



DIVISION OF  
CORPORATION FINANCE

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

June 30, 2017

Paul Lammers  
President & Chief Executive Officer  
Mirna Therapeutics, Inc.  
1250 South Capital of Texas Highway  
Building 3, Suite 400  
Austin, TX 78746

**Re: Mirna Therapeutics, Inc.  
Registration Statement on Form S-4  
Filed June 21, 2017  
File No. 333-218885**

Dear Dr. Lammers:

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.

Division of Corporation Finance  
Office of Healthcare & Insurance