



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