

Mail Stop 6010

February 6, 2006

Michael T. Sember
President and Chief Executive Officer
DOR BioPharma, Inc.
1691 Michigan Ave.
Miami, Florida 33139

**Re: DOR BioPharma, Inc.
Form S-1 Registration Statement
File No. 333-131166**

Dear Mr. Sember:

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.

Comments Applicable to the Entire Document

1. You have incorporated a number of small business documents by reference into this Form S-1 registration statement. Information incorporated by reference into a Form S-1 must satisfy the disclosure requirements of Regulation S-K and Regulation S-X, rather than those of Regulation S-B. Please revise your registration statement to include all of the information specified by Regulations S-K and S-X.

Michael T. Sember
Dor BioPharma, Inc.
February 6, 2006
Page 2

2. We note that you entered into a letter of intent to acquire Gastrotech Pharma A/S on October 28, 2005. It appears, based on the information provided, that this probable acquisition would qualify as a “significant” business under Regulation S-X 210.3-05. As a result, please provide the required financial statements. Additionally, please provide the related pro forma financial statements required under Article 11 of Regulation S-X.

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.

Michael T. Sember
Dor BioPharma, Inc.
February 6, 2006
Page 3

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.

You may contact Amy Bruckner at (202) 551-3657 or Mary Mast at (202) 551-3613 if you have questions regarding comments on the financial statements and related matters. Please contact Mary K. Fraser at (202) 551-3609 or me at (202) 551-3710 with any other questions.

Sincerely,

Jeffrey Riedler
Assistant Director

Cc: Leslie J. Croland, Esq.
Edwards Angell Palmer & Dodge LLP
350 East Las Olas Blvd – Suite 1150
Fort Lauderdale, Florida 33334-3607