting. There is no cumulative voting.

How many shares must be present to hold the meeting?

In accordance with our bylaws, shares equal to a majority of all of the shares of the outstanding common stock as of the record date must be present at the meeting in order to hold the meeting and conduct business. This is called a quorum. Your shares are counted as present at the meeting if:

- you are present and vote in person at the meeting; or
- you have properly submitted a proxy card by mail, telephone or internet.

How do I vote my shares?

If you are a stockholder of record as of the record date, you can give a proxy to be voted at the meeting in any of the following ways:

- over the telephone by calling a toll-free number;
- electronically, using the internet; or
- by completing, signing and mailing the enclosed proxy card.

The telephone and internet procedures have been set up for your convenience. We encourage you to save corporate expense by submitting your vote by telephone or internet. The procedures have been designed to authenticate your identity, to allow you to give voting instructions, and to confirm that those instructions have been recorded properly. If you are a stockholder of record and you would like to submit your proxy by telephone or internet, please refer to the specific instructions provided on the enclosed proxy card. If you wish to submit your proxy by mail, please return your signed proxy card to us before the special meeting.

If you hold your shares in “street name,” you must vote your shares in the manner prescribed by your broker or other nominee. Your broker or other nominee has enclosed or otherwise provided a voting instruction card for you to use in directing the broker or nominee how to vote your shares, and telephone and internet voting is also encouraged for stockholders who hold their shares in street name.

What is the difference between a stockholder of record and a “street name” holder?

If your shares are registered directly in your name, you are considered the stockholder of record with respect to those shares.

If your shares are held in a stock brokerage account or by a bank, trust or other nominee, then the broker, bank, trust or other nominee is considered to be the stockholder of record with respect to those shares. However, you still are considered the beneficial owner of those shares, and your shares are said to be held in “street name.” Street name holders generally cannot vote their shares directly and must instead instruct the broker, bank, trust or other nominee how to vote their shares using the method described above.

What does it mean if I receive more than one proxy card?

If you receive more than one proxy card, it means that you hold shares registered in more than one account. To ensure that all of your shares are voted, sign and return each proxy card or, if you submit your proxy vote by telephone or internet, vote once for each proxy card you receive.

Can I vote my shares in person at the meeting?

If you are a stockholder of record, you may vote your shares in person at the meeting by completing a ballot at the meeting. Even if you currently plan to attend the meeting, we recommend that you also submit your proxy as described above so that your vote will be counted if you later decide not to attend the meeting.

If you are a street name holder, you may vote your shares in person at the meeting only if you obtain a signed letter or other proxy from your broker, bank, trust or other nominee giving you the right to vote the shares at the meeting.

What vote is required for a proposal to be approved?

The amendment of the Certificate of Incorporation to increase the number of shares authorized for issuance and each other matter that may be acted upon at the meeting will be determined by the affirmative vote of the holders of a majority of the shares of our common stock present in person or by proxy at the meeting and entitled to vote.

How are votes counted?

You may vote “FOR,” “AGAINST” or “ABSTAIN” on the proposal to amend the Certificate of Incorporation.

If you submit your proxy but abstain from voting on the matter, your shares will be counted as present at the meeting for the purpose of determining a quorum. Your shares also will be counted as present at the meeting for the purpose of calculating the vote on the particular matter with respect to which you abstained from voting or withheld authority to vote.

If you abstain from voting on a proposal, your abstention has the same effect as a vote against that proposal.

If you hold your shares in street name and do not provide voting instructions to your broker or other nominee, your shares will be considered to be “broker non-votes” and will not be voted on any proposal on which your

broker or other nominee does not have discretionary authority to vote under the rules of the NASDAQ Stock Market. Shares that constitute broker non-votes will be counted as present at the meeting for the purpose of determining a quorum, but will not be considered entitled to vote on the proposal in question. Your broker does not have discretionary authority to vote your shares on the amendment of the Certificate of Incorporation.

How will the proxies vote on any other business brought up at the meeting?

By submitting your proxy card, you authorize the proxies to use their judgment to determine how to vote on any other matter brought before the meeting. We do not know of any other business to be considered at the meeting.

The proxies' authority to vote according to their judgment applies only to shares you own as the stockholder of record.

Who will count the vote?

Representatives of Wells Fargo Shareowner Services, our transfer agent, will tabulate votes and act as independent inspectors of election.

How does the Board recommend that I vote?

You will vote on management's proposal to Amend Article IV, Section 1 of the Company's Fifth Amended and Restated Certificate of Incorporation to increase the number of shares of common stock authorized for issuance by 35 million shares from 50 million to 85 million.

