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

DIVISION OF
CORPORATION FINANCE

November 14, 2017

Jonathan Gilbert
Chief Executive Officer
Scythian Biosciences Corp.
200-366 Bay Street
Toronto, Ontario
Canada M5H 4B2

Re: Scythian Biosciences Corp.
Amendment No. 1 to Registration Statement on Form 20-F
Filed October 18, 2017
File No. 000-55830

Dear Mr. Gilbert:

We have reviewed your filing 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 these comments 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 comments apply to your facts and circumstances, please tell us why in your response.

After reviewing your response and any amendment you may file in response to these comments, we may have additional comments.

Amendment No. 1 to Registration Statement on Form 20-F

Risk Factors
We have incurred substantial operating losses since our inception, page 10

1. Please expand this risk factor to disclose that your audit report indicates there is substantial doubt regarding your ability to continue as a going concern.

Business Overview, page 28

2. We refer to your statements that you are developing a cannabinoid-based combination drug therapy to treat concussions and traumatic brain injury and that you are using pre-

existing drugs. Please expand your description to describe the drugs that are administered as part of the combination therapy, and explain whether the pre-existing drugs are covered by any type of patent protection and whether they have already been approved by the FDA.

3. For each of the two patent applications you have submitted, please disclose the type of patent protection you are seeking under this application (e.g., composition of matter, use or process), and disclose the expected expiration date of such patent if granted. Please also provide similar information for the international patent applications that you indicate in the fourth paragraph you have subsequently submitted, and disclose the foreign jurisdictions in which you have such pending applications.

4. We note your references in the sixth paragraph on page 28 and in the last paragraph on page 30 to preclinical and clinical data that are "highlighting the potential efficacy and safety benefits of cannabinoid therapeutics." As efficacy and safety determinations are solely within the FDA's authority, please remove these references to the extent these studies are referring to products that have not yet been approved by the FDA or a corresponding foreign regulatory authority.

Proprietary Treatment Methodology, page 29

5. Please substantially expand your description of your treatment methodology to describe the combination of approaches and alternative therapies in terms a lay investor would understand, including your approach using a FAAH inhibitor.

6. We refer to the last sentence of the first paragraph of this section where you state that the result of the chemical effect of the combined drug is to "reduce inflammation and to inhibit gliosis." Please revise your disclosure to discuss your support for this statement, including specific trial results.

7. We refer to your statement on page 40 that your COO is the developer and inventor of your drug therapy. Please disclose any rights he may have in your products, and if all rights have been transferred to you, please describe such transactions.

Market, page 30

8. We note that you will market your products once FDA approval is obtained. Please include disclosure here that FDA approval may not be obtained and the impact on your ability to market your products if FDA approval is not obtained.

The University of Miami Research Agreement, page 30

9. Please describe your funding obligations under the research agreement with the University of Miami. Please include the amounts due under the agreement and the scheduled funding dates.

10. Please expand your discussion of the research activities that the University of Miami will conduct pursuant to the research agreement. Specifically, please describe the activities regarding the piloting phase and the translational project and specify the expected pre-clinical studies that are to be done. Please also describe the required primary and secondary endpoints for each of the phases and the expected timing for completing each phase.

11. Please describe the circumstances in which the University has a royalty-free and irrevocable license to the inventions and discoveries under the agreement.

Future Developments, page 31

12. We note your statement that your Combination Therapy is currently in pre-clinical study and is undergoing animal testing. Please clarify your disclosure throughout the filing to disclose this status, and expand your disclosure here to provide specific details regarding the testing, such as the scope and design of the studies, primary and secondary endpoints, any serious adverse events, and the expected duration.

13. Please describe the activities you are conducting to move forward on your other drug candidates and specify those product candidates.

License Application, page 32

14. We note your statement that Go Green's licensing application is awaiting security approval. Please revise your disclosure to describe this approval process and explain the remaining steps in this process.

Regulatory Process, page 33

15. Please expand your disclosure in this section to address regulations that relate to the production of cannabis, as well as regulations regarding the reimbursement of health care expenses that may impact the pricing for your Combination Therapy. Your discussion should address regulations in the United States and Canada that impact your operations, including the potential operations of Go Green if it receives the ACMPR license. We also note that you state in your third risk factor on page 14 that your products under development contain controlled substances. Please also clearly explain here and in the risk factor which DEA schedule of controlled substances (e.g., Schedule I) your products' components belong to, and the implications of such categorization.

Item 5. Operating and Financial Review and Prospects, page 35

16. Please explain your basis for omitting a discussion of critical accounting estimates and assumptions that may have a material impact on your financial condition or operating performance, such as those related to the determination of fair value for financial instruments and stock compensation expense.

Item 6. Directors, Senior Management &Employees
A. Directors and Senior Management, page 39

17. Based on your disclosure, it appears that your CEO, CFO and COO do not appear to be working for you on a full-time basis. Please revise your disclosure to explain the percentage of time each officer is expected to devote to your business. In addition, please revise Mr. Schrader's biography to explain his responsibilities as the managing partner of Schrader & Schoenberg LLP, which is referenced on page 39, and expand on Mr. Held's biography to explain that you receive the services of Mr. Held through a consulting agreement with ALOE Finance.

B. Compensation, page 41

18. Based on the terms of the agreements with Mr. Gilbert and Mr. Schrader, it appears that severance compensation amounts may be up to 24 months in some circumstances. Please revise.

Related Party Transactions, page 50

19. For each related party transaction, please identify the related party.

Item 10. Additional Information, page 53

20. We refer to your statement in the first risk factor on page 24 that there are some material differences between the Ontario Business Corporations Act and laws generally applicable to U.S. corporations and shareholders. To the extent the OBCA is significantly different, please specifically explain the effect of such laws, including with respect to change in control transactions. Refer to Item 10.B. 9 of Form 20-F.

Unaudited pro forma consolidated statements of financial position as of March 31, 2017, page 154

21. Article 11 of Regulation S-X requires that a pro forma income statement be based on the latest fiscal year and interim period included in the filing and a pro forma balance sheet be as of the latest balance sheet date. Please explain why your pro forma presentation was as of March 31, 2017 instead of June 30, 2017. Further explain why your pro forma

presentation did not include pro forma income statements for the year ended March 31, 2017 and three months ended June 30, 2017. Revise accordingly.

22. Your pro forma presentation states it is in US Dollars while the audited and interim financial statements on pages 71 to 152 are stated to be in Canadian Dollars. Also, the amounts for Scythian Biosciences, Inc. in the second column on page 155 agree to the corresponding amounts on page 126, which purport to be in Canadian Dollars. Please explain these apparent inconsistencies, and revise accordingly.

23. Please tell us the IFRS literature you are applying in determining whether your various pro forma adjustments to shareholder's equity are consistent with IFRS. As part of your response, tell us the exchange ratio used in your presentation of pro forma share capital on page 158. Explain how the equity structure of Scythian Biosciences Inc. was adjusted using the exchange rate ratio established in the acquisition agreement.

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.

You may contact Franklin Wyman at 202-551-3660 or Kevin Vaughn at 202-551-3494 if you have questions regarding comments on the financial statements and related matters. Please contact Christopher Edwards at 202-551-6761 or Dorrie Yale at 202-551-8776 with any other questions.

Division of Corporation Finance
Office of Healthcare & Insurance

cc: Harvey J. Kesner, Esq.