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

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): January 7, 2022

Repare Therapeutics Inc.
(Exact Name of Registrant as Specified in Its Charter)

Québec	**001-39335**	**Not applicable**
(State or Other Jurisdiction of Incorporation)	**(Commission File Number)**	**(I.R.S. Employer Identification No.)**

7210 Frederick-Banting, Suite 100 **St-Laurent, Québec, Canada** **(Address of Principal Executive Offices)**	**H4S 2A1** **(Zip Code)**

Registrant's Telephone Number, Including Area Code: (857) 412-7018

Not Applicable
(Former Name or Former Address, if Changed Since Last Report.)

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol	Name of each exchange on which registered
Common shares, no par value	**RPTX**	**The Nasdaq Stock Market LLC**

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

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 13(a) of the Exchange Act. ☐

Item 7.01 Regulation FD Disclosure.

On January 7, 2022, Repare Therapeutics (the "Company") issued a press release providing a business update and highlighting anticipated upcoming milestones including anticipated data readouts from expansion cohorts of the Company's clinical trials of RP-3500, the expected initiation of a monotherapy Phase 2 TRESR trial of RP-3500 in the first quarter of 2022, the expected initiation of a Phase 1 pediatric module of TRESR trial of RP-3500 monotherapy in children in the first quarter of 2022 and the expected initiation of IND-enabling studies in the Company's Polq, inhibitor program in the first half of 2022. A copy of the press release is furnished herewith as Exhibit 99.1.

As previously disclosed in December 2021, the Company has initiated its Phase 1 clinical trial of RP-6306 in combination with gemcitabine for the treatment of molecularly selected advanced solid tumors. Additionally, the Company reaffirms its previous guidance of reporting early clinical data for RP-6306 in the second half of 2022.

Management of the Company will present at the upcoming 40th Annual J.P. Morgan Healthcare Conference on Wednesday, January 13, 2022 at 3:45 p.m. ET. The presentation will be webcast live and will be available by clicking on an available link on the Investors section of the Company's website located at https://ir.reparerx.com/news-and-events/events.

On January 10, 2022, the Company plans to post an updated corporate presentation dated January 2022 providing a general business update as well as the aforementioned updates regarding its anticipated upcoming milestones for 2022. The corporate presentation will be available under the "News and Events" section of the Company's website, located at https://ir.reparerx.com/news-and-events/presentations. The Company intends to use this presentation at the 40th Annual J.P. Morgan Healthcare Conference beginning on January[10, 2022 as well as in future meetings with analysts, investors and others from time to time.

The information contained in this Item 7.01, including Exhibit 99.1, is being furnished and shall not be deemed "filed" for purposes of Section 18 of the Exchange Act, or otherwise subject to the liabilities of that section, nor shall such information be deemed incorporated by reference in any filing under the Securities Act, or the Exchange Act, except as expressly set forth by specific reference in such a filing.

Forward-Looking Statements

This Current Report on Form 8-K contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, as amended. All statements in this Current Report on Form 8-K other than statements of historical fact could be deemed forward looking including, but not limited to, statements regarding the Company's clinical development plans and business strategy including statements regarding the Company's plans and timelines for the clinical development of RP-3500 and RP-6306 including plans and timelines for pursuing development in any expansion phase(s) of clinical trials as well as anticipated data readout dates; the potential therapeutic effects and anticipated clinical benefits of RP-3500 and RP-6306, as a monotherapy and in combination; and whether preclinical or early clinical results of RP-3500, RP-6306 and the Company's Polq, inhibitor program will be predictive of future clinical trials. Words such as "plans," "expects," "will," "shall," "anticipates," "continue," "expand," "advance," "believes," "guidance," "target," "may," "remain," "project," "outlook," "intend," "estimate," "could," "should," and other words and terms of similar meaning and expression are intended to identify forward-looking statements, although not all forward-looking statements contain such terms. The forward-looking statements herein speak only as of the date of this Current Report on Form 8-K, and the Company undertakes no obligation to update these forward-looking statements. Forward-looking statements are based on management's current beliefs and assumptions that are subject to risks and uncertainties and are not guarantees of future performance. Actual results could differ materially from those contained in any forward-looking statement as a result of various factors, including, without limitation, the impacts of the COVID-19 pandemic on the Company's business, clinical trials and financial position, unexpected safety or efficacy data observed during preclinical studies or clinical trials, clinical trial site activation or enrollment rates that are lower than expected, the potential product candidates that the Company develops may not progress through clinical development or receive required regulatory approvals within expected timelines or at all, changes in expected or existing competition, changes in the regulatory environment, the uncertainties and timing of the regulatory approval process, and unexpected litigation or other disputes. Other factors that may cause the Company's actual results to differ from those expressed or implied in the forward-looking statements in this Current Report on Form 8-K are identified in the section titled "Risk Factors" in the Company's Quarterly Report on Form 10-Q for the quarter ended September 30, 2021 filed with the Securities and Exchange Commission ("SEC") and the Québec