The Board of Directors recommends that you vote **FOR** the proposed amendment to Article IV, Section 1 of the Company's Fifth Amended and Restated Certificate of Incorporation.

What if I do not specify how I want my shares voted?

If you submit a signed proxy card or submit your proxy by telephone and do not specify how you want to vote your shares, we will vote your shares **FOR** the amendment to Article IV, Section 1 of the Company's Fifth Amended and Restated Certificate of Incorporation.

Can I change my vote after submitting my proxy?

Yes. You may revoke your proxy and change your vote at any time before your proxy is voted at the special meeting. If you are a stockholder of record, you may revoke your proxy and change your vote by submitting a later-dated proxy by telephone, internet or mail, or by voting in person at the meeting. To request an additional proxy card, or if you have any questions about the special meeting or how to vote or revoke your proxy, you should contact Wells Fargo Shareowner Services at 1-800-468-9716.

Where and when will I be able to find the results of the voting?

Preliminary results will be announced at the meeting. We will publish the final results in our quarterly report on Form 10-Q for the quarter ending September 30, 2009 to be filed with the Securities and Exchange Commission.

Who pays for the cost of proxy preparation and solicitation?

We pay for the cost of proxy preparation and solicitation, including the reasonable charges and expenses of brokerage firms, banks or other nominees for forwarding proxy materials to street name holders.

We are soliciting proxies primarily by mail. In addition, our directors, officers and regular employees may solicit proxies by telephone, facsimile or personally. These individuals will receive no additional compensation for their services other than their regular salaries.

How can I communicate with EnteroMedics' Board of Directors?

Stockholders may communicate with our Board of Directors by sending a letter addressed to the Board of Directors, all independent directors or specified individual directors to: EnteroMedics Inc., c/o Secretary, 2800 Patton Road, St. Paul, Minnesota 55113. All communications will be compiled by the Secretary and submitted to the Board or the specified directors on a periodic basis.

SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The following table shows the beneficial ownership of our common stock by each person or group who beneficially owned five percent or more of our common stock, each of our directors, each of the executive officers named in the Summary Compensation Table in this proxy statement and our directors and executive officers as a group, as of April 30, 2009. Percentage ownership calculations for beneficial ownership are based on 30,033,295 shares outstanding as of April 30, 2009. The information regarding the beneficial owners of more than 5% of our common stock is based upon information supplied by our directors, officers and principle stockholders or Schedules 13D or 13G filed with the Securities and Exchange Commission ("SEC"). Unless otherwise noted, the stockholders listed in the table have sole voting and investment power with respect to the shares of common stock owned by them and their address is c/o EnteroMedics Inc., 2800 Patton Road, St. Paul, Minnesota 55113.

<u>Name of Beneficial Owner</u>	<u>Amount and Nature of Beneficial Ownership⁽¹⁾</u>	<u>Percent of Class</u>
MPM Capital Funds ⁽³⁾⁽⁴⁾⁽¹²⁾ c/o MPM Asset Management The John Hancock Tower 200 Clarendon Street, 54 th Floor Boston, MA 02116	5,916,805	19.6%
Bay City Capital ⁽²⁾⁽³⁾⁽⁵⁾⁽¹²⁾ 750 Battery Street, Suite 400 San Francisco, CA 94111	4,485,532	14.9
Aberdare Ventures ⁽³⁾⁽⁶⁾⁽¹²⁾ One Embarcadero Center, Suite 4000 San Francisco, CA 94111	3,223,789	10.7
Jennison Health Sciences Fund ⁽⁷⁾⁽¹²⁾ 466 Lexington Avenue, 18 th Floor New York, NY 10017	2,959,049	9.9
T. Rowe Price ⁽⁸⁾⁽¹²⁾ 100 E. Pratt Street Baltimore, MD 21202	2,520,100	8.4
InterWest Partners ⁽⁹⁾⁽¹²⁾ 2710 Sand Hill Road, Second Floor Menlo Park, CA 94025	2,225,163	7.4
Mark B. Knudson, Ph.D. ⁽²⁾⁽³⁾⁽¹²⁾	605,784	2.0
Greg S. Lea ⁽²⁾⁽¹²⁾	123,226	*
Adrianus (Jos) Donders ⁽²⁾	202,153	*
Katherine S. Tweden, Ph.D. ⁽²⁾	92,243	*
Russ Felkey ⁽¹⁰⁾	—	*
Dennis D. Kim, M.D. ⁽¹¹⁾	—	*
Luke Evin, Ph.D. ⁽²⁾⁽³⁾⁽⁴⁾⁽¹²⁾	5,930,868	19.7
Catherine Friedman ⁽²⁾	44,166	*
Carl Goldfischer, M.D. ⁽²⁾⁽³⁾⁽⁵⁾⁽¹²⁾	4,499,595	14.9
Bobby I. Griffin ⁽²⁾⁽¹²⁾	457,143	1.5
Donald C. Harrison, M.D. ⁽²⁾⁽³⁾	761,433	2.5
Paul H. Klingenstein ⁽²⁾⁽³⁾⁽⁶⁾⁽¹²⁾	3,297,627	11.0
Nicholas L. Teti, Jr. ⁽²⁾	26,957	*
Jon T. Tremmel ⁽²⁾	20,854	*
All directors and executive officers as a group (12 persons)⁽¹³⁾	16,062,049	51.3

