



DIVISION OF
CORPORATION FINANCE

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

Mail Stop 4546

October 20, 2016

Douglas M. Fambrough, III, Ph.D.
President, Chief Executive Officer and Director
Dicerna Pharmaceuticals, Inc.
87 Cambridgepark Drive
Cambridge, MA 02140

**Re: Dicerna Pharmaceuticals, Inc.
Registration Statement on Form S-3
Filed October 13, 2016
File No. 333-214082**

Dear Dr. Fambrough:

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 Jeffrey Gabor at (202) 551-2544 with any questions.

Sincerely,

/s/ Joseph McCann for

Suzanne Hayes
Assistant Director
Office of Healthcare and Insurance

cc: Istvan A. Hajdu, Esq.
Sidley Austin LLP