



DIVISION OF
CORPORATION FINANCE
Mail Stop 3030

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

April 20, 2010

Greg S. Lea
Chief Financial Officer and Secretary
2800 Patton Road
St. Paul, Minnesota 55113

Re: EnteroMedics, Inc.
Registration Statement on Form S-3
Filed April 12, 2010
File No. 333-166011

Dear Mr. Lea:

We have limited our review of your filing to those issues we have addressed in our comments. Where indicated, we think you should revise your document in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Fee Table

1. We note from your fee table that you appear to be registering the offering of depositary shares. From your disclosure regarding your capital stock beginning on page 26, it does not appear, however, that you are or will be authorized to issue "depositary shares" under your certificate of incorporation. Further, from your disclosure under "Description of Depositary Shares" beginning on page 32, it appears that the depositary will be the issuer of the depositary shares. Please provide us with your analysis as to why the depositary should not be identified as the issuer/registrant of the depositary shares in your current registration statement,

or in another appropriate registration statement, which registers the offering of the depositary shares. In addition, we note from your disclosure under “Legal Matters” on page 53 that you currently intend EnteroMedic’s counsel to opine as to the validity of the depositary shares. In this regard, please provide us with your analysis as to how your counsel will be able to opine as to the validity of securities you are not authorized to issue.

Prospectus Cover

2. We note the statement that you “have not offered any securities pursuant to General Instruction I.B.6 of Form S-3 during the 12 calendar months” prior to date of this document. Please tell us how that statement accounts for the prospectus supplements you filed on October 6, 2009 and January 19, 2010.

Exhibit 5.1

3. Please ask your counsel to confirm to us in writing that it concurs with our understanding that the reference and limitation to the “Delaware General Corporation Law” includes the all statutory provisions of Delaware corporate law and also all reported judicial decisions interpreting these laws. Please ask your counsel to provide this written confirmation as correspondence on the EDGAR system.

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As appropriate, please amend your registration statement in response to these comments. You may wish to provide us with marked copies of the amendment to expedite our review. Please furnish a cover letter with your amendment that keys your responses to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendment and responses to our comments.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes all information required under the Securities Act of 1933 and that they have provided all information investors require for an informed investment decision. Since the company and its management are in possession of all facts relating to a company’s disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

Notwithstanding our comments, in the event the company requests acceleration of the effective date of the pending registration statement, it should furnish a letter, at the time of such request, acknowledging that:

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the company from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the company may not assert staff comments and the declaration of effectiveness as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in connection with our review of your filing or in response to our comments on your filing.

We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. We will act on the request and, pursuant to delegated authority, grant acceleration of the effective date.

We direct your attention to Rules 460 and 461 regarding requesting acceleration of a registration statement. Please allow adequate time after the filing of any amendment for further review before submitting a request for acceleration. Please provide this request at least two business days in advance of the requested effective date.

Please contact Geoffrey Kruczek at (202) 551-3641 or me at (202) 551-3635 with any questions.

Sincerely,

Tim Buchmiller
Senior Attorney

cc (via fax): Kenneth L. Cutler—Dorsey & Whitney LLP
Michael W. Clausman—Dorsey & Whitney LLP