

Mail Stop 6010

September 8, 2008

VIA U.S. MAIL AND FAX (651) 634-3212

Mr. Greg S. Lea
Senior Vice President and Chief Financial Officer
Enteromedics Inc.
2800 Patton Road
St. Paul, Minnesota 55113

**Re: Enteromedics, Inc.
Form 10-K for the year ended December 31, 2007
Filed March 13, 2008
File No. 001-33818**

Dear Mr. Lea:

We have reviewed your filings and have the following comments. We have limited our review to only your financial statements and related disclosures and do not intend to expand our review to other portions of your documents. Where indicated, we think you should revise future filings 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.

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Form 10-K for the Year Ended December 31, 2007

Financial Statements,

Report of Independent Registered Public Accounting Firm, page 55

1. It does not appear that your auditors audited the cumulative activity from the date of inception (December 19, 2002) through December 31, 2007. An auditors association with the cumulative data is required on an annual basis as long as you are in the development stage. Revise to include an auditors report clearly identifying this period as audited or discuss why you believe no audit is necessary.

Note (13) Commitments and Contingencies, page 83

2. We note that you entered into a second research and development agreement with the Mayo Foundation in December 2007 under which you “may be obligated to pay the Mayo Foundation, contingent upon the occurrence of certain future events as defined by the agreement, consideration with respect to licensed know-how regarding product development and testing of products and rights to licensed patents, where the Mayo Foundation provided know-how as defined by the agreement.” Please tell us if the consideration you may have to pay is material. If so, revise future filings to disclose a range that you may be required to pay under the agreement. Further, please describe the “certain future events” that would trigger payment. Finally, please revise future filings to discuss this agreement in greater detail and its potential impact on your results of operations and financial position.

Form 10-Q for the three and six months ended June 30, 2008

Financial Statement, page 3

Consolidated Statements of Cash Flows, page 5

3. We see that nonemployee stock based compensation is \$(78,140). Please tell us why this amount is negative for the six months ended June 30, 2008. We note your discussion in MD&A that non-employee stock compensation charges decreased due to a drop in the fair value of your common stock compared to prior periods. Please explain.

Note (1) Summary of Significant Accounting Policies, page 6

Recently Issued Accounting Standards, page 7

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4. We note that all of your available for sale securities were measured based on level 2 inputs. Please tell us more about the inputs used, including how you obtain these inputs, what they represent and how you are able to corroborate these prices.

As appropriate, please respond to these comments within 10 business days or tell us when you will provide us with a response. Please furnish a cover letter 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 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 Exchange Act of 1934 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.

In connection with responding to our comments, please provide, in writing, a statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments 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 our review of your filing or in response to our comments on your filing.

You may contact Julie Sherman, Staff Accountant, at (202) 551-3640 or me at (202) 551-3554 if you have any questions regarding these comments. In this regard, do not hesitate to contact Martin James, Senior Assistant Chief Accountant, at (202) 551-3671.

Sincerely,

Angela Crane
Accounting Branch Chief

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