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

DIVISION OF
CORPORATION FINANCE

November 10, 2016

Robert Michael Kleine
Chief Executive Officer
Miramar Labs, Inc.
2970 Walsh Avenue
Santa Clara, California 95051

Re: Miramar Labs, Inc.
Registration Statement on Form S-1
Filed October14, 2016
File No. 333-214121

Dear Mr. Kleine:

We have limited our review of your registration statement to those issues we have addressed in our 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.

Registration Statement Cover Page

Fee Table

1. Refer to footnote (1). Please confirm your understanding that Rule 416 of the Securities Act of 1933 does not apply to securities issuable pursuant to anti-dilution provisions of the type described in the penultimate paragraph on page 4.

Prospectus Summary, page 1

2. Refer to the third paragraph on page 1. Since safety and efficacy are terms of art used in describing FDA clearances and approvals, please refrain from describing your products with similar terms like “safely” and/or your test results as evaluating “efficacy,” since it is only the FDA clearance that addresses these characteristic. Instead, throughout your disclosure, please limit your conclusions about your products and results to the actual results of your studies.

3. As a related matter, you should explain or remove subjective terms like "significant" and "serious" when describing your product or test results.

4. You state that your product was designed for use in patients with sweat "ranging from excessive to average." Please clarify, however, that since your FDA clearance only permits you to market your product for a "condition characterized by abnormal sweating" you are limited in your ability to market your product for all your designated purposes. Specifically address, for example, how you market the product to aestheticians.

Risk Factors, page 7

The miraDry treatment may cause or contribute to adverse medical events that we are required to report to the FDA, page 21

5. Please revise your Business and MD&A discussions to fully discuss the status and effect of your interaction with FDA on your MDRs and related issues on your business and results.

Management's Discussion and Analysis, page 43

6. Please explain in more detail why spending on research and development decreased in the 6 months ended June 30, 2016 in light of your stated expectation that these expenses would rise over time in absolute dollars.

Business, page 59

7. Given that your claims about your products are based upon clinical results, please tell us what consideration you have given to including the full details of those results.

8. It is unclear whether the cost or your products are reimburseable by any third party payor. Please revise throughout to address this.

We remind you that the company and its management are responsible for the accuracy and adequacy of their disclosures, notwithstanding any review, comments, action or absence of action by the staff.

Refer to Rules 460 and 461 regarding requests for acceleration. Please allow adequate time for us to review any amendment prior to the requested effective date of the registration statement.

You may me at 202-551-3528 with any questions.

Sincerely,

/s/ Amanda Ravitz

Amanda Ravitz
Assistant Director
Office of Electronics and Machinery