Autorité des Marchés Financiers ("AMF") on November 10, 2021, and its other documents subsequently filed with or furnished to the SEC and AMF. 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.

Item 9.01 Financial Statements and Exhibit.

(d) Exhibits

Exhibit No.	Description
99.1	Press release dated January 7, 2022.
104	Cover Page Interactive Data File (embedded within the Inline XBRL document).

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

REPARE THERAPEUTICS INC.

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

Dated: January 7, 2022

Repare Therapeutics Provides Corporate Update and Highlights Key Milestones Anticipated in 2022

Cambridge, MA & Montreal, QC, January 7, 2022 (BUSINESS WIRE) — Repare Therapeutics Inc. ("Repare" or the "Company") (Nasdaq: RPTX), a leading clinical-stage precision oncology company enabled by its proprietary synthetic lethality approach to the discovery and development of novel therapeutics, today provided a corporate update and highlighted key milestones anticipated in 2022.

"2021 was a substantial year of progress for Repare. We presented encouraging initial Phase 1 RP-3500 monotherapy data from our Phase 1/2 TRESR trial and began enrollment of patients in our combination trials of RP-3500 with PARP inhibitors and with gemcitabine. We also entered the clinic with our second pipeline program, RP-6306, a first-in-class, oral PKMYT1 inhibitor both as monotherapy and in combination with gemcitabine," said Lloyd M. Segal, President and Chief Executive Officer of Repare. "Our successful follow-on public offering in November of last year secured proceeds that enable us to further advance our innovative pipeline of clinical and preclinical programs through 2023. 2022 is expected to be another exciting year for the Company as we look forward to the data from the expansion cohorts of the TRESR trial in tumors with STEP^2 genomic alterations alone and in various combinations. We are looking forward to the initial data from the Phase 1 RP-6306 monotherapy MYTHIC trial and data from additional studies of RP-6306 in combination with chemotherapy agents in advanced solid tumors. We are also on track to initiate IND-enabling studies for our Polq inhibitor program that will further expand our synthetic lethality-based clinical pipeline."

Key Milestones Anticipated in 2022:

- Initiation of a monotherapy Phase 2 TRESR trial of RP-3500, a potent and selective oral small molecule inhibitor of ATR (Ataxia-Telangiectasia and Rad3-related protein kinase), for the treatment of solid tumors with specific synthetic-lethal genomic alterations including those in the ATM gene (ataxia teleangectasia mutated kinase), in tumors with ATM loss of function and in tumors with other STEP^2 genomic alteration is expected in the first quarter of 2022;
- Initiation of a Phase 1 pediatric module of TRESR trial of RP-3500 monotherapy in children is expected in the first quarter of 2022;
- Receipt of monotherapy Phase 1 (Module 1) clinical data from 120 patients enrolled in the Phase 1/2 TRESR (Treatment Enabled by SNIPRx) trial of RP-3500 is expected in the first half of 2022;
- Initiation of IND-enabling studies in the Company's Polq inhibitor program expected in the first half of 2022;
- Determination of recommended Phase 2 dose of RP-3500 in combination with gemcitabine, a trial that began enrolling patients in December 2021, is expected in the second half of 2022; and
- Early clinical data readouts for PARPi combination from Phase 1/2 TRESR trial and ATTACC trial of RP-3500 in combination with, collectively, three marketed PARP inhibitors expected in the second half of 2022.

