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): May 13, 2021

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	H4S 2A1
(Address of Principal Executive Offices)	(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 2.02 Results of Operations and Financial Condition.

On May 13, 2021, Repare Therapeutics Inc. (the "Company") issued a press release announcing its recent business highlights and financial results for the three months ended March 31, 2021. A copy of the press release is furnished hereto as Exhibit 99.1 and is incorporated herein by reference.

The information in this Current Report on Form 8-K, including Exhibit 99.1 attached hereto, is being furnished and shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act") or otherwise subject to the liabilities of that section. The information contained herein and in the accompanying exhibit is not incorporated by reference in any filing of the Company under the Securities Act of 1933, as amended, or the Exchange Act, whether made before or after the date hereof, regardless of any general incorporation language in such filing, except as shall be expressly set forth by specific reference in such filing.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

Exhibit No.	Description
99.1	Press Release dated May 13, 2021.

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: May 13, 2021

Exhibit 99.1

Repare Therapeutics Provides Business Update and Reports First Quarter 2021 Financial Results

Introduced PKMYT1 as synthetic-lethal target for tumors with CCNE1 amplification or FBXW7 loss and highlighted program progress at RP-6306 Virtual Investor Day Event

Announced enrollment of first patient in RP-6306 Phase 1 clinical trial

Activated 10 clinical trial sites across North America and Europe for the PARP-inhibitor combination arm of the RP-3500 TRESR Phase 1/2 clinical trial

Cambridge, MA & Montreal, QC, May 13, 2021 (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 reported financial results for the first quarter ended March 31, 2021.

"We have advanced the Phase 1/2 clinical development of our ATR inhibitor RP-3500, with initial results expected from the monotherapy arm of the trial in the second half of 2021. The PARP inhibitor and RP-3500 combination arm is now recruiting," said Lloyd M. Segal, President and Chief Executive Officer of Repare. "We are pleased that the first patient has been dosed in our Phase 1 clinical trial of RP-6306, materially ahead of the timeline we disclosed at the time of our IPO last June."

First Quarter 2021 Review and Operational Updates:

- **Highlighted program progress and introduced PKMYT1 as synthetic-lethal target to CCNE1 and FBXW7 at RP-6306 Virtual Investor Day Event.**
  - In April 2021, the Company highlighted pre-clinical anti-tumor activity of RP-6306, a potential first-in-class small molecule product candidate targeting PKMYT1, which is synthetic lethal with CCNE1 amplification, FBXW7 loss, and potentially other genomic alterations.
- **Announced enrollment of first patient in RP-6306 Phase 1 clinical trial.**
  - In April 2021, the Company dosed the first patient in its Phase 1 clinical trial of RP-6306.
  - The trial (NCT04855656) is expected to enroll approximately 60 patients with recurrent tumors characterized by genomic alterations predicted by the Company's SNIPRx® CRISPR-based platform to be sensitive to RP-6306.
  - The trial objectives include assessment of safety, tolerability, dose and schedule (including the establishment of a recommended Phase 2 dose).

- Subject to completion and review of the Phase 1 clinical trial, the Company expects to advance RP-6306, both as monotherapy and in combination with chemotherapies and other agents, into proof-of-concept trials in 2022 targeting a variety of patient populations, including those with tumors with CCNE1 amplification, FBXW7 loss or other undisclosed alterations identified through its proprietary STEP2 screen.
- Prospective enrichment of patient trial populations will be guided by the Company's ongoing efforts to develop patient selection, target engagement and functional biomarkers.

- **Initiated patient recruitment of PARP-inhibitor combination arm of the RP-3500 TRESR Phase 1/2 clinical trial.**
  - Repare has activated 10 clinical trial sites across North America and Europe, and is actively recruiting patients to evaluate RP-3500 in a combination arm with Pfizer's PARP inhibitor, talazoparib, in addition to a monotherapy arm.
  - Initial results are expected to be reported from the monotherapy arm of the trial in the second half of 2021.

First Quarter 2021 Financial Results:

- **Cash and cash equivalents, restricted cash and marketable securities:** Cash and cash equivalents, restricted cash and marketable securities as of March 31, 2021 were $319.1 million.

- **Research and development expenses, net of tax credits (Net R&D):** Net R&D expenses were $16.5 million and $8.6 million for the quarters ended March 31, 2021 and 2020, respectively. The increase in R&D expenses year-over-year was primarily due to increases in development costs related to the Company's RP-3500 and RP-6306 programs, as well as increases in personnel related expenses, including stock-based compensation, and certain other R&D expenses.

