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**UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION**  
Washington, D.C. 20549

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**FORM S-1**

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**REGISTRATION STATEMENT**  
*UNDER*  
**THE SECURITIES ACT OF 1933**

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**Repare Therapeutics Inc.**  
(Exact name of registrant as specified in its charter)

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**Canada (Federal)**  
(State or other jurisdiction of  
incorporation or organization)

**2834**  
(Primary Standard Industrial  
Classification Code Number)

**Not applicable**  
(I.R.S. Employer  
Identification No.)

**7210 Frederick-Banting, Suite 100**  
**St-Laurent, Québec, Canada H4S 2A1**  
**(857) 412-7018**

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

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**Lloyd M. Segal**  
**Chief Executive Officer**  
**Repare Therapeutics Inc.**  
**1 Broadway, 15th Floor**  
**Cambridge, MA 02142**  
**(857) 412-7018**

(Name, address, including zip code, and telephone number, including area code, of agent for service)

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*Copies to:*

**Divakar Gupta**  
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**(514) 397-3222**

**Mitchell S. Bloom**  
**Seo Salimi**  
**Goodwin Procter LLP**  
**100 Northern Avenue**  
**Boston, MA 02210**  
**(617) 570-1000**

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**Approximate date of commencement of proposed sale to the public: As soon as practicable after this Registration Statement becomes effective.**

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box.

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.  (333-238822)

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth

company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of the Securities Act.

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**CALCULATION OF REGISTRATION FEE**

Title of Each Class of Securities to be Registered	Amount to be Registered(1)	Proposed Maximum Offering Price Per Share(2)(3)	Proposed Maximum Aggregate Offering Price(3)	Amount of Registration Fee(3)
Common shares, no par value per share	1,150,000	\$20.00	\$23,000,000	\$2,986

(1) Represents only the number of shares being registered pursuant to this Registration Statement, which includes 150,000 shares that the underwriters have the option to purchase, and are in addition to the 11,500,000 shares that were registered pursuant to the Registrant’s Registration Statement on Form S-1 (File No. 333-238822), which included 1,500,000 shares that the underwriters have the option to purchase.

(2) Based on the public offering price.

(3) The registration fee is calculated in accordance with Rule 457(a) under the Securities Act of 1933, as amended, based on the proposed maximum aggregate offering price. The registrant previously registered securities at an aggregate offering price not to exceed \$230,000,000 on a Registration Statement on Form S-1 (File No. 333-238822), which was declared effective by the Securities and Exchange Commission on June 18, 2020. In accordance with Rule 462(b) under the Securities Act, an additional amount of securities having a proposed maximum aggregate offering price of \$23,000,000 is hereby registered, which includes the additional shares issuable upon the exercise of the underwriters’ option to purchase additional shares.

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**The Registration Statement shall become effective upon filing in accordance with Rule 462(b) promulgated under the Securities Act of 1933, as amended.**

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**EXPLANATORY NOTE AND  
INCORPORATION OF CERTAIN INFORMATION BY REFERENCE**

This Registration Statement (the “Registration Statement”) is being filed with the Securities and Exchange Commission (the “Commission”) with respect to the registration of additional common shares, no par value (the “Common Shares”), of Repare Therapeutics Inc. (the “Registrant”), pursuant to Rule 462(b) under the Securities Act of 1933, as amended (the “Securities Act”). This Registration Statement incorporates by reference the contents of, including all amendments and exhibits thereto, the Registration Statement on Form S-1, as amended (File No. 333-238822) (the “Prior Registration Statement”), which the Commission declared effective on June 18, 2020, and is being filed solely for the purpose of increasing the number of shares to be offered in the public offering by 1,150,000 Common Shares, which includes 150,000 Common Shares that may be sold pursuant to the underwriters’ option to purchase additional shares. The Common Shares that are being registered for sale hereby are in an amount and at a price that together represent no more than 20% of the maximum aggregate offering price set forth in the Calculation of Registration Fee table contained in the Prior Registration Statement.

The required opinion and consents are listed on the Exhibit Index attached hereto and filed herewith.

**EXHIBIT INDEX**

<b><u>Exhibit Number</u></b>	<b><u>Description</u></b>
5.1	<a href="#"><u>Opinion of Stikeman Elliott LLP.</u></a>
23.1	<a href="#"><u>Consent of Ernst &amp; Young LLP, an Independent Registered Public Accounting Firm.</u></a>
23.2	<a href="#"><u>Consent of Stikeman Elliott LLP (included in Exhibit 5.1).</u></a>
24.1	<a href="#"><u>Power of Attorney (included on the signature page of the Registration Statement on Form S-1 (File No. 333-238822), filed by the Registrant on May 29, 2020 and incorporated herein by reference).</u></a>
24.2	<a href="#"><u>Power of Attorney of Ann D. Rhoads (included as Exhibit 24.2 to the Registration Statement on Form S-1 (File No. 333-238822), filed by the Registrant on June 15, 2020 and incorporated herein by reference).</u></a>

## SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized in the City of Montréal, Province of Québec, Canada on June 18, 2020.

