



DIVISION OF
CORPORATION FINANCE

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

June 18, 2018

Keith Gottesdiener
Chief Executive Officer and President
Rhythm Pharmaceuticals, Inc.
500 Boylston Street
11th Floor
Boston, MA 02116

Re: Rhythm Pharmaceuticals, Inc.
Draft Registration Statement on Form S-1
Submitted June 11, 2018
CIK No. 0001649904

Dear Dr. Gottesdiener:

This is to advise you that we do not intend to review your registration statement.

We request that you publicly file your registration statement no later than 48 hours prior to the requested effective date and time. Please refer to Rules 460 and 461 regarding requests for acceleration. 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.

Please contact Dorrie Yale at 202-551-8776 with any questions.

Division of Corporation Finance
Office of Healthcare & Insurance

cc: Laurie A. Cerveny