* The percentage of shares of common stock beneficially owned does not exceed one percent of the outstanding shares of common stock.

- (1) For purposes of this table, a person or group of persons is deemed to have “beneficial ownership” of any shares of common stock which that person has the right to acquire within 60 days following April 30, 2009. For purposes of computing the percentage of outstanding shares of common stock held by each person or group of persons named above, any shares which that person or persons has or have the right to acquire within 60 days following April 30, 2009, is deemed to be outstanding, but is not deemed to be outstanding for the purpose of computing the percentage ownership of any other person.
- (2) Includes the following shares subject to options exercisable currently or within 60 days of April 30, 2009: Dr. Knudson, 379,741 shares; Mr. Lea, 103,731 shares; Mr. Donders, 202,153 shares; Dr. Tweden, 85,925 shares; Dr. Evnin, 14,063 shares; Ms. Friedman, 32,166 shares; Dr. Goldfischer, 14,063 shares; Mr. Griffin, 127,388 shares; Dr. Harrison, 14,063 shares; Mr. Klingenstein, 14,063 shares; Mr. Teti, 26,957 shares; and Mr. Tremmel 8,854 shares. Dr. Goldfischer has assigned the shares underlying his options to Bay City Capital Fund IV upon the exercise of these options.
- (3) Includes warrants exercisable within 60 days of April 30, 2009 as follows: MPM Capital (see footnote (4)), 125,963 shares; Bay City Capital (see footnote (5)), 54,946 shares; Aberdare Ventures (see footnote (6)), 42,230 shares; Dr. Knudson, 3,044 shares; Dr. Evnin, 125,963 shares; Dr. Goldfischer, 54,946 shares; Dr. Harrison, 17,499 shares; and Mr. Klingenstein, 43,914 shares.
- (4) Consists of information supplied to us or filed with the SEC by MPM BioVentures III, L.P. (“BV III”), MPM BioVentures III-QP, L.P. (“BV III QP”), MPM BioVentures III Parallel Fund L.P. (“BV III PF”), MPM Bio Ventures 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”), MPM BioVentures III LLC (“BV III LLC”), and Luke Evnin, Ansbert Gadicke, Nicholas Galakatos, Michael Steinmetz, Kurt Wheeler, Nicholas Simon III, and Dennis Henner. BV III has the sole power to vote and sole power to dispose of 331,045 shares, BV III QP has the sole power to vote and sole power to dispose of 4,923,671 shares, BV III PF has the sole power to vote and sole power to dispose of 148,748 shares, BV III KG has the sole power to vote and sole power to dispose of 416,068 shares and AM LLC has the sole power to vote and sole power to dispose of 97,273 shares. BV III GP and BV III LLC each have shared power to vote and shared power to dispose of 5,819,532 shares. 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. Dr. Evnin and Messrs. Gadicke, Galakatos, Steinmetz, Wheeler, Simon and Henner each have shared power to vote and shared power to dispose of 5,916,805 shares. Dr. Evnin and Messrs. Gadicke, Galakatos, Steinmetz, Wheeler, Simon and Henner are each a member of BV III LLC and a manager of AM LLC, and each disclaims beneficial ownership of all such shares except to the extent of his proportionate pecuniary interests therein. Dr. Evnin is a member of our Board of Directors and has sole voting and dispositive power of 14,063 shares.
- (5) Consists of information supplied to us or filed with the SEC by Bay City Capital LLC (“BCC”) on behalf of Bay City Capital Fund IV, L.P. (“Fund IV”), Bay City Capital Fund IV Co-Investment Fund, L.P. (“Co-Investment IV”) and Bay City Capital Management IV LLC (“Management IV”), each of which has shared voting power and shared dispositive power of 4,485,532 shares. BCC is the manager of Management IV, which is the general partner of Fund IV and Co-Investment IV. BCC is also an advisor to Fund IV and Co-Investment IV. Carl Goldfischer, a Managing Director of BCC and a member of Management IV, is a member of our Board of Directors and has sole voting and dispositive power of 14,063 shares.
- (6) Consists of information supplied to us or filed with the SEC by Aberdare Ventures II, L.P. (“Aberdare II”), Aberdare Ventures II (Bermuda), L.P. (“Aberdare Bermuda”), Aberdare II Annex Fund, L.P. (“Aberdare II Annex”), Aberdare GP II, L.L.C. (“Aberdare GP II”) and Paul H. Klingenstein. Mr. Klingenstein serves as Manager of Aberdare GP II, which serves as the general partner of Aberdare II, which holds 1,472,681 shares, Aberdare II Bermuda, which holds 30,641 shares, and Aberdare II Annex, which holds 1,720,467 shares, and has voting and investment control of 3,223,789 shares owned, and may be deemed to own beneficially such shares. Mr. Klingenstein has sole voting and dispositive power of 73,838 shares. Mr. Klingenstein is a member of our Board of Directors.

