



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

DIVISION OF
CORPORATION FINANCE

Mail Stop 3030

September 1, 2015

Via E-mail

Ms. Carolyn D. Beaver
Chief Financial Officer
Sequenom, Inc.
3595 John Hopkins Court
San Diego, California 92121

RE: Sequenom, Inc.
Form 10-K for Fiscal Year Ended December 31, 2014
Filed March 10, 2015
File No. 000-29101

Dear Ms. Beaver:

We have limited our review of your filing to the financial statements and related disclosures 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 these comments within ten business days by providing the requested information or advise us as soon as possible when you will respond. If you do not believe our comments apply to your facts and circumstances, please tell us why in your response.

After reviewing your response to these comments, we may have additional comments.

Form 10-K for the Fiscal Year Ended December 31, 2014

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, page 42

Revenues, page 43

1. To assist investors in understanding the risks relating to your revenues, please expand the table on page 44 in future filings to also disclose the number of accessions billed in each quarter to payors recorded on the accrual basis of accounting. Please also revise to discuss any known trends impacting your collection of receivables or cash basis revenue recognition. See Item 303(a)(3)(ii) of Regulation S-K and FR-72 for guidance.

Note 1. The Company and Its Significant Accounting Policies

Segment Information, page F-7

2. Please revise future filings to provide the disclosures required by ASC 280-10-50-21. In addition, revise future filings to comply with the disclosure requirements of paragraphs 50-40 and 50-41 of FASB ASC 280-10.

Note 3. Significant Acquisitions and Other Transactions, page F-14

Pooled Patents Agreement, page F-15

3. As part of the Pooled Patents Agreement, you allocated \$21.3 million to both the physical samples and transfers of IVD technology deliverables based on best estimate of selling price as determined by your models and the use of a third-party valuation expert. Please describe for us the methodology you used to value these deliverables, identify the key assumptions and how they were determined and describe the uncertainty associated with the key assumptions.

Note 12. Income Taxes, page F-29

4. Please revise future filings to separately disclose the amount of income (loss) before income tax expense attributable to domestic operations and to foreign operations. Refer to Rule 4-08(h) of Regulation S-X.

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 Exchange Act of 1934 and all applicable Exchange 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.

In responding to our comments, please provide a written statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

Carolyn D. Beaver
Sequenom, Inc.
September 1, 2015
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You may contact Dennis Hult at (202) 551-3618, or me at (202) 551-3662 with any questions. You may also contact Martin James, Senior Assistant Chief Accountant, at (202) 551-3671.

Sincerely,

/s/ Kevin Kuhar

Kevin Kuhar
Accounting Branch Chief
Office of Electronics and Machinery

cc: Jeff Linton, Sr. VP, General Counsel & Secretary
Aaron Bergener, VP, Controller