

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

SCHEDULE 13G

**Under the Securities Exchange Act of 1934
(Amendment No. 1)**

ENTEROMEDICS INC

(Name of Issuer)

COM NEW

(Title of Class of Securities)

29365M208

(CUSIP Number)

January 31, 2014

(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

Rule 13d-1(b)

Rule 13d-1(c)

Rule 13d-1(d)

The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

The information required in the remainder of this cover page shall not be deemed to be 'filed' for the purpose of Section 18 of the Securities Exchange Act of 1934 ('Act') or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

CUSIP No. 29365M208

Person 1

1. (a) Names of Reporting Persons.
Wells Fargo & Company
(b) Tax ID
41-0449260
-

2. Check the Appropriate Box if a Member of a Group (See Instructions)
(a)
(b)
-

3. SEC Use Only

4. Citizenship or Place of Organization Delaware

5. Sole Voting Power 32,328

Number of
Shares
Beneficially
Owned by
Each
Reporting
Person With

6. Shared Voting Power 2,913,542

7. Sole Dispositive Power 32,328

8. Shared Dispositive Power 2,915,238

9. Aggregate Amount Beneficially Owned by Each Reporting Person 2,947,566

10. Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions)

11. Percent of Class Represented by Amount in Row (9) 4.86 %

12. Type of Reporting Person (See Instructions)

HC

Item 1.

- (a) Name of Issuer
ENTEROMEDICS INC
- (b) Address of Issuer's Principal Executive Offices
2800 Patton Rd, St Paul, MN 55113

Item 2.

- (a) Name of Person Filing
Wells Fargo & Company
- (b) Address of Principal Business Office or, if none, Residence
420 Montgomery Street, San Francisco, CA 94104
- (c) Citizenship
Delaware
- (d) Title of Class of Securities
COM NEW
- (e) CUSIP Number
29365M208

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

- (a) Broker or dealer registered under section 15 of the Act (15 U.S.C. 78c)
- (b) Bank as defined in section 3(a)(6) of the Act (15 U.S.C. 78c).
- (c) Insurance company as defined in section 3(a)(19) of the Act (15 U.S.C. 78c).
- (d) Investment company registered under section 8 of the Investment Company Act of 1940 (15 U.S.C 80a-8).
- (e) An investment adviser in accordance with 240.13d-1(b)(1)(ii)(E);
- (f) An employee benefit plan or endowment fund in accordance with 240.13d-1(b)(1)(ii)(F);

- (g) A parent holding company or control person in accordance with 240.13d-1(b)(1)(ii)(G);
- (h) A savings associations as defined in Section 3(b) of the Federal Deposit Insurance Act (12 U.S.C. 1813);
- (i) A church plan that is excluded from the definition of an investment company under section 3(c)(14) of the Investment Company Act of 1940 (15 U.S.C. 80a-3);
- (j) A non-U.S.institution in accordance with 240.13d-1(b)(1)(ii)(J);
- (k) Group, in accordance with 240.13d-1(b)(1)(ii)(K).

If filing as a non-U.S.institution in accordance with 240.13d-1(b)(1)(ii)(J), please specify the type of institution: _____

Item 4. Ownership.

Provide the following information regarding the aggregate number and percentage of the class of securities of the issuer identified in Item 1.

- (a) Amount beneficially owned: 2,947,566
- (b) Percent of class: 4.86%
- (c) Number of shares as to which the person has:
 - (i) Sole power to vote or to direct the vote 32,328
 - (ii) Shared power to vote or to direct the vote 2,913,542
 - (iii) Sole power to dispose or to direct the disposition of 32,328
 - (iv) Shared power to dispose or to direct the disposition of 2,915,238

Item 5. Ownership of Five Percent or Less of a Class

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

Item 6. Ownership of More than Five Percent on Behalf of Another Person.

Not

applicable

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on By the Parent Holding Company or Control Person.

See Exhibit B

Item 8. Identification and Classification of Members of the Group

Not applicable.

Item 9. Notice of Dissolution of Group

Not applicable.

Item 10. Certification

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were acquired and are held in the ordinary course of business and were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

February 10, 2014

Date

/s/ Jane E. Washington

Signature

Jane E. Washington, VP Trust Operations

Name/Title

Exhibit A

EXPLANATORY NOTE

This Schedule 13G is filed by Wells Fargo & Company on its own behalf and on behalf of any subsidiaries listed in Exhibit B. Aggregate beneficial ownership reported by Wells Fargo & Company under Item 9 on page 2 is on a consolidated basis and includes any beneficial ownership separately reported herein by a subsidiary.

Exhibit B

The Schedule 13G to which this attachment is appended is filed by Wells Fargo & Company on behalf of the following subsidiaries:

Wells Fargo Securities, LLC (1)

Wells Fargo Funds Management, LLC (2)

Wells Capital Management Incorporated (2)

(1) Classified as a broker dealer in accordance with Regulation 13d-1(b)(1)(ii)(A).

(2) Classified as a registered investment advisor in accordance with Regulation 13d-1(b)(1)(ii)(E).

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