

September 4, 2019

David L. Lucchino  
Chief Executive Officer  
Frequency Therapeutics, Inc.  
19 Presidential Way, 2nd Floor  
Woburn, MA 01801

Re: Frequency Therapeutics, Inc.  
Amendment No. 1 to  
Draft Registration Statement on Form S-1  
Submitted August 22, 2019  
CIK No. 0001703647

Dear Mr. Lucchino:

We have reviewed your amended 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.

Amendment No. 1 to Draft Registration Statement on Form S-1

Impact and prevalence of hearing , page 99

1. We note your response to comment 4. Please revise the exhibit index to indicate that you will file a consent from Health Advances LLC pursuant to Rule 436 of the Securities Act. For guidance, please refer to Question 233.02 of our Securities Act Rules Compliance and Disclosure Interpretations, which are available on our website.

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Unaudited Consolidated Financial Statements as of June 30, 2018 and 2019  
Consolidated Balance Sheets, page F-31

2. Please revise to reflect only the conversion of preferred stock existing at the latest balance sheet date in the pro forma information presented on the face of your historical financial statements. In this regard, while we do not object to the inclusion of other pro forma adjustments on your capitalization table, we believe that the pro forma presentation on the face of the historical statements should be limited to the impact of pro forma adjustments on financial instruments actually outstanding at the balance sheet date.

You may contact Andi Carpenter at 202-551-3645 or Sharon Blume at 202-551-3474 if you have questions regarding comments on the financial statements and related matters. Please contact Donald Field at 202-551-3680 or Dietrich King at 202-551-8071 with any other questions.

FirstName LastNameDavid L. Lucchino  
Comapany NameFrequency Therapeutics, Inc.

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Sincerely,  
Division of  
Office of

Healthcare & Insurance  
FirstName LastName