

REPARE THERAPEUTICS INC.
7210 Frederick-Banting, Suite 100
St-Laurent, Québec H4S 2A1
Canada

June 16, 2020

VIA EDGAR

U.S. Securities and Exchange Commission
Division of Corporation Finance
100 F Street, N.E.
Washington, D.C. 20549
Attn: Ms. Tracey McKoy
Ms. Kate Tillan
Mr. Tim Buchmiller
Ms. Celeste Murphy

**Re: Repare Therapeutics Inc.
Registration Statement on Form S-1 (File No. 333-238822)**

Acceleration Request

Requested Date: Thursday, June 18, 2020

Requested Time: 4:00 P.M. Eastern Time

Ladies and Gentleman:

Pursuant to Rule 461 of the General Rules and Regulations under the Securities Act of 1933, as amended, Repare Therapeutics 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-1 (as amended to date, the "Registration Statement") and declare the Registration Statement effective as of 4:00 p.m. Eastern time, on June 18, 2020, or as soon thereafter as possible, or at such other time as its legal counsel, Cooley LLP, may request by telephone to the Staff. The Registrant hereby authorizes each of Divakar Gupta and Courtney Thorne of Cooley LLP, counsel to the Registrant, to make such request on its behalf.

Once the Registration Statement has been declared effective, please orally confirm that event with Divakar Gupta of Cooley LLP at +1 212 479 6474 and in his absence, Courtney Thorne of Cooley LLP at +1 617 937 2318.

Under separate cover, you will receive today a letter from the managing underwriters of the proposed offering joining in the Company's request for acceleration of the effectiveness of the Registration Statement.

[Signature page follows]

Very truly yours,

Repare Therapeutics Inc.

/s/ Lloyd M. Segal

By: Lloyd M. Segal

Title: President and Chief Executive Officer

cc: Lloyd M. Segal, Repare Therapeutics Inc.
Steve Forte, Repare Therapeutics Inc.
Marc A. Recht, Cooley LLP
Ryan S. Sansom, Cooley LLP
Courtney T. Thorne, Cooley LLP
Mitchell S. Bloom, Goodwin Procter LLP
Seo Salimi, Goodwin Procter LLP

[Signature Page to Company Acceleration Request]