

Mail Stop 6010

April 25, 2008

Kathy Ordoñez
President and Chief Executive Officer
Celera Corporation
1401 Harbor Bay Parkway
Alameda, CA 94502

**Re: Celera Corporation
Amendment No. 1 to Registration Statement on Form S-1
Filed on April 10, 2008
File No. 333-149457**

Dear Ms. Ordoñez:

We have reviewed your filing and have the following 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 supplemental information so we may better understand your disclosure. After reviewing this information, we may or may not 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 on any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Amendment No. 1 to Form S-1

General

1. We note your response to Comment 2 and reissue the comment in part. Please expand your disclosure on page 48 to discuss the type, amount, and source of consideration paid for the acquisition of Applied Biosystems Group's 50 percent interest in the Celera Diagnostics joint venture.

Prospectus Summary

General

2. We note your response to Comment 6 and reissue the comment in part. Based on the disclosure in your prospectus on page 30 that you have agreed to indemnify Applera for any liabilities related to the class action lawsuit, and that there is no limit on such indemnification, it appears that the class action lawsuit to which Applera is subject is a significant risk to your business, and should be included as a bullet point in the “Risk Factor” subsection.

Risk Factors, page 8

General

3. We note your response to Comment 17 and reissue the comment. We note that you have deleted in your amended filing the risk factor entitled, “Our split-off agreements with Applera require us to assume liabilities allocated to the Celera Group prior to the split-off and the terms of these agreements may be less favorable to us than if they had been negotiated with unaffiliated third parties.” Currently, you do not have a risk factor in your filing addressing the risks to your business associated with the indemnification of Applera, as determined by the separation agreement. Please add a risk factor addressing the risk to your business of indemnifying Applera for:
 - All liabilities of Applera to the extent arising out of, relating to or resulting from the operations of the Celera Group's business, including its contracts and assets;
 - All liabilities to the extent arising out of, relating to or resulting from, a specified list of litigation;
 - Specified liabilities resulting from the split-off;
 - Obligations and commitments under specified contracts; and
 - Other specified liabilities.

Please further disclose in this risk factor that there is no limit on the maximum amount of monetary damages for which we may be required to indemnify Applera for certain litigation. This information is important for a reader’s understanding of the registrant’s obligations under the separation agreement. In addition, please cross-reference this risk factor in your “Legal Proceedings” section on page 94, as it is relevant to the discussion.

“Our rights under our split-off agreements with Applera may be less favorable to us . . .,”
page 12

4. We note your response to Comment 11 and reissue the comment in part. You disclose in this risk factor that you “have negotiated and entered into [your] split-off agreements, including [your] supply agreement, with Applera” and that the “supply agreement provides for” certain terms. However, you state on page 8 of your filing that you have not yet entered into a supply agreement with Applera, and that you will enter into this supply agreement on the split-off date. Please revise your filing to clarify this inconsistency.

“We may be unable to make the changes necessary to operate as an independent . . .,”
page 9

5. We note your response to Comment 14 and reissue the comment in part. Please disclose, in an appropriate place in your filing, that you do not presently expect to incur any additional material costs as a result of operating independently, or conducting your business independently, either in the aggregate or on a per-product basis after the split-off.

“We must comply with complex billing procedures to receive payment . . .,” page 14

6. We note your response to Comment 19 and reissue the comment. If you believe that billing errors are immaterial in scope and nature, it is unclear why you added this risk factor to your filing. Please either remove this risk factor, or revise your disclosure to state the frequency with which you have failed to comply with billing procedures in the past. This additional disclosure is necessary, as it informs the reader the rate at which your company is not paid for services provided.

“Our successful development of diagnostic products may depend on entering into other collaborations . . .,” page 23

7. We note your response to Comment 28 and reissue the comment in part. We note that you have revised your disclosure to identify generally the types of companies with whom you may collaborate. If true, please expand your disclosure to state that you have identified potential collaborators, but have not yet entered into any collaboration agreements. We do not request that you identify the potential collaborators. Otherwise, please expand your disclosure to state that you have not yet identified potential collaborators.

“Development and commercialization of diagnostic product candidates depends on . . .,”
page 24

8. We note your response to Comment 31 and reissue the comment in part. Please expand your disclosure to briefly identify that your products that are sold as ASRs include CF products, hepatitis C virus products, human leukocyte antigen products, Fragile X products, and deep vein thrombosis products, which include ASRs for detecting mutations in Factor V, Prothrombin and methylenetetrahydrofolate reductase (MTHFR). This information is necessary for the reader to understand how this risk affects your company.

“Our collaborations with outside experts may be subject to restriction and change,” page 27

9. We note your response to Comment 35 and reissue the comment in part. Please expand your disclosure in this risk factor and in the “Our Business” section to discuss the term and termination provisions of these agreements.

“Applera is subject to a class action lawsuit relating to its 2000 offering of shares . . .,”
page 30

10. We note your response to Comment 39 and reissue the comment in part. Please revise your filing so that this risk factor appears in the forepart of your “Risk Factors” section. Based on the disclosure in your prospectus on page 30 that you have agreed to indemnify Applera for any liabilities related to the class action lawsuit, and that such indemnification is unlimited, it appears that the class action lawsuit to which Applera is subject is one of the most significant risks to your business.