- **General and administrative (G&A) expenses:** G&A expenses were $5.2 million and $2.2 million for the quarters ended March 31, 2021 and 2020, respectively. The increase in G&A expenses year-over-year was due to increases in personnel related costs, including stock-based compensation, and D&O insurance which increased as a result of the Company's transition to a public company.

- **Net loss:** Net loss was $21.4 million, or $0.58 per share in the quarter ended March 31, 2021 and $12.6 million, or $7.71 per share, in the quarter ended March 31, 2020.

About Repare Therapeutics' SNIPRx® Platform

Repare's SNIPRx® platform is a genome-wide CRISPR-based screening approach that utilizes proprietary isogenic cell lines to identify novel and known synthetic lethal gene pairs and the corresponding patients who are most likely to benefit from the Company's therapies based on the genetic profile of their tumors. Repare's platform enables the development of precision

therapeutics in patients whose tumors contain one or more genomic alterations identified by SNIPRx® screening, in order to selectively target those tumors in patients most likely to achieve clinical benefit from resulting product candidates.

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 Polθ inhibitor program, as well as eight other early-stage, pre-clinical programs. For more information, please visit reparerx.com.

SNIPRx® is a registered trademark of Repare Therapeutics Inc.

Forward-Looking Statement

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 timing, anticipated patient enrollment, trial outcomes or associated costs of its clinical trials of RP-3500 and RP-6306; and the Company's ability to advance RP-6306, both as monotherapy and in combination with chemotherapies and other agents, into proof-of-concept trials in 2022. 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 Annual Report on Form 10-K for the year ended December 31, 2020 filed with the Securities and Exchange Commission ("SEC") on March 4, 2021. 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.

Repare Therapeutics Inc.

Condensed Consolidated Balance Sheets
(Unaudited)
(Amounts in thousands of U.S. dollars, except share data)

	As of March 31, 2021	As of December 31, 2020
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$ 311,399	$ 326,184
Marketable securities	7,497	7,526
Research and development tax credits receivable	2,263	2,011
Other receivables	3,169	4,153
Prepaid expenses	3,882	6,678
Total current assets	328,210	346,552
Property and equipment, net	4,466	3,948
Restricted cash	215	212
Operating lease right-of-use assets	4,303	4,674
Other assets	288	288
Deferred tax assets	1,586	1,412
TOTAL ASSETS	$ 339,068	$ 357,086
LIABILITIES AND SHAREHOLDERS' EQUITY		
CURRENT LIABILITIES:		
Accounts payable	$ 3,352	$ 2,251
Accrued expenses and other current liabilities	6,389	5,975
Operating lease liability, current portion	568	697
Deferred revenue, current portion	2,081	2,073
Income tax payable	30	18
Total current liabilities	12,420	11,014
Operating lease liability, net of current portion	3,235	3,308
Deferred revenue, net of current portion	55,760	55,934
TOTAL LIABILITIES	71,415	70,256
SHAREHOLDERS' EQUITY		
Preferred shares, no par value per share; unlimited shares authorized as of March 31, 2021 and December 31, 2020, respectively; 0 shares issued and outstanding as of March 31, 2021 and December 31, 2020, respectively	—	—
Common shares, no par value per share; unlimited shares authorized as of March 31, 2021 and December 31, 2020; 36,990,710 and 36,902,924 shares issued and outstanding as of March 31, 2021, and December 31, 2020, respectively	384,610	384,313
Additional paid-in capital	7,818	5,875
Accumulated deficit	(124,775)	(103,358)
Total shareholders' equity	267,653	286,830
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	$ 339,068	$ 357,086

Repare Therapeutics Inc.
Condensed Consolidated Statements of Operations and Comprehensive Loss
(Unaudited)
(Amounts in thousands of U.S. dollars, except share and per share data)

	Three Months Ended March 31,	
	2021	2020
Revenue:		
Collaboration agreements	$ 166	$ —
Operating expenses:		
Research and development, net of tax credits	16,509	8,632
General and administrative	5,237	2,183
Total operating expenses	21,746	10,815
Loss from operations	(21,580)	(10,815)
Other income (expense), net		
Realized and unrealized loss on foreign exchange	(31)	(1,731)
Interest income	64	—
Other expense	(7)	(2)
Total other income (expense), net	26	(1,733)
Loss before income taxes	(21,554)	(12,548)
Income tax recovery (expense)	137	(53)
Net loss and comprehensive loss	$ (21,417)	$ (12,601)
Net loss attributable to common shareholders—basic and diluted	$ (21,417)	$ (12,601)
Net loss per share attributable to common shareholders—basic and diluted	$ (0.58)	$ (7.71)
Weighted-average common shares outstanding—basic and diluted	36,916,734	1,634,056

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