

**REPARE THERAPEUTICS INC.**  
7171 Frederick-Banting, Building 2  
Suite 270  
St-Laurent, Québec H4S 1Z9  
Canada

August 15, 2024

**Via EDGAR**

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

Re: **Repare Therapeutics Inc.**  
**Registration Statement on Form S-3**  
**File No. 333-281298**

Ladies and Gentlemen:

In accordance with Rule 461 under the Securities Act of 1933, as amended, Repare Therapeutics Inc. (the "**Registrant**") hereby requests that the U.S. Securities and Exchange Commission (the "**Commission**") take appropriate action to cause the above-referenced Registration Statement on Form S-3 (File No. 333-281298) (the "**Registration Statement**") to become effective at 4:00 p.m., Eastern Time, on Monday, August 19, 2024, or as soon as practicable thereafter, or at such later time as the Registrant may orally request via telephone call to the staff of the Commission (the "**Staff**"). The Registrant hereby authorizes Courtney T. 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 Courtney T. Thorne of Cooley LLP at (617) 937-2318, or, in her absence, Trey Reilly of Cooley LLP at (212) 479-6502.

Very truly yours,

**REPARE THERAPEUTICS INC.**

/s/ Steve Forte

By: Steve Forte  
Title: Executive Vice President, Chief Financial Officer

cc: Lloyd M. Segal, Repare Therapeutics Inc.  
Divakar Gupta, Cooley LLP  
Courtney T. Thorne, Cooley LLP  
Trey Reilly, Cooley LLP