

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

May 1, 2024

Eric E. Poma, Ph.D.
Chief Executive Officer and Chief Scientific Officer
Molecular Templates, Inc.
9301 Amberglen Blvd, Suite 100
Austin, Texas 78729

Re: Molecular Templates, Inc. Registration Statement on Form S-3 Filed April 25, 2024 File No. 333-278932

Dear Eric E. Poma:

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.

Sincerely,

Division of Corporation Finance Office of Life Sciences

cc: Melanie Ruthrauff Levy, Esq.