- (7) Consists of information supplied to us by Jennison Associates LLC (“Jennison”). Jennison furnishes investment advice to several investment companies, insurance separate accounts, and institutional clients (“Managed Portfolios”). As a result of its role as investment adviser of the Managed Portfolios, Jennison may be deemed to be the beneficial owner of the shares held by such Managed Portfolios. Prudential Financial, Inc. (“Prudential”) indirectly owns 100% of equity interests of Jennison. As a result, Prudential may be deemed to have the power to exercise or to direct the exercise of such voting and/or dispositive power that Jennison may have with respect to the shares held by the Managed Portfolios. Jennison disclaims beneficial ownership of these shares.
- (8) Consists of information supplied to us or filed with the SEC by T. Rowe Price Associates, Inc. (“Price Associates”). These securities are owned by various individual and institutional investors including T. Rowe Health Sciences Fund, Inc. (which owns 2,000,000 shares, representing 6.7% of the shares outstanding), which Price Associates serves as investment adviser with power to direct investments and/or sole power to vote the securities. For purposes of the reporting requirements of the Securities Exchange Act of 1934, Price Associates is deemed to be a beneficial owner of such securities; however, Price Associates expressly disclaims that it is, in fact, the beneficial owner of such securities.
- (9) Consists of information supplied to us or filed with the SEC by InterWest Partners IX, L.P. (“IWP IX”), its General Partner, InterWest Management Partners IX, LLC (“IMP IX”), Harvey B. Cash, Philip T. Gianos, W. Stephen Holmes III, Gilbert H. Kliman, Arnold L. Oronsky, Thomas L. Rosch and Michael B. Sweeney (each a Managing Director of IMP IX) and Bruce A. Cleveland, Christopher B. Ehrlich, Linda S. Grais, Nina S. Kjellson, Khaled A. Nasr, and Douglas A. Pepper (each a Venture Member of IMP IX). Each of IWP IX and IMP IX has sole voting and sole dispositive power of 2,225,163 shares. Each of the Venture Members and Managing Directors shares voting power and dispositive power of 2,225,163 shares. The Venture Members and Managing Directors each expressly disclaim beneficial ownership of the shares, except to the extent of their pecuniary interest.
- (10) Russ Felkey was our Senior Vice President of Clinical, Quality and Regulatory Affairs until his resignation on April 18, 2008. To the best of our knowledge, Mr. Felkey does not beneficially own any of our common stock and all of his outstanding options to acquire our common stock have been cancelled pursuant to their terms.
- (11) Dennis D. Kim, M.D. was our Vice President, Medical Affairs and Chief Medical Officer until his resignation on September 19, 2008. To the best of our knowledge, Dr. Kim does not beneficially own any of our common stock and all of his outstanding options to acquire our common stock have been cancelled pursuant to their terms.
- (12) Excludes warrants issued February 24, 2009, upon the closing of a private placement transaction, that are exercisable at any time and from time to time beginning on the date that is six months and one day after the closing of the private placement and ending four years after the closing of the private placement as follows: MPM Capital, 882,750 shares; Bay City Capital, 824,742 shares; Aberdare Ventures, 618,557 shares; Jennison, 1,360,825 shares; T. Rowe Price, 1,260,050 shares; InterWest Partners, 339,201 shares; Dr. Knudson, 32,990 shares; Mr. Lea, 8,247 shares; Dr. Evnin, 882,750 shares; Dr. Goldfischer, 824,742 shares; Mr. Griffin, 103,093 shares; and Mr. Klingenstein, 618,557 shares.
- (13) Includes 1,268,533 shares of common stock issuable upon exercise of options and warrants currently exercisable or exercisable within 60 days of April 30, 2009, inclusive of the options and warrants exercisable as described in footnotes (2) and (3), respectively. Excludes 2,470,379 shares of common stock issuable upon the exercise of warrants issued February 24, 2009, upon the closing of a private placement transaction, that are exercisable at any time and from time to time beginning on the date that is six months and one day after the closing of the private placement and ending four years after the closing of the private placement, inclusive of the warrants exercisable as described in footnote (12).

