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

SCHEDULE 14A
(RULE 14a-101)

INFORMATION REQUIRED IN PROXY STATEMENT
SCHEDULE 14A INFORMATION

Proxy Statement Pursuant to Section 14(a) of the
Securities Exchange Act of 1934

Filed by the Registrant ☒

Filed by a Party other than the Registrant ☐

Check the appropriate box:

- ☐ Preliminary Proxy Statement
- ☐ **Confidential, for Use of the Commission Only** (as permitted by Rule 14a-6(e)(2))
- ☐ Definitive Proxy Statement
- ☒ Definitive Additional Materials
- ☐ Soliciting Material Pursuant to §240.14a-12

Repare Therapeutics Inc.

(Name of Registrant as Specified In Its Charter)

(Name of Person(s) Filing Proxy Statement, if other than the Registrant)

Payment of Filing Fee (Check the appropriate box):

- ☒ No fee required.
- ☐ Fee paid previously with preliminary materials.
- ☐ Fee computed on table in exhibit required by Item 25(b) per Exchange Act Rules 14a6(i)(1) and 0-11
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Repare Therapeutics Enters into Support and Voting Agreements with Significant Shareholders for Proposed Transaction with XenoTherapeutics, Inc.

CAMBRIDGE, Mass. & MONTREAL (BUSINESS WIRE) – November 20, 2025 – Repare Therapeutics Inc. (“Repare” or the “Company”) (Nasdaq: RPTX), a clinical-stage precision oncology company, today announced that following the announcement on November 14, 2025 of the entering into of a definitive arrangement agreement with XenoTherapeutics, Inc. and Xeno Acquisition Corp. (jointly, “Xeno”), a non-profit biotechnology company, pursuant to which Xeno will acquire (the “Transaction”) all of the issued and outstanding common shares of Repare (the “Common Shares”), certain entities affiliated with Biotechnology Value Fund, L.P., Blue Owl Capital Holdings LP, and certain entities affiliated with OrbiMed have each entered into a support and voting agreement pursuant to which they have agreed to vote their Common Shares in favor of the special resolution approving the Transaction.

Considering the previously announced support and voting agreements entered into by the directors and executive officers of Repare, shareholders owning approximately 40% of Repare’s issued and outstanding Common Shares have now agreed to vote their Common Shares in favor of the special resolution approving the Transaction.

About Repare Therapeutics Inc.

Repare Therapeutics is a clinical-stage precision oncology company enabled by its proprietary synthetic lethality approach to the discovery and development of novel therapeutics. Repare Therapeutics has developed highly targeted cancer therapies focused on genomic instability, including DNA damage repair. The Company’s clinical-stage pipeline includes RP-3467, a Phase 1 Polq ATPase inhibitor; and RP-1664, a Phase 1 PLK4 inhibitor. For more information, please visit www.reparerx.com and follow @Reparerx on X (formerly Twitter) and LinkedIn.

Additional Information and Where to Find It

The Company intends to file with the SEC and furnish to its shareholders a proxy statement on Schedule 14A, as well as other relevant documents concerning the proposed transaction. The proxy statement will contain important information about the proposed transaction and related matters. **Investors and security holders of the Company are urged to carefully read the entire proxy statement (including any amendments or supplements thereto) when it becomes available because it will contain important information about the proposed transactions.** A definitive proxy statement will be sent to the shareholders of the Company seeking any required shareholder approvals.

Investors and security holders of the Company will be able to obtain a free copy of the proxy statement, as well as other relevant filings containing information about the Company and the proposed transaction, including materials that will be incorporated by reference into the proxy statement, without charge, at the SEC’s website (<http://www.sec.gov>) or from the Company by contacting the Company’s Investor Relations at (857) 412-7018, by submitting a contact form on the Company’s website at <https://www.reparerx.com/contact/>, or by going to the Company’s Investor Relations page on its website at <https://ir.reparerx.com/investor-relations> and clicking on the link titled “SEC Filings.”

Participants in the Solicitation

The Company and certain of its directors, executive officers and employees may be deemed to be participants in the solicitation of proxies in respect of the proposed transaction. Information regarding the interests of the Company's directors and executive officers and their ownership of the Company's common shares is set forth in the Company's annual report on Form 10-K filed with the SEC on March 3, 2025 and the Company's proxy statement on Schedule 14A filed with the SEC on April 29, 2025. Other information regarding the participants in the proxy solicitation and a description of their direct and indirect interests in the proposed transaction, by security holdings or otherwise, will be contained in the proxy statement and other relevant materials to be filed with the SEC in connection with the proposed transaction. Copies of these documents may be obtained, free of charge, from the SEC or the Company as described in the preceding paragraph.

Forward Looking Statements

This news release contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995 and "forward-looking information" within the meaning of applicable securities laws in Canada. All statements in this news release other than statements of historical facts are forward-looking statements and forward-looking information. These statements may be identified by words such as "aims," "anticipates," "believes," "could," "estimates," "expects," "forecasts," "goal," "intends," "may," "plans," "possible," "potential," "seeks," "will" and variations of these words or similar expressions that are intended to identify forward-looking statements, although not all forward-looking statements contain these words. Forward-looking statements in this news release include, but are not limited to, statements regarding the proposed Transaction and any other statements that are not statements of historical fact. These forward-looking statements are based on the Company's expectations and assumptions as of the date of this news release. Each of these forward-looking statements involves risks and uncertainties, many of which are outside of the control of Repare, that could cause the Company's actual results to differ materially from those expressed or implied by the forward-looking statements, including the consummation of the Transaction and the anticipated benefits thereof. Many factors may cause differences between current expectations and actual results, including: (i) the completion of the Transaction on anticipated terms and timing, including obtaining required shareholder and court approvals, and the satisfaction of other conditions to the completion of the Transaction; (ii) potential litigation relating to the Transaction that could be instituted by or against the Company, Xeno, XOMA Royalty or their respective directors or officers, including the effects of any outcomes related thereto; (iii) significant transaction costs and unknown liabilities associated with the Transaction; and (iv) the risks and uncertainties that will be described in the proxy statement to be prepared by Repare in connection with the potential Transaction (the "Proxy Statement") and which will be available on the Company's EDGAR and SEDAR+ profiles. While the list of factors presented here is, and the list of factors to be presented in the Proxy Statement will be, considered representative, no such list should be considered a complete statement of all potential risks and uncertainties related to the Transaction.

Other factors that may cause the Company's actual results to differ from those expressed or implied in the forward-looking statements in this news release are identified in the section titled "Risk Factors" in the Company's Annual Report on Form 10-K for the year ended December 31, 2024 filed with the U.S. Securities and Exchange Commission (the "SEC") and the Autorité des Marchés Financiers (Quebec) ("AMF") on March 3, 2025, and in other filings made with the SEC and AMF from time to time, including the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2025. The Company expressly disclaims any obligation to update any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances or otherwise, except as otherwise required by law. For more information, please visit reparerx.com and follow Repare on X (formerly Twitter) at @RepareRx and on LinkedIn at <https://www.linkedin.com/company/repare-therapeutics/>.