



DIVISION OF  
CORPORATION FINANCE

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

April 11, 2012

Via E-mail

Jean Francois-Huc  
President and Chief Executive Officer  
BioAmber Inc.  
1250 Rene Levesque West, Suite 4110  
Montreal, Quebec, Canada H3B 4W8

**Re: BioAmber Inc.  
Amendment No. 4 to Registration Statement on Form S-1  
Filed April 3, 2012  
File No. 333-177917**

Dear Mr. Huc:

We have reviewed your response letter and the above-referenced filing, and have the following comments.

Risk Factors, page 12

We have generated only limited sales of bio-succinic acid . . . , page 14

1. We note your response to comment four of our letter dated March 27, 2012. Please clarify your current relationship with International Flavor and Fragrances, Inc. For instance, what percentage of your recent revenues is generated from your agreement? We may have further comments upon reviewing your response.

Our Strategic Relationships, page 90

2. We note that on page F-36 you disclose your aggregate commitments for annual minimum royalty payments. Please revise your disclosure in "Our Strategic Relationships" to disclose for each agreement, as applicable, the potential range of royalty payments, any material guaranteed annual minimum payments or minimum royalty payments, the total aggregate up-front, annual, and royalty payments paid to date, and the aggregate milestone payments to be paid.

Financial Statements

Consolidated Statements of Operations, page F-3

3. We note your response to comment eight of our letter dated March 27, 2012. You determined that the \$10,000, which is currently reflected as net of research and development expenses, should have been reported as revenue and costs of goods sold for the six months ended December 31, 2010. Given that this \$10,000 reflects approximately 13% of total revenues and gross profit for the six months ended December 31, 2010, please provide us with a comprehensive materiality analysis pursuant to SAB Topics 1:M and 1:N which addresses your consideration of both quantitative and qualitative factors in determining that this error was not material.

Notes to the Financial Statements

16. Income Taxes, page F-41

4. We note your response to comment 10 of our letter dated March 27, 2012. Please help us better understand how you determined it was appropriate to record interest and penalties related to unrecognized tax benefits resulting from intercompany sales of assets as prepaid tax expense. Please correspondingly expand your disclosures.

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.

You may contact Nudrat Salik, Staff Accountant, at 202-551-3692, or Rufus Decker, Accounting Branch Chief, at 202-551-3769 if you have questions regarding comments on the financial statements and related matters. Please contact Erin Jaskot, Staff Attorney, at 202-551-3442, or Craig Slivka, Special Counsel, at 202-551-3729 with any other questions.

Sincerely,

/s/ Craig E. Slivka, for

Pamela A. Long  
Assistant Director

cc: Michael Minahan, Esq. (*via E-mail*)  
Goodwin Procter LLP