



DIVISION OF
CORPORATION FINANCE

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

August 23, 2013

Dr. Michael Pellini, M.D.,
President, Chief Executive Officer and Director
Foundation Medicine, Inc.
One Kendall Square, Suite B3501
Cambridge, MA 02139

**Re: Foundation Medicine, Inc.
Amendment No. 2 to Registration Statement on Form S-1
Filed August 16, 2013
File No. 333-190226**

Dear Dr. Pellini:

We have reviewed your amended registration statement 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 this letter by amending your registration statement and providing the requested information. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your registration statement and the information you provide in response to these comments, we may have additional comments.

Overview, page 1

1. We note your responses to comments 12, 15 and 16 with respect to the bases for claims about your product and industry. Please revise the last sentence of the second paragraph to disclose the basis for the statement that you "believe the annual U.S. market opportunity for a comprehensive molecular diagnostic product like FoundationOne is approximately \$4.0 billion today and will grow to exceed \$7.5 billion over the next several years as medical practice further incorporates the growing understanding of molecular information and the use of targeted oncology therapies." Also clarify what the difference is between "a comprehensive molecular diagnostic product" and your reference in the first sentence to a "comprehensive molecular information product designed for use in the routine care of patients with cancer."
2. We note your revised disclosure and response to comment 2 of our letter dated August 9, 2013. Please revise page 3 to quantify the approximate percentage where you refer to "a significant percentage."

3. Where you currently refer to offering a product or platform, please consider clarifying the extent to which you generate revenues by conducting tests.

The Offering, page 5

4. We note your disclosure indicating that the 16,612,097 shares of common stock to be outstanding after this offering include 3,736,598 shares of common stock potentially subject to repurchase. It appears to us that the shares of common stock to be outstanding after this offering include 3,850,813 shares of unvested restricted stock (pages F-14 and F-22) instead of 3,736,598 shares. Please revise as necessary or provide us with a reconciliation to the 16,612,097 shares of common stock to be outstanding after this offering.

Capitalization, page 46

5. We note your disclosure on page 47 in which you indicate that you exclude the 3,850,813 shares of common stock that are outstanding but potentially subject to repurchase by you from the pro forma as adjusted shares of common stock issued and outstanding. It appears to us that you include these 3,850,813 shares of unvested restricted stock in the 16,612,097 shares of common stock to be outstanding after the offering (page five) and the 85,124,231 shares of common stock outstanding as of July 13, 2013 for purposes of your beneficial ownership disclosures (page 139). Please explain to us why you exclude these shares from the pro forma as adjusted shares of common stock.

Management's Discussion and Analysis, page 52

6. We note your disclosure on page 53 in which you indicate that for the year ended December 31, 2012, and for the six months ended June 30, 2012 and 2013, you performed approximately 1,350,479 and 1,213 tests for your biopharmaceutical customers. Please revise to include the number of tests performed for your biopharmaceutical customers for each period (i.e. the year ended December 31, 2012, six months ended June 30, 2012 and six months ended June 30, 2013), as applicable. Please also present the number of tests performed in a consistent numerical format (e.g. in thousands or actual).

Revenue, page 57

7. We note your response to comment 10 of our letter dated August 9, 2013. Please revise your revenue discussion on page 57 to clarify the reasons identified in your response for not including the submitted but unpaid tests in your average test calculation.

Certain Relationships and Related Party Transactions, page 136

8. We note your response to comment 20 of our letter dated August 9, 2013. Please advise us of any agreement, arrangement or understanding with Google regarding future services or consideration provided or to be provided relating to the portal. We note in this regard that you did not revise the disclosure on page 136.

Notes to Financial Statements, page F-7

8. Stockholders' (Deficit) Equity, page F-22

9. We note that your roll forward of restricted stock and stock option activity begins at December 31, 2011. Please revise to also include a roll forward of restricted stock and stock option activity for the fiscal year ended December 31, 2011.

Exhibits

10. We note that your sixth amended and restated certificate of incorporation will contain an exclusive forum provision. Please revise page 141 or where appropriate to discuss the effect of such provision on investors. Given the lawsuits challenging the validity of choice of forum provisions in certificates of incorporation, please also disclose that it is possible that a court could rule that your provision is inapplicable or unenforceable. Also include separate risk factor disclosure discussing the risks attendant to the choice of forum provision included in your sixth amended and restated certificate of incorporation.

Please refer to Rules 460 and 461 regarding requests for acceleration. We will consider a written request for acceleration of the effective date of the registration statement as confirmation of the fact that those requesting acceleration are aware of their respective responsibilities under the Securities Act of 1933 and the Securities Exchange Act of 1934 as they relate to the proposed public offering of the securities specified in the above registration statement. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

You may contact Myra Moosariparambil at (202) 551-3796 or John Archfield at (202) 551-3315 if you have questions regarding comments on the financial statements and related matters. Please contact Erin Wilson at (202) 551-6047 or James Lopez at (202) 551-3536 with any other questions.

Sincerely,

/s/ James Lopez (for)

John Reynolds
Assistant Director