PROPOSAL 1—AMENDMENT TO FIFTH AMENDED AND RESTATED CERTIFICATE OF INCORPORATION TO INCREASE AUTHORIZED SHARES OF COMMON STOCK

After careful consideration, the Board of EnteroMedics has unanimously determined that it would be in the best interests of the Company and our stockholders to amend our Fifth Amended and Restated Certificate of Incorporation to increase the number of authorized shares of common stock, par value \$0.01 per share, by 35 million shares as described below. The Board is now asking you to approve this amendment to the Fifth Amended and Restated Certificate of Incorporation.

The Board has determined that Section 1 of Article IV of the Company's Amended and Restated Certificate of Incorporation should be amended to increase the number of authorized shares of common stock from 50 million to 85 million, and the total number of shares of stock which the Company has the authority to issue from 55 million to 90 million.

As of May 7, 2009, there were 30,033,295 shares of common stock outstanding and 6,625,447 shares reserved for future issuance pursuant to the Company's 2003 Stock Incentive Plan. Additionally, there were 9,236,046 shares issuable upon exercise of warrants issued and outstanding. As of May 7, 2009, there were 4,105,212 shares of unissued and unreserved common stock available for issuance.

The additional shares of common stock for which authorization is sought would be a part of the existing class of common stock and, if and when issued, would have the same rights and privileges as the shares of common stock presently outstanding. Such additional shares would not (and the shares of common stock presently outstanding do not) entitle the holders thereof to preemptive or cumulative voting rights.

Effects of the Amendment

On May 6, 2009, the Board voted to approve, and to recommend that you approve at the Special Meeting of Stockholders, this Proposal 1.

Approval of this Proposal 1 will cause Section 1 of Article IV of our Amended and Restated Certificate of Incorporation to be amended and restated in its entirety, as follows (the "Authorized Share Amendment"):

Article IV

1. Authorized Stock. The Corporation is authorized to issue two classes of shares to be designated respectively Preferred Stock, par value \$0.01 per share, and Common Stock, par value \$0.01 per share. The total number of shares of Preferred Stock authorized is 5,000,000. The total number of shares of Common Stock authorized is 85,000,000.

Reason for the Amendment

The Company has utilized nearly all of its authorized shares of common stock. Additional authorized but unissued shares of common stock will enable the Company to take timely advantage of market conditions and the availability of favorable financing and acquisition opportunities without the delay and expense associated with convening a special stockholders' meeting (unless otherwise required by the rules of any stock exchange on which the Company's common stock may then be listed). The shares of common stock could be used for issuing stock dividends (including stock splits issued in the form of stock dividends), the grant of stock options or other equity-based compensation under the 2003 Stock Incentive Plan, acquisition by the Company of businesses or properties, equity financing and other general corporate purposes. The Company has no present plans, commitment or understandings in place with regard to the use of such shares but may in the future develop such plans.

Effect of the Proposal

The Authorized Shares Amendment will permit our Board of Directors to authorize the issuance of shares without the necessity and related costs and delays of either calling a special stockholders' meeting or waiting for an annual meeting of stockholders in order to increase the authorized capital.

Unless required by law or by the rules of any stock exchange on which the Company's common stock may in the future be listed, no further vote by the stockholders will be sought for any issuance of shares of common stock. Under existing NASDAQ regulations approval by a majority of the holders of common stock is required prior to the issuance of securities in connection with a transaction other than a public offering involving: (1) the sale, issuance or potential issuance by the Company of common stock at a price less than the greater of book or market value which together with sales by officers, directors or beneficial owners of more than 5% of the common stock of the Company equals 20% or more of common stock or 20% or more of the voting power outstanding before the issuance; or (2) the sale, issuance or potential issuance by the Company of common stock (or securities convertible into or exercisable common stock) equal to 20% or more of the common stock or 20% or more of the voting power outstanding before the issuance for less than the greater of book or market value of the stock.

