



DIVISION OF  
CORPORATION FINANCE

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

August 15, 2017

Susan M. Molineaux  
President and Chief Executive Officer  
Calithera Biosciences, Inc.  
343 Oyster Point Blvd. Suite 200  
South San Francisco, California 94080

**Re: Calithera Biosciences, Inc.  
Registration Statement on Form S-3  
Filed August 8, 2017  
File No. 333-219791**

Dear Dr. Molineaux:

This is to advise you that we have not reviewed and will not review your registration statement.

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 Chris Edwards at (202) 551-6761 with any questions.

Division of Corporation Finance  
Office of Health & Insurance

cc: Seth J. Gottlieb