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

DIVISION OF
CORPORATION FINANCE

April 11, 2014

Via E-mail
Steven T. Sobieski
Chief Financial Officer
Roka Bioscience, Inc.
20 Independence Boulevard
Warren, NJ 07059

Re: Roka Bioscience, Inc.
Amendment No. 2 to Draft Registration Statement on Form S-1
Submitted March 28, 2014
CIK No. 0001472343

Dear Mr. Sobieski:

We have reviewed your amended draft 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 providing the requested information and either submitting an amended draft registration statement or publicly filing your registration statement on EDGAR. 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 the information you provide in response to these comments and your amended draft registration statement or filed registration statement, we may have additional comments.

Company Overview, page 1

1. If your current business consists of using Gen-Probe's intellectual property that you mention in the last sentence beginning on page 1 to (1) place equipment that you purchase from Gen-Probe and (2) sell related consumables composed of supplies that you purchase primarily from Gen-Probe for detection of foodborne pathogens, please:
   - say so clearly, directly and prominently in this section of your prospectus, and
   - remove any implication that the rights from Gen-Probe include only a portion of the material intellectual property that underlies your current business.

2. We note your response to prior comment 3. Please tell us why you believe that it is appropriate to highlight the FDA as a named customer in this section. In your response, please tell us the percentage of your sales attributable to the FDA. Also, please balance

your summary disclosure about numerous customers to provide equally prominent disclosure of the extent of your reliance on two customers currently mentioned on page 14.

Commercialization Strategy, page 5

3. Please reconcile your disclosure here regarding high-volume with the references to low to mid volume in exhibit 10.24.

Our customers and potential customers . . ., page 18

4. Please clarify in this risk factor the actual certification delay that you experienced as mentioned in your response to prior comment 7.

We depend on certain technologies . . ., page 21

5. Please disclose the "specific conditions" that allow a licensor to terminate a material license.

Claims that our molecular assays and instruments . . ., page 23

6. We note your response to prior comment 10; however, from your disclosure that you believe you have sublicensed the rights or could obtain a license, it remains unclear whether you believe you have the rights to the technology you use. Please clarify.

Results of Operations, page 50

7. Please expand the last paragraph of your response to prior comment 13 to provide us your analysis of how investors will know from your current disclosure the extent to which increased sales are from increased use of previously existing assays or sales of new assays.

Stock-Based Compensation, page 57

8. We note your response to prior comment 15. However, your disclosure continues to indicate that the prices were based upon the third-party valuation, while your response suggests that the board determined the prices and in doing so considered the third-party valuation. Please clarify.

Business, page 65

9. We note your response to prior comment 21; however, your registration statement, when filed, should include the consent of the AOAC and the consent of the consultant to whom

you attribute the study results that you disclose. Please also name the third-party consultant.

Our Atlas Detection Assay Performance, page 75

10. We note your response to prior comment 20. If true, please revise your references to studies submitted to AOAC throughout the prospectus to make clear that you are referring to your own studies. For example, where you say that accuracy was "demonstrated in studies submitted to the AOAC for purposes of certifying…", please clarify if true that you are referring to studies you conducted and remove any implication that you are referring to third-party or independent studies.

Collaborate with food safety . . ., page 78

11. Please disclose the substance of your response to prior comment 22 that neither you nor the USDA has any financial obligation to the other party, and that you have no collaboration agreement with the FDA. Also:
    - if the USDA did not purchase your system, please clarify this section accordingly, and
    - if the FDA and USDA are not marketing your products, please revise your disclosure that you are "working with the FDA and the UDSA to drive adoption of Atlas Detection Assays…" to remove any implication to the contrary.

Competitors, page 80

12. Please disclose clearly the substance of your response to prior comment 23 that competitors offer a range of testing capabilities that is broader than yours.

Collaborations and Licenses, page 81

13. Please reconcile you response to prior comment 24 with section 5.12 of the schedule of exceptions to exhibit 10.15.

License Agreement from Gen-Probe, page 81

14. Please expand your response to prior comment 26 to tell us the extent to which Gen-Probe has granted rights under agreements existing as of the effective date to parties that do or can compete with you. Also, tell us the extent to which Gen-Probe's existing products compete with yours.

15. We note your response to prior comment 28. Please clarify the effect of the patents that expire in 2014. Also, please tell us the effect of the patents that expire in the next five years.

16. Please clarify your statements regarding exclusivity of your license, given statements like in the title to exhibit D to exhibit 10.20.

Series C Preferred Stock Financing, page 109

17. Please describe the special mandatory conversion mentioned on pages F-22 and F-26, including the extent to which the related party's shares were converted for not participating in subsequent financing.

Item 15. Recent Sales of Unregistered Securities, page II-2

18. Please disclose the date of the transactions, including the transactions in the first paragraph on page II-3. Ensure that your disclosure in this section is reconcilable to the information on page F-5.

Exhibits

19. Please provide us your analysis of whether you must file the Teknika Agreement mentioned in exhibit 10.20, the consent mentioned in section 17 of exhibit C to exhibit 10.20, and the consent mentioned in section 15 of exhibit D to exhibit 10.20. Also, please provide us your analysis of whether you should file the contribution agreement for investors to understand the scope of the assets mentioned in section 1.26 to exhibit 10.20.

General

If you intend to respond to these comments with an amended draft registration statement, please submit it and any associated correspondence in accordance with the guidance we provide in the Division's October 11, 2012 announcement on the SEC website at http://www.sec.gov/divisions/corpfin/cfannouncements/drsfilingprocedures101512.htm.

You may contact Dennis Hult at (202) 551-3618 or Kevin Vaughn at (202) 551-3643 if you have questions regarding comments on the financial statements and related matters. Please contact Brian Soares at (202) 551-3580 or me at (202) 551-3617 with any other questions.

Sincerely,

/s/ Russell Mancuso

Russell Mancuso
Branch Chief

cc (via e-mail): Steven M. Skolnick
Lowenstein Sandler LLP