Possible Anti-Takeover Implications of the Amendment

SEC rules require disclosure and discussion of the effects of any stockholder proposal that may be used as an anti-takeover device. The Company has no intent or plan to employ the additional unissued authorized shares as an anti-takeover device. As indicated above, the purpose of the increase in the authorized common stock is to ensure that we have sufficient authorized common stock to, among other things, take timely advantage of market conditions and the availability of favorable financing and acquisition opportunities without the delay and expense associated with convening a special stockholders' meeting (unless otherwise required by the rules of any stock exchange on which the Company's common stock may then be listed). Furthermore, the Company does not have any intent to adopt any other provisions or enter into any other arrangements that may have material anti-takeover consequences. However, the Company's authorized but unissued common shares could (within the limits imposed by applicable law, regulation and NASDAQ rules) be issued in one or more transactions that could make a change of control more difficult and therefore more unlikely.

Our Board of Directors did not propose the Authorized Share Amendment or any of the other amendments to our articles of incorporation in response to any effort known to our Board of Directors to accumulate common stock or to obtain control of the Company by means of a merger, tender offer or solicitation in opposition to management. Further, our Board of Directors does not currently contemplate recommending the adoption of any other amendments to our certificate of incorporation that could be construed as limiting the ability of third parties to take over or effect a change of control.

Other Provisions that may affect the Acquisition of Control of the Company

SEC rules also require that we discuss other provisions of our Fifth Amended and Restated Certificate of Incorporation and Bylaws that could make the acquisition of control of the Company or the removal of our existing management more difficult, which include the following:

- the Company does not provide for cumulative voting for directors;
- the Company has a classified Board with each class serving a staggered three-year term;
- our Board fixes the size of the Board within certain limits, may create new directorships and may appoint new directors to serve for the full term. The Board (or its remaining members, even though less than a quorum) also may fill vacancies on the Board occurring for any reason for the remainder of the term;
- our Board may issue preferred stock without any vote or further action by the stockholders;

- special meetings of stockholders may be called only by our chairman or Board, and not by our stockholders;
- our Board may adopt, amend, alter or repeal the Bylaws without a vote of the stockholders;
- all stockholder actions must be taken at a regular or special meeting of the stockholders and cannot be taken by written consent without a meeting; and
- the Company has advance notice procedures with respect to stockholder proposals and the nomination of candidates for election as directors, which generally require that stockholder proposals and nominations be provided to us between 90 and 120 days before the anniversary of our last annual meeting in order to be properly brought before a stockholder meeting.

These provisions are expected to discourage coercive takeover practices and inadequate takeover bids and to encourage persons seeking to acquire control of EnteroMedics to first negotiate with our Board.

Effective Date

Delaware law and the Company's Certificate of Incorporation require approval of this amendment. If the amendment is approved by a majority of the outstanding shares entitled to vote thereon, the Company will amend Section 1 of Article IV to increase the number of authorized common stock and to increase the total authorized number of shares as described above. The Authorized Shares Amendment will become effective upon the filing of the Authorized Shares Amendment with the Delaware Secretary of State. We plan to file an amendment to our Certificate of Incorporation with the Delaware Secretary of State, to be effective as soon as practicable following the special meeting. The only changes in the Company's existing Certificate of Incorporation would be those numeric changes required to reflect the increase of the number of authorized common shares and to increase the total number of authorized shares.

Vote Required

The affirmative vote of holders of a majority of the shares of common stock entitled to vote at the meeting will be required to approve the amendment to the Certificate of Incorporation to increase the number of authorized shares of the Company's common stock.

No Dissenters' Rights

Our stockholders are not entitled to dissenters' rights in connection with the increase in the number of authorized shares. Furthermore, we do not intend to independently provide our stockholders with any such rights.

Board Recommendation

The Board recommends to the stockholders that they vote **FOR** this Proposal 1. The vote required to amend the Amended and Restated Certificate of Incorporation to increase the number of authorized shares of common stock is a majority of the voting power of the common stock outstanding and entitled to vote at the 2009 Special Meeting of Stockholders, voting together as a single class.

INTERESTS OF CERTAIN PERSONS IN THE PROPOSALS

No director, executive officer, associate of any director or executive officer or any other person has any substantial interest, direct or indirect, by security holdings or otherwise, in the proposal to amend our Certificate of Incorporation to increase our authorized common stock that is not shared by all other holders of our capital stock.

PRINCIPAL ACCOUNTANT

Deloitte & Touche LLP, the Company's principal accountant, will not be in attendance at the 2009 Special Meeting of Stockholders.

AVAILABLE INFORMATION

We are subject to the periodic reporting requirements of the Securities Exchange Act of 1934, as amended, and, in accordance therewith, file reports and other information with the SEC. Such reports and other information may be inspected and copied at the public reference facilities maintained by the SEC at 100 F Street, N.E., Washington, D.C. 20549, at prescribed rates. Please call the SEC at (202) 942-8090 for further information. Copies of such materials may also be accessed electronically by means of the SEC's home page on the Internet at "<http://www.sec.gov>."

