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

DIVISION OF
CORPORATION FINANCE

February 19, 2014

Via e-mail
Steven T. Sobieski
Chief Financial Officer
Roka Bioscience, Inc.
20 Independence Boulevard
Warren, New Jersey 07059

Re: Roka Bioscience, Inc.
Draft Registration Statement on Form S-1
Submitted January 23, 2014
CIK No. 0001472343

Dear Mr. Sobieski:

We have reviewed your 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.

Prospectus Summary, page 1

1. Please highlight in your prospectus summary the statement in your auditor's report regarding the substantial doubt about your ability to continue as a going concern.

Company Overview, page 1

2. Please tell us why you believe it is appropriate to highlight the $2 billion market when it appears, based on the information you disclose on page 70, that your product currently addresses a portion of a $730 million market. In this regard, please provide us support for your disclosure regarding market size here and on page 70, clearly marked to tie the material to the figures you cite. Also, provide us copies to the studies supporting your disclosure under "Our Atlas Detection Assay Performance" beginning on page 76, clearly marked to tie the studies you provide to your disclosure.

3. Please clarify what you mean by "early commercial adopter" as used in the second paragraph of this section. For example, we note your claim that the U.S. Food and Drug Administration is an "early commercial adopter" of your product; however, based on the first paragraph of page 68 it appears the FDA has merely purchased a single unit for testing.

4. Please revise your disclosure regarding installations to present the number of potential customers evaluating your product separately from the number that have purchased the product and are using it commercially.

5. Please tell us whether any of your competitors' products contain some or all of the features listed in the bullet points on page 1.

Implications of Being an Emerging Growth Company, page 7

6. Please supplementally provide us with copies of all written communications, as defined in Rule 405 under the Securities Act, that you, or anyone authorized to do so on your behalf, present to potential investors in reliance on Section 5(d) of the Securities Act, whether or not they retain copies of the communications. Similarly, please supplementally provide us with any research reports about you that are published or distributed in reliance upon Section 2(a)(3) of the Securities Act of 1933 added by Section 105(a) of the Jumpstart Our Business Startups Act by any broker or dealer that is participating or will participate in your offering.

Risk Factors, page 12

7. With a view toward providing specific information in a relevant risk factor, please tell us what caused the delay in commercialization mentioned on pages 63 and 64.

We rely on FedEx, page 21

8. Please disclose when the contract "comes up for renewal." Also disclose any material termination provisions, and provide us your analysis of whether the agreement should be filed as an exhibit to this registration statement.

Claims that our molecular assays and instruments infringe, page 23

9. Please clarify why you may not be aware of all relevant third-party patents. Did you not search existing patents for infringement?

10. Please revise the fourth paragraph to clarify whether your existing license gives you all necessary rights to the technology mentioned in the first sentence of that paragraph.

Capitalization, page 40

11. Please revise to remove "cash and cash equivalents" from the presentation of capitalization included at the top of the table page 41.

Results of Operations, page 51

12. We note your disclosure on page 49 regarding revenue from instrument rental and maintenance contracts. Please separately discuss the extent to which instruments contributed to revenues and the extent to which consumables contributed to revenues. Likewise, please separately discuss the instruments and consumables margins.

13. With view toward clarified disclosure, please tell us for each period presented (1) the number of instruments installed for evaluation and (2) the number of units evaluated and in "commercial utilization." Also provide us your analysis of the trends experienced with regard to (1) consumable revenue per installed instrument in commercial utilization, and (2) the extent to which each of your current assays contributed equally to revenue during each period presented.

Research and Development, page 51

14. Please describe the reason for the decrease in payroll and benefits expense. Did you reduce research and development staff?

Stock-Based Compensation, page 60

15. We note your multiple statements in this section that the fair value determinations were based upon third-party valuations. It is unclear whether the consent of the third-party valuation firm must be filed as an exhibit to your filed registration statement. For guidance, please refer to Securities Act Rules Compliance and Disclosure Interpretation 233.02 available on the Commission's web site. If the board made the determinations and in doing so considered or relied in part on the third-party expert, please revise your disclosure stating that the determinations were "based on" the third-party valuations to clarify.

Overview, page 67

16. Please tell us the criteria you used to determine which entities to name in your disclosure regarding "early commercial adopters." Include in your response your conclusion regarding how naming those entities presents an objectively balanced view of your business and whether any unnamed entities satisfy those criteria. Also tell us (1) why you believe the named entities are "key opinion leaders", (2) whether each named entity

paid and pays the typical purchase price for your products, and (3) the extent to which customers have decided not to purchase products that you have installed for evaluation.

Food safety testing, page 70

17. We note your reference to commissioned research. Please clarify which data presented here and throughout your document is based on third-party data that you commissioned. File the consent of the third party with your registration statement, when filed.

Roka Products, page 74

18. Please tell us whether competitors currently do or can make assays or other consumables that can be used with your equipment.

Out Atlas Detection Assay Menu, page 76

19. Please reconcile the first sentence of this section which says that your entire current menu has been certified with the parenthetical phrase in the first paragraph on page 78 which appears to indicate that only a portion of your menu has received AOAC certification.