Cash Position and Financial Guidance

Repare ended the third quarter of 2021 with approximately $268.2 million in cash and cash equivalents. In November 2021, the Company closed an upsized underwritten follow-on public offering yielding aggregate gross proceeds of approximately $101.2 million, or net proceeds of approximately $93.9 million, after deducting underwriting commissions and estimated offering expenses of $1.2 million. The Company expects that its cash and cash equivalents will be sufficient to fund its planned operations through 2023.

Upcoming Presentation at 40th Annual J.P. Morgan Healthcare Conference

Repare Therapeutics will present at the 40th Annual J.P. Morgan Healthcare Conference on Wednesday, January 12, 2022 at 3:45 p.m. Eastern Time. A live webcast of the presentation can be accessed in the Investor section of the Company's website at https://ir.reparerx.com/news-and-events/events. A replay of the webcast will be archived on the Company's website for 30 days.

About Repare Therapeutics, Inc.

Repare Therapeutics is a leading clinical-stage precision oncology company enabled by its proprietary synthetic lethality approach to the discovery and development of novel therapeutics. The Company utilizes its genome-wide, CRISPR-enabled SNIPRx® platform to systematically discover and develop highly targeted cancer therapies focused on genomic instability, including DNA damage repair. The Company's pipeline includes its lead product candidate RP-3500, a potential leading ATR inhibitor currently in Phase 1/2 clinical development, its second clinical candidate, RP-6306, a PKMYT1 inhibitor currently in Phase 1 clinical development, a Polq inhibitor program, as well as eight other early-stage, pre-clinical programs. For more information, please visit reparerx.com.

Forward-Looking Statements

This press release contains “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. All statements in this press release other than statements of historical facts are “forward-looking statements. 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 press release include, but are not limited to, statements regarding the clinical development of the Company’s pipeline and its research and development programs, including the anticipated design, progress, timing, anticipated patient enrollment, scope, data readouts, trial outcomes or associated costs of its clinical trials of RP-3500 and RP-6306; additional clinical trials based on initial data from trials which may not be may not be indicative of the final results of the clinical trials; the initiation of IND-enabling studies for the Company’s Polq inhibitor program; the determination of recommend Phase 2 doses for its product candidates; the anticipated achievement of upcoming clinical milestones including data readouts from expansion cohorts, the initiation of a Phase 2 TRESR trial of RP-3500 in 2022, the initiation of a Phase 1 pediatric module of TRESR study trial of RP-3500 monotherapy in 2022, and the initiation of a Phase 1 clinical trial of RP-6306 in combination with FOLFIRI in 2022; and anticipated cash runway. These forward-looking statements are based on the Company’s expectations and assumptions as of the date of this press release. Each of these forward-looking statements involves risks and uncertainties that could cause the Company’s clinical development programs, future results or performance to differ materially from those expressed or implied by the forward-looking statements. Many factors may cause differences between current expectations and actual results, including the impacts of the COVID-19 pandemic on the Company’s business, clinical trials and financial position, unexpected safety or efficacy data observed during preclinical studies or clinical trials, clinical trial site activation or enrollment rates that are lower than expected, changes in expected or existing competition, changes in the regulatory environment, the uncertainties and timing of the regulatory approval process, and unexpected litigation or other disputes. Other factors that may cause the Company’s actual results to differ from those expressed or implied in the forward-looking statements in this press release are identified in the section titled “Risk Factors” in the Company’s Quarterly Report on Form 10-Q for the quarter ended September 30, 2021 filed with the Securities and Exchange Commission (“SEC”) and the Québec Autorité des Marchés Financiers (“AMF”) on November 10, 2021, and its other documents subsequently filed with or furnished to the SEC and AMF. 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.

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