

Mail Stop 6010

May 12, 2008

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

**Re: Celera Corporation
Amendment No. 2 to Registration Statement on Form S-1
Filed on May 1, 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. 2 to Form S-1

General

1. We note the box indicating that you are registering securities to be offered on a delayed and continuous offering under Rule 415 has been checked off on the outside cover of the prospectus. Please advise us as to which shares you will be registering pursuant to Rule 415. Please also disclose the section of Rule 415 on which you are relying to register these shares.

2. We note that you sought confidential treatment for certain of your exhibits. In that regard, please be advised that comments related to your request for confidential treatment will be delivered under separate cover. We will not be in a position to consider a request for acceleration of effectiveness of this registration statement until we resolve all issues concerning the confidential treatment request.

Risk Factors

“Our separation agreement with Applera requires us to indemnify Applera . . .,” page 13

3. We note your response to Comment 3 and reissue the comment in part. It appears that the separation agreement covers “specified litigation” other than the class action lawsuit related to the 2000 offering of shares of Celera Group tracking stock. Please identify and describe this other litigation in this risk factor, and elsewhere in your filing as may be appropriate.

Our Company

Our Clinical Laboratory Testing Service Business, page 74

4. We note your response to Comment 13 and reissue the comment in part. We note that you deleted reference to “collection stations” in the “Our Company” section. However, this term still appears in the risk factor entitled “*We rely on independent healthcare providers, laboratories . . .*” on page 22 and in the “Governmental Regulation of Diagnostic Products and Testing Services” subsection on page 89. Please expand your disclosure on page 74 to describe the collection stations’ involvement in collecting specimens for your business, and how these collection stations interact with healthcare providers and clinical laboratories.

Licensing Programs, Collaborations and Other Intellectual Property Licenses, page 83

5. We note your response to Comment 15 and reissue the comment in part. We note your disclosure on pages 84-85 that Cepheid is obligated to pay you ongoing royalties in the mid- to high teens. Please expand your disclosure to state the number of years under this agreement that Cepheid is obligated to pay you royalties.

Exhibit Index, page II-4

6. We note that you have provided in supplemental form a draft of your legal opinion. Please expand your legal opinion to include discussion of the preferred stock purchase rights that you are registering in connection with the common stock.

7. We note that you have made the following assumptions on pages 2-3 of your legal opinion:

- “In making our examination of executed documents, we have assumed that the parties thereto, other than the Company and Applera, had the power, corporate or other, to enter into and perform all obligations thereunder and have also assumed the due authorization by all requisite action, corporate or other, and the execution and delivery by such parties of such documents and the validity and binding effect thereof on such parties.”
- “In rendering the opinions set forth below, we have also assumed that each agreement setting forth the terms of each grant of options or other awards under the Plans is or will be consistent with the applicable Plan and has been or will be duly authorized and validly executed and delivered by the parties thereto.”

Please remove these assumptions from the legal opinion, as these are assumptions that should be part of your due diligence prior to executing the legal opinion.

* * *

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

Kathy Ordoñez
Celera Corporation
May 12, 2008
Page 4

cc: William B. Sawch, Esq.
Senior Vice President and General Counsel
Applera Corporation
301 Merritt 7
Norwalk, Connecticut 06851

Robert B. Pincus, Esq.
Allison L. Land, Esq.
Skadden, Arps, Slate, Meagher & Flom LLP
One Rodney Square
Wilmington, Delaware 19801