



DIVISION OF  
CORPORATION FINANCE

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

April 26, 2011

Via Facsimile and U.S. Mail

Mr. Robert P. Jordheim  
Chief Financial Officer  
RTI Biologics, Inc.  
11621 Research Circle  
Alachua, Florida 32615

**Re: RTI Biologics, Inc.**  
**Form 10-K for the Year Ended December 31, 2010**  
**Filed February 22, 2011**  
**File No. 000-31271**

Dear Mr. Jordheim:

We have reviewed your response letter dated April 12, 2011 and have the following comment. In our comment, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within ten business days by providing the requested information or by advising us when you will provide the requested response. If you do not believe our comment applies to your facts and circumstances, please tell us why in your response.

After reviewing the information you provide in response to this comment, we may have additional comments.

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Form 10-K for the Year Ended December 31, 2010

Index to Consolidated Financial Statements, page 43

Note 2. Summary of Significant Accounting Policies, page 50

-Revenue Recognition, page 51

1. We note your response to prior comment 1. Please revise your future filings to include a disclosure similar to the one provided in your response to explain in more detail why you are deferring monies received from your Zimmer and Davol arrangements and recognizing revenue based upon anticipated purchases or over the term of the arrangement, as applicable. Refer to the guidance in SAB Topic 13A3(f).

You may contact Tara Harkins, Staff Accountant, at (202) 551-3639, Lynn Dicker, Reviewing Accountant, at (202) 551-3616, or me at (202) 551-3643 if you have questions regarding these comments. In this regard, do not hesitate to contact Martin James, Senior Assistant Chief Accountant, at (202) 551-3671.

Sincerely,

Kevin L. Vaughn  
Accounting Branch Chief