STOCKHOLDER PROPOSALS FOR 2010 ANNUAL MEETING

In order for a stockholder proposal to be considered for inclusion in our proxy statement for the 2010 annual meeting, the written proposal must be received at our principal executive offices at 2800 Patton Road, St. Paul, Minnesota 55113, Attention: Secretary, on or before December 7, 2009. The proposal must comply with SEC regulations regarding the inclusion of stockholder proposals in company-sponsored proxy materials.

Our bylaws provide that a stockholder may present from the floor a proposal that is not included in the proxy statement if proper written notice is received by the Secretary of EnteroMedics at our principal executive offices in St. Paul, Minnesota, no less than 90 days and no more than 120 days prior to the anniversary date of the last annual meeting. For the 2010 annual meeting, director nominations and stockholder proposals must be received on or after January 6, 2010 and on or before February 5, 2010. The proposal must contain the specific information required by our bylaws. In the event that the 2010 annual meeting is called for a date that is not within 30 days of the anniversary date of the 2009 annual meeting, stockholder proposals must be received in accordance with the timeline set forth in our bylaws. You may request a copy of our bylaws by contacting our Secretary, EnteroMedics Inc., 2800 Patton Road, St. Paul, Minnesota 55113, telephone (651) 634-3003. Stockholder proposals that are received by us after February 5, 2010, may not be presented in any manner at the 2010 annual meeting.

ANNUAL REPORT TO STOCKHOLDERS AND FORM 10-K

Our Annual Report on Form 10-K for the fiscal year ended December 31, 2008, including consolidated financial statements for the year ended December 31, 2008, accompanies, or has been mailed to you immediately prior to, this proxy statement. Our Form 10-K is available to you, without charge, upon written request to Secretary, EnteroMedics Inc., 2800 Patton Road, St. Paul, Minnesota 55113, and is also available on our website at www.enteromedics.com. If requested, we will provide you copies of any exhibits to the Form 10-K upon the payment of a fee covering our reasonable expenses in furnishing the exhibits. You can request exhibits to the Form 10-K by writing to Secretary, EnteroMedics Inc., 2800 Patton Road, St. Paul, Minnesota 55113.

"HOUSEHOLDING" OF PROXY MATERIALS

The SEC has adopted rules that permit companies and intermediaries such as brokers to satisfy delivery requirements for proxy statements and annual reports with respect to two or more stockholders sharing the same address by delivering a single proxy statement or annual report, as applicable, addressed to those stockholders.

This process, which is commonly referred to as "householding," potentially provides extra convenience for stockholders and cost savings for companies. Although we do not household for our registered stockholders, some brokers household EnteroMedics proxy materials and annual reports, delivering a single proxy statement and annual report to multiple stockholders sharing an address unless contrary instructions have been received from the affected stockholders. Once you have received notice from your broker that they will be householding materials to your address, householding will continue until you are notified otherwise or until you revoke your consent. If, at any time, you no longer wish to participate in householding and would prefer to receive a separate proxy statement or annual report, or if you are receiving multiple copies of either document and wish to receive only one, please notify your broker. We will deliver promptly upon written or oral request a separate copy of our annual report and/or proxy statement to a stockholder at a shared address to which a single copy of either document was delivered. For copies of either or both documents, stockholders should write to Secretary, EnteroMedics Inc., 2800 Patton Road, St. Paul, Minnesota 55113, or call (651) 634-3003.

IMPORTANT NOTICE REGARDING THE AVAILABILITY OF PROXY MATERIALS FOR THE SPECIAL STOCKHOLDER MEETING TO BE HELD ON JULY 2, 2009

This proxy statement and the Annual Report on Form 10-K for the fiscal year ended December 31, 2008 are available at <http://www.enteromedics.com>.

OTHER MATTERS

We do not know of any other matters that may be presented for consideration at the special meeting. If any other business does properly come before the special meeting, the persons named as proxies on the enclosed proxy card will vote as they deem in the best interests of EnteroMedics.



Greg S. Lea
Secretary

Dated: June 1, 2009

LOCATION OF ENTEROMEDICS SPECIAL MEETING OF STOCKHOLDERS

Thursday, July 2, 2009 at 10:00 a.m. Central Time

EnteroMedics Inc.
2800 Patton Road
St. Paul, MN 55113
(651) 634-3003



Directions To: EnteroMedics Inc., 2800 Patton Road, St. Paul, MN 55113 (651) 634-3003

From Minneapolis/St. Paul Airport/South

Merge onto MN-5 toward MN-55/St.Paul/Minneapolis. Merge onto MN-55W toward MN-62/Minneapolis. Follow MN-62 West. Merge onto I-35W N. Stay on I-35W N for approximately 7 miles. Take the Cleveland Avenue/ County C Exit, Exit 24. Take the Westbound ramp. Continue West on County Road C through two stoplights (Long Lake Road and Walnut Street). We are the first right turn (Patton Road) after Walnut Street and are located in the building at end of the cul-de-sac.