Atlas Detection Assay AOAC Certification, page 76

20. Please tell us the process for obtaining the certification and the typical time to obtain certification**.**

AOAC Studies, page 77

21. Please provide us your analysis of whether your registration statement, when filed, must include as an exhibit the consent of the third party to whom you attribute the validation studies, the customers to whom you attribute the PCR studies in the next subsection of your document, and the third parties whose study results you present on page 78.

Collaborate, page 80

22. Please tell us the obligations of the regulatory authorities per your collaboration agreements.

Competitors, page 82

23. Please tell us whether competitors offer testing systems with broader testing capabilities, including the tests that you say on page 81 that you are planning to develop. If so, please clarify how this affects your competitive position.

Collaborations and Licenses, page 83

24. We note your reference to the "many" licenses that give rise to the risk factor on page 22. Please tell us why this section addresses only one license.

License Agreement from Gen-Probe, page 83

25. Please tell us whether you intend to develop the veterinary and bioterrorism applications before the related license becomes non-exclusive. If so, please tell us the material hurdles that remain before you can commercialize products for those applications; include your analysis how you can reasonably complete those steps before the related license becomes non-exclusive.

26. Please replace the vague term "certain" with more specific disclosure regarding the rights retained by Gen-Probe.

27. Please tell us which exhibit to this registration statement represents the Stanford license.

28. Please clarify when the licensed patents expire. It appears that you have disclosed only date of the last to expire patents.

Government regulation, page 85

29. Please describe the regulatory process with which you must comply to enter the markets mentioned in the last full paragraph on page 2.

Management, page 90

30. Please disclose Mr. McGirr's employment since March 2013.

Outstanding Equity Awards, page 103

31. Please provide the footnote required by instruction 2 to Regulation S-K Item 402(p)(2). In this regard, please tell us whether the shares in the penultimate column of this table are included in the table on page 116.

Private Placement of Securities, page 111

32. Please identify the directors mentioned in the footnotes to the tables.

33. Please disclose the rate at which the disclosed Series A, C and E securities will convert into common stock in connection with this offering.

Agreements with Gen-Probe, page 113

34. Please reconcile the $3.8 million that you disclose here as paid to Gen-Probe in the year ended December 31, 2013 with the $4.3 million you disclose on page F-37 as having paid in the nine months ended September 30, 2013.

Principal Stockholders, page 116

35. We note your disclosure in footnote 3 that Dr. Barrett beneficially owns your shares. Please include that beneficial ownership in Dr. Barrett's row in your beneficial ownership table.

Description of Capital Stock, page 119

36. Your disclosure may not be qualified by reference to statutes. Please revise the first paragraph of this section accordingly.

Other Relationships, page 133

37. Please provide more specific information regarding the relationships you have had with the underwriters. Also, identify the relevant underwriter having the relationship.

Financial Statements, page F-1

Consolidated Balance Sheets, page F-3

38. We note your disclosure on page 40 that you have Series A common stock and Series B common stock. Please revise to disclose the rights and privileges of each class of securities outstanding. Refer to FASB ASC 505-10-50-3.

39. Please tell us how the existence of two classes of common stock impacts your calculation of earnings per share. Refer to FASB ASC 260-10, including 260-10-45-59A through 260-10-45-70.

Statements of Operations and Comprehensive Loss, page F-4

40. We note your disclosures on pages F-3 and F-23 that there were 7.9 million, 7.5 million and 6.4 million shares of common stock outstanding at September 30, 2013, December 31, 2012 and December 31, 2011, respectively. Please explain to us how you calculated the weighted average shares outstanding for the nine months ended September 30, 2013 and the years ended December 31, 2012 and 2011.

Note 2. Summary of Significant Accounting Policies, page F-7

Property and Equipment, page F-8

41. We note your disclosure here that your customers have the right to use the Atlas instrument for a period of time provided they meet certain agreed-to conditions. Please explain to us these conditions that customers are required to meet.

Revenue Recognition, page F-10

42. We note your reference to "reagent rental agreements" under which you provide customers with Atlas instruments free of charge. Please tell us the material terms of these reagent rental agreements. In this regard, we note your disclosure that the agreements "generally have no minimum purchase obligations." Please specifically tell us about any such agreements that do have minimum purchase obligations. Discuss how any such minimum purchase obligations impact your revenue recognition.

Note 7. Deferred Payments, page F-12

43. Please revise your disclosures throughout to clearly label these amounts as related party obligations. Please note this also applies to disclosures regarding other transactions with Gen-Probe. Refer to FASB ASC 850-10-50.

Recent Sales of Unregistered Securities, page II-2

44. We note your reference to Regulation D on page II-3. Please show us how you tie each relevant disclosed transaction to the Forms D you have filed.

Exhibits

45. Please file complete exhibits 10.15 and 10.16, including all schedules, exhibits and other attachments.

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.

Please keep in mind that we may publicly post filing review correspondence in accordance with our December 1, 2011 policy (http://www.sec.gov/divisions/corpfin/cfannouncements/edgarcorrespondence.htm). If you intend to use Rule 83 (17 CFR 200.83) to request confidential treatment of information in the correspondence you submit on EDGAR, please properly mark that information in each of your

confidential submissions to us so we do not repeat or refer to that information in our comment letters to you.

You may contact Dennis Hult at (202) 551-3618 or Kevin Vaughn, Accounting Branch Chief, at (202) 551-3643 if you have questions regarding comments on the financial statements and related matters. Please contact Ted Moskovitz at (202) 551-3689 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