April 22, 2022

David J. Arthur Chief Executive Officer Salarius Pharmaceuticals, Inc. 2450 Holcombe Blvd., Suite X Houston, TX 77021

Re: Salarius Pharmaceuticals, Inc. Fiscal Year Ended December 31, 2021 2022 Filed March 25, File No. 001-36812

Dear Mr. Arthur:

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 the 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 10-K for the Fiscal Year Ended December 31, 2021 Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations Overview Research and Development Expenses, page 56 1 We note the significant increase in your research and development expenses in fiscal 2021 and that you have multiple programs/products in varying stages of development and clinical testing. Please revise future filings to provide more details about your research and development expenses for each period presented, including but not limited to by product/program as well as by the nature of the expenses. To the extent that you do not track expenses by product candidate, please disclose as such. In addition, disclose the specific reasons for significant changes in research and development expenses each period. David J. Arthur Salarius Pharmaceuticals, Inc. April 22, 2022 Page 2 In closing, 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 Christie Wong, Staff Accountant, at (202) 551-3684 or

Accounting Branch Chief, at (202) 551-3676 with any questions.

Brian Cascio,

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