

aTyr Pharma, Inc.  
3545 John Hopkins Court, Suite 250  
San Diego, California 92121

November 19, 2020

**VIA EDGAR**

U.S. Securities and Exchange Commission  
Division of Corporation Finance  
100 F Street, N.E.  
Washington, D.C. 20549  
Attn: David Gessert

**Re: aTyr Pharma, Inc.  
Registration Statement on Form S-3 (File No. 333-250095)  
Request of Acceleration of Effective Date**

Ladies and Gentlemen:

Pursuant to Rule 461 under the Securities Act of 1933, as amended, aTyr Pharma, Inc. (the “**Company**”) hereby requests that the Securities and Exchange Commission (the “**Commission**”) accelerate the effective date of the above-referenced Registration Statement on Form S-3 (the “**Registration Statement**”) and declare the Registration Statement effective as of 4:00 p.m. Eastern time, on November 23, 2020, or as soon thereafter as possible, or at such other time as the Company or its legal counsel, Cooley LLP, may request by telephone to the staff of the Commission. The Company hereby authorizes each of Sean M. Clayton and Alexa M. Ekman of Cooley LLP to make such a request on its behalf.

Once the Registration Statement has been declared effective, please confirm that event with Sean M. Clayton of Cooley LLP at (858) 550-6034 or [sclayton@cooley.com](mailto:sclayton@cooley.com).

Sincerely,

**ATYR PHARMA, INC.**

By: /s/ Jill Broadfoot  
Jill Broadfoot  
Chief Financial Officer