



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

DIVISION OF
CORPORATION FINANCE

Mail Stop 3561

December 13, 2017

Via E-mail

Lee Buckler
Chief Executive Officer
Replicel Life Sciences Inc.
Suite 900 – 500 Granville St.
Vancouver, BC V6C 3P1
Canada

**Re: Replicel Life Sciences Inc.
Form 20-F for the Year Ended December 31, 2016
Filed May 1, 2017
File No. 000-50112**

Dear Mr. Buckler:

We have limited our review of your filing to the financial statements and related disclosures and have the following comment. In our comment, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this comment 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 comment applies to your facts and circumstances, please tell us why in your response.

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

Form 20-F for the Year Ended December 31, 2016

Independent Auditor's Report, page 63

1. Please have your auditors revise the opinion paragraph of their report to state whether your consolidated financial statements are in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board.

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.

Lee Buckler
Replicel Life Sciences Inc.
December 13, 2017
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You may contact Myra Moosariparambil at (202) 551-3796 or Suying Li at (202) 551-3335 with any questions.

Sincerely,

/s/Craig Arakawa

Craig Arakawa
Accounting Branch Chief
Office of Beverages, Apparel, and
Mining