### REPARE THERAPEUTICS INC.

By: /s/ Lloyd M. Segal  
Lloyd M. Segal  
President and Chief Executive Officer

Pursuant to the requirements of the Securities Act of 1933, as amended, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

<u>Signature</u>	<u>Title</u>	<u>Date</u>
<u>/s/ Lloyd M. Segal</u> Lloyd M. Segal	President, Chief Executive Officer and Director <i>(Principal Executive Officer)</i>	June 18, 2020
* <u>Steve Forte</u>	Executive Vice President, Chief Financial Officer <i>(Principal Financial Officer and Principal Accounting Officer)</i>	June 18, 2020
* <u>Jerel Davis, Ph.D.</u>	Chairman of the Board of Directors	June 18, 2020
* <u>David Bonita, M.D.</u>	Director	June 18, 2020
* <u>Todd Foley</u>	Director	June 18, 2020
* <u>Samarth Kulkarni, Ph.D.</u>	Director	June 18, 2020
* <u>Briggs Morrison, M.D.</u>	Director	June 18, 2020
* <u>Ann D. Rhoads</u>	Director	June 18, 2020
* <u>Carol A. Schafer</u>	Director	June 18, 2020

\*By: /s/ Lloyd M. Segal  
Lloyd M. Segal  
*Attorney-in-fact*

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**SIGNATURE OF AUTHORIZED U.S. REPRESENTATIVE OF THE REGISTRANT**

Pursuant to the Securities Act, the undersigned, the duly authorized representative in the United States of Repare Therapeutics Inc. has signed this Registration Statement on the 18th day of June, 2020.

**REPARE THERAPEUTICS USA INC.**

By: /s/ Lloyd M. Segal

Lloyd M. Segal

President and Chief Executive Officer

June 18, 2020

Repare Therapeutics Inc.  
7210 Frederick-Banting Street, Suite 100  
Saint-Laurent, Québec  
H4S 2A1

Dear Sirs/Mesdames:

**Re: Repare Therapeutics Inc.—Registration Statement on Form S-1**

We have acted as Canadian counsel to Repare Therapeutics Inc. (the “**Corporation**”), a corporation governed on the date of this opinion by the *Canada Business Corporations Act*, in connection with the filing on June 18, 2020 of a Registration Statement on Form S-1 (the “**Registration Statement**”) with the Securities and Exchange Commission (the “**SEC**”) pursuant to Rule 462(b) of Regulation C promulgated under the Securities Act of 1933, as amended (the “**Securities Act**”), relating to an underwritten public offering of 1,000,000 common shares of the Corporation (and up to an additional 150,000 common shares of the Corporation issuable upon exercise of an option granted by the Corporation to purchase additional common shares of the Corporation) (collectively, the “**Shares**”). The Registration Statement incorporates by reference the Registration Statement on Form S-1 (No. 333-238822) filed on June 17, 2020 with the SEC under the Securities Act, which was declared effective on June 18, 2020 (the “**Prior Registration Statement**”), including the prospectus which forms a part of the Prior Registration Statement (the “**Prospectus**”).

We have examined the Registration Statement, the Prior Registration Statement, the Prospectus and all such corporate and public records, statutes and regulations and have made such investigations and have reviewed such other documents as we have deemed relevant and necessary and have considered such questions of law as we have considered relevant and necessary in order to give the opinion hereinafter set forth. As to various questions of fact material to such opinions which were not independently established, we have relied upon a certificate of an officer of the Corporation.

In reviewing the foregoing documents and in giving this opinion, we have assumed the legal capacity of all individuals, the genuineness of all signatures, the veracity of the information contained therein, the authenticity of all documents submitted to us as originals and the conformity to authentic or original documents of all documents submitted to us as certified, conformed, electronic, photostatic or facsimile copies.

We are qualified to practice law in the Province of Québec and this opinion is rendered solely with respect to the Province of Québec and the federal laws of Canada applicable in the Province of Québec. This opinion is expressed with respect to the laws in effect on the date of this opinion and we do not accept any responsibility to take into account or inform the addressee, or any other person authorized to rely on this opinion, of any changes in law, facts or other developments subsequent to this date that do or may affect the opinion we express.

Based upon and subject to the foregoing, and subject to the qualifications, assumptions and limitations stated herein, we are of the opinion that, when the Shares shall have been issued and sold pursuant to the terms of the Underwriting Agreement, the Shares will be validly issued, fully paid and non-assessable.

Where this opinion refers to any of the Shares as being issued as being “fully paid and non-assessable”, such opinion assumes that all required consideration (in whatever form) has been paid or provided.

We hereby consent to the reference to us under the heading “Legal Matters” in the Registration Statement and to the filing of this opinion as an exhibit to the Registration Statement. This opinion may not be quoted from or referred to in any documents other than the Registration Statement as provided for herein without our prior written consent.

Yours very truly,

/s/ Stikeman Elliott LLP

Stikeman Elliott LLP

**Consent of Independent Registered Public Accounting Firm**

We consent to the incorporation by reference in the Registration Statement on Form S-1 filed pursuant to Rule 462(b) of the Securities Act of 1933 of the reference to our firm under the caption “Experts” and to the incorporation by reference of our report dated April 3, 2020 (except for Note 19(b), as to which the date is June 15, 2020), with respect to the consolidated financial statements of Repare Therapeutics Inc. included in the Registration Statement on Form S-1, as amended (File No. 333-238822) and related Prospectus of Repare Therapeutics Inc. for the registration of its common shares.

/s/ Ernst & Young LLP<sup>1</sup>

Montreal, Canada  
June 18, 2020

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<sup>1</sup> CPA auditor, CA, public accountancy permit no. A113209