



DIVISION OF  
CORPORATION FINANCE

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

September 28, 2011

Via E-mail

Mr. Harry S. Palmin  
President and Chief Executive Officer  
Novelos Therapeutics, Inc.  
One Gateway Center, Suite 504  
Newton, MA 02458

**Re: Novelos Therapeutics, Inc.  
Amendment No. 2 to Registration Statement on Form S-1/A  
Filed September 14, 2011  
File No. 333-175284**

Dear Mr. Palmin:

We have reviewed your amended registration statement and response letter filed September 14, 2011 and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter by amending your registration statement and providing the requested information. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your registration statement and the information you provide in response to these comments, we may have additional comments.

Amendment No. 2 to Registration Statement on Form S-1/A

Critical Accounting Policies  
Stock-based Compensation, page 26

1. We may have additional comments on your accounting for stock compensation and related disclosure once you have disclosed an estimated offering price. At that time, please provide quantitative and qualitative disclosures explaining the difference between the estimated offering price and the fair value of each equity issuance.

Business

Business of Novelos, page 27

2. Your disclosure on page 28 indicates that the IND for LIGHT is held by Dr. Anne Traynor at the University of Wisconsin, who both initiates and conducts the investigation and under whose immediate direction the investigational drug is administered. Please provide us supplemental documentation supporting:

- The filing of the IND by Dr. Traynor, and
- Anything received from the FDA regarding the initial filing of the IND and its current status.

We may have additional comments after we review the documentation you provide us.

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 the information the Securities Act of 1933 and all applicable Securities Act rules require. 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 you request acceleration of the effective date of the pending registration statement please provide a written statement from the company 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.

Please refer to Rules 460 and 461 regarding requests for acceleration. 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. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

Mr. Harry S. Palmin  
Novelos Therapeutics, Inc.  
September 28, 2011  
Page 3

You may contact Frank Wyman at (202) 551-3660 or Melissa Rocha at (202) 551-3854 if you have questions regarding comments on the financial statements and related matters. Please contact Rose Zukin at (202) 551-3239 or me at (202) 551-3710 with any other questions.

Sincerely,

/s/ Jeffrey P. Riedler

Jeffrey P. Riedler  
Assistant Director

cc: Paul Bork, Esq.  
Foley Hoag LLP  
155 Seaport Boulevard  
Boston, Massachusetts 02210