

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

DIVISION OF CORPORATION FINANCE

March 17, 2022

Sanjay Shukla President and Chief Executive Officer aTyr Pharma, Inc. 3545 John Hopkins Court, Suite 250 San Diego, CA 92121

> Re: aTyr Pharma, Inc. Registration Statement on Form S-3 Filed March 15, 2022 File No. 333-263585

Dear Mr. Shukla:

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 Dorrie Yale at 202-551-8776 with any questions.

Sincerely,

Division of Corporation Finance Office of Life Sciences

cc: Alexa Ekman