From the North

Follow I-35W South to the County Road C Exit, Exit 24. Continue west on County Road C through two stoplights (Long Lake Road and Walnut Street). We are the first right turn (Patton Road) after Walnut Street and are located in the building at end of the cul-de-sac.

From the East

Follow I-94E to I-35E North. Merge onto MN-36W via Exit 111B toward Minneapolis. Merge onto I-35W N toward Cleveland Avenue. Take the Cleveland Avenue/County C Exit, Exit 24. Take the Westbound ramp. Continue West on County Road C through two stoplights (Long Lake Road and Walnut Street). We are the first right turn (Patton Road) after Walnut Street and are located in the building at end of the cul-de-sac.

From the West

Follow I-394 East/US-12 toward Minneapolis. Merge onto I-94 East/US 12 E/US-52 S via Exit 8B. Merge onto I-35W N via exit 233C on the left. Take the Cleveland Avenue/ county C Exit, Exit 24. Take the Westbound ramp. Continue West on County Road C through two stoplights (Long Lake Road and Walnut Street). We are the first right turn (Patton Road) after Walnut Street and are located in the building at end of the cul-de-sac.

EnteroMedics Inc.

SPECIAL MEETING OF STOCKHOLDERS

Thursday, July 2, 2009

10:00 a.m., Central Time

**EnteroMedics Inc.
2800 Patton Road
St. Paul, MN 55113**



**EnteroMedics Inc.
2800 Patton Road
St. Paul, Minnesota 55113**

proxy

This proxy is solicited by the Board of Directors for use at the Special Meeting on July 2, 2009.

The shares of stock you hold in your account will be voted as you specify on the reverse side.

If no choice is specified, the proxy will be voted "FOR" Item 1.

By signing the proxy, you revoke all prior proxies and appoint Mark B. Knudson, Ph.D. and Greg S. Lea, and each of them, with full power of substitution, to vote your shares on the matters shown on the reverse side and any other matters which may come before the Special Meeting and all adjournments.

See reverse for voting instructions.

COMPANY #

There are three ways to vote your Proxy

Your telephone or internet vote authorizes the Named Proxies to vote your shares in the same manner as if you marked, signed and returned your proxy card.

VOTE BY PHONE — TOLL FREE — 1-800-560-1965 — QUICK EASY IMMEDIATE

- Use any touch-tone telephone to vote your proxy 24 hours a day, 7 days a week, until 12:00 p.m. (CT) on July 1, 2009.
- Please have your proxy card and the last four digits of your Social Security Number or taxpayer identification number available. Follow the simple instructions the voice provides you.

VOTE BY INTERNET — <http://www.eproxy.com/etrm/> — QUICK EASY IMMEDIATE

- Use the Internet to vote your proxy 24 hours a day, 7 days a week until 12:00 p.m. (CT) on July 1, 2009.
- Please have your proxy card and the last four digits of your Social Security Number or taxpayer identification number available. Follow the simple instructions to obtain your records and create an electronic ballot.

VOTE BY MAIL

Mark, sign and date your proxy card and return it in the postage-paid envelope we've provided or return it to **EnteroMedics Inc.**, c/o Shareowner ServicesSM, P.O. Box 64873, St. Paul, MN 55164-0873.

If you vote by Phone or Internet, please do not mail your Proxy Card.

The Board of Directors Recommends a Vote FOR Item 1.

1. Amendment to the Fifth Amended and Restated Certificate of Incorporation to increase the shares of common stock authorized for issuance by 35 million shares from 50 million to 85 million. Vote FOR Vote AGAINST ABSTAIN
2. To transact such other business as may properly be considered at the meeting or any adjournment of the meeting.

THIS PROXY WHEN PROPERLY EXECUTED WILL BE VOTED AS DIRECTED OR, IF NO DIRECTION IS GIVEN, WILL BE VOTED FOR EACH PROPOSAL.

Address Change? Mark Box Indicate changes below: Date _____

Signature(s) in Box
Please sign exactly as your name(s) appear on the Proxy. If held in joint tenancy, all persons must sign. Trustees, administrators, etc., should include title and authority. Corporations should provide full name of corporation and title of authorized officer signing the proxy.

ò Please detach here ò