

September 30, 2019

Via EDGAR Transmission

United States Securities and Exchange Commission
Division of Corporation Finance
100 F Street, N.E.
Mail Stop 4720
Washington, D.C. 20549
Attention: Donald Field

**Re: Frequency Therapeutics, Inc.
Registration Statement on Form S-1
Filed September 6, 2019
Registration No. 333-233652**

Dear Mr. Field:

In accordance with Rule 461 of Regulation C of the General Rules and Regulations under the Securities Act of 1933, as amended, we hereby request the acceleration of the effective date of the above-referenced Registration Statement so that it will become effective on October 2, 2019, at 4:00 p.m., Eastern Time, or as soon thereafter as practicable, or at such later time as Frequency Therapeutics, Inc. (the "Company") or its counsel may request via telephone call to the staff. Please contact Nathan Ajiashvili of Latham & Watkins LLP, counsel to the Company, at (212) 906-2916, or in his absence, Jennifer Yoon at (617) 880-4540, to provide notice of effectiveness, or if you have any other questions or concerns regarding this matter.

Sincerely yours,

Frequency Therapeutics, Inc.

By: /s/ David L. Lucchino

David L. Lucchino

President and Chief Executive Officer

cc: Nathan Ajiashvili, Esq.
Jennifer A. Yoon, Esq.