Management's Discussion and Analysis of Financial Condition and Results of Operations

Results of Operations – Six Months Ended December 31, 2007 Compared with Six Months Ended December 31, 2006, page 60

Supplemental Information, page 57

11. Please refer to your response to our prior comment number 56. Please revise your table to clearly indicate that the end-user sales are not consolidated. Also revise your disclosure to provide a better understanding of why you feel that this information is appropriate.

Outlook, page 69

12. Please refer to your response to our prior comment number 58. It is not clear how the arguments provided represent persuasive and substantive reasons as to why management believes that this non-GAAP financial measure provides useful information to investors, nor has the company demonstrated the economic substance behind management's decision to include such a measure. Please revise the filing to comply with item 10(e) of Regulation S-K, or remove all references to these non-GAAP measures. Further, please tell us whether you believe it is probable that the financial impact of the recurring items excluded will disappear or become immaterial within a near-term finite period, or your basis for such conclusion.

Our Company

Our Clinical Laboratory Testing Service Business, page 73

13. We note your response to Comment 25 and reissue the comment in part. Please expand your disclosure on page 73 to describe the interaction between healthcare providers, clinical laboratories, and collection stations. It appears from your filing that all three parties collect specimens.
14. We note your response to Comment 60 and reissue the comment in part. Please expand your disclosure on page 77 to state that you are neither actively seeking to become, nor do you know if or when you may become, an in-network, participating provider with respect to any particular non-governmental third-party payor. This disclosure is essential to an understanding of the company's reimbursement by third-party payors, on which you state your revenues are highly dependent, especially since you disclose that your competitors have been approved for third-party reimbursement.

Licensing Programs, Collaborations and Other Intellectual Property Licenses, page 82

15. We note your response to Comments 65 and 68 and reissue the comments in part. We note your statement that the company believes that the public disclosure of minimum royalty payments, if any, would competitively harm the company. However, this information is important for a reader's understanding of the registrant's obligations under each agreement. Therefore, please expand your disclosure to disclose the potential range of royalty payments (for example, "low-single-digits" or "high-single-digits") and the length of time you would be required to continue making those royalty payments under agreements with each of the following companies:

- LabCorp
- Specialty Labs
- Cepheid
- Beckman Coulter, Inc.
- Siemens
- Pharmacyclics, Inc.

In addition, please file all the above agreements as exhibits to your registration statement, or provide us with an analysis supporting your determination that the agreements are not required to be filed pursuant to Item 601 (b)(10)(ii)(B) of Regulation S-K.

Index to Financial Statements, page F-1

Combined Statements of Operations, page F-3

16. Please refer to your response to our prior comment number 79. Please tell us why the research and development costs that produced these revenues are not considered cost of sales when determining the gross margin for these revenues.
17. Please refer to your response to our prior comment number 79. Please clarify why the payment for services from the government agencies was uncertain until the cash payments were received.

Principles of Combination, page F-7

18. Please refer to your response to our prior comment number 81. On page 79 you disclose that you manufacture five product groups that are sold through your strategic alliance with Abbott. Please tell us why you have not provided the disclosure required under paragraph 37 of SFAS 131 for these items.

Intangible Assets, page F-14

19. Please refer to your response to our prior comment number 82. Please provide a more robust discussion as to how the useful life of the customer relationships was determined. In your discussion, please tell us how you considered the factors in parts a through f of paragraph 11 of SFAS 142.

Income Taxes, page F-17

20. Please refer to your response to our prior comment number 84. Please provide the pro forma disclosures under the separate return basis as described in SAB Topic 1.B.1. question three.

Exhibit Index, page II-4

21. Please refer to your response for Comments 76 and 93. We note that your director, Mr. Bélingard, was chairman and CEO of Ipsen SA at the time that you entered into the pharmacogenomics research collaboration with the wholly-owned subsidiary of Ipsen SA in November 2007.
- Please file this pharmacogenomics research collaboration as an exhibit to your registration statement, pursuant to Item 601 (b)(10)(ii)(A) of Regulation S-K.
 - Please further expand your disclosure in the “Related Transactions” section of your filing to describe this transaction, in accordance with Item 404 (a) of Regulation S-K.
22. Please refer to your response for Comments 34 and 72. Please file as an exhibit the Master Supply Agreement between BHL and diaDexus, Inc., pursuant to Item 601 (b)(10)(ii)(B) of Regulation S-K.
23. We note your response to Comment 93 and reissue the comment in part.
- We note that you agreed in your response letter to file the license agreement with Siemens Medical Solutions Diagnostics, as it is material to your business. However, this agreement is not included in your Exhibit list. Please advise.
 - Your license agreements with Laboratory Corporation of America Holdings and Specialty Laboratories (now Quest Diagnostics Incorporated) appear to be material to your business. Please file these agreements as exhibits, or provide us with an analysis supporting your determination that the agreements are not required to be filed pursuant to Item 601 (b)(10)(ii)(B) of Regulation S-K.

* * *

File a pre-effective amendment in response to these comments. Provide a letter keying your responses to the comments, and provide any requested supplemental information. If you believe complying with these comments is not appropriate, tell us why in your letter. The response letter should be uploaded to EDGAR, with the form type label "CORRESP" and linked to the registration statement file number. We may have comments after reviewing revised materials and your responses.

Submit your request for acceleration at least two business days prior to the requested effective date. You may contact Keira Ino at (202) 551-3659 or Lisa Vanjoske at (202) 551-3614 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) 551-3715 with any other questions.

Sincerely,

Jeffrey Riedler
Assistant Director

cc: William B. Sawch, Esq.
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