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

SCHEDULE 13D

(Rule 13d-102)

INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT
TO RULE 13d-1(a) AND AMENDMENTS THERETO FILED PURSUANT
TO RULE 13d-2(a)

(Amendment No.)*

REPARE THERAPEUTICS INC.

(Name of Issuer)

Common Stock
(Title of Class of Securities)

760273102
(CUSIP Number)

Versant Venture Capital V, L.P.
Robin L. Praeger
One Sansome Street, Suite 3630
San Francisco, CA 94104
415-801-8100

(Name, Address and Telephone Number of Person
Authorized to Receive Notices and Communications)

June 23, 2020
(Date of Event Which Requires Filing of this Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of §§240.13d-1(e), 240.13d-1(f) or 240.13d-1(g), check the following box.

* The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter disclosures provided in a prior cover page.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act.

1.	Name of Reporting Persons	
	Versant Venture Capital V, L.P.	
2.	Check the Appropriate Box if a Member of a Group (see instructions)	
	(a)	<input type="checkbox"/>
	(b)	<input checked="" type="checkbox"/>
3.	SEC USE ONLY	
4.	Source of Funds (see instructions)	
	WC	
5.	Check if Disclosure of Legal Proceedings Is Required Pursuant to Item 2(d) or 2(e)	<input type="checkbox"/>
6.	Citizenship or Place of Organization	
	Delaware, United States	
	7. Sole Voting Power	
	2,817,021 shares of common stock (2)	
	8. Shared Voting Power	
	0	
	9. Sole Dispositive Power	
	2,817,021 shares of common stock (2)	
	10. Shared Dispositive Power	
	0	
11.	Aggregate Amount Beneficially Owned by Each Reporting Person	
	2,817,021 shares of common stock (2)	
12.	Check if the Aggregate Amount in Row (11) Excludes Certain Shares (see instructions)	<input type="checkbox"/>
13.	Percent of Class Represented by Amount in Row 11	
	7.7% (3)	
14.	Type of Reporting Person (see instructions)	
	PN	

(1) This Schedule 13D is filed by Versant Venture Capital V, L.P. (“VVC V”), Versant Affiliates Fund V, L.P. (“VAF V”), Versant Ophthalmic Affiliates Fund I, L.P. (“VOA”), Versant Ventures V, LLC (“VV V”), Versant Venture Capital VI, L.P. (“Versant VI”), Versant Ventures VI GP, L.P. (“GP VI”), Versant Ventures VI GP-GP, LLC (“LLC VI”), Versant Vantage I, L.P. (“Vantage LP”), Versant Vantage I GP, L.P. (“Vantage GP”), Versant Vantage I GP-GP, LLC (“Vantage LLC”), Versant Ventures V GP-GP (Canada), Inc. (“VV V CAN GP”), Versant Ventures V (Canada), L.P. (“VV V CAN”), Versant Venture Capital V (Canada) LP (“VVC CAN” and, with VV V CAN GP, Vantage LLC, VVC V, VAF V, VOA, VV V CAN, VV V, Versant VI, GP VI, LLC VI, Vantage LP and Vantage GP, collectively, the “Reporting Persons”). VV V is the sole general partner of VVC V, VAF V and VOA. LLC VI is the general partner of GP VI, which is the general partner of Versant VI. LLC VI and GP VI share voting and dispositive power over the shares held by Versant VI. Vantage LLC is the general partner of Vantage GP, which is the general partner of Vantage LP. Vantage LLC and Vantage GP share voting and dispositive power over the shares held by Vantage LP. VV V CAN GP is the sole general partner of VV V CAN, and VV V CAN is the sole general partner of VVC CAN. VV V CAN GP and VV V CAN share voting and dispositive power over the shares held by VVC CAN. The Reporting Persons expressly disclaim status as a “group” for purposes of this Schedule 13D.

(2) These shares are held by VVC V. VV V is the sole general partner of VVC V and may be deemed to have voting and investment power over the securities held by VVC V.

(3) This percentage is calculated based upon 36,668,085 shares of common stock outstanding of Repare Therapeutics Inc. (the “Issuer”), as set forth in the Issuer’s Rule 424(b)(4) Prospectus filed with the Securities and Exchange Commission (“SEC”) on June 19, 2020 and giving effect to the additional 1,650,000 shares of common stock issued and sold by the Issuer to the underwriters pursuant to the underwriters’ option.

1.	Name of Reporting Persons	
	Versant Affiliates Fund V, L.P.	
2.	Check the Appropriate Box if a Member of a Group (see instructions)	
	(a)	0
	(b)	x(1)
3.	SEC USE ONLY	
4.	Source of Funds (see instructions)	
	WC	
5.	Check if Disclosure of Legal Proceedings Is Required Pursuant to Item 2(d) or 2(e)	0
6.	Citizenship or Place of Organization	
	Delaware, United States	
	7. Sole Voting Power	
	84,737 shares of common stock (2)	
	8. Shared Voting Power	
	0	
	9. Sole Dispositive Power	
	84,737 shares of common stock (2)	
	10. Shared Dispositive Power	
	0	
11.	Aggregate Amount Beneficially Owned by Each Reporting Person	
	84,737 shares of common stock (2)	
12.	Check if the Aggregate Amount in Row (11) Excludes Certain Shares (see instructions)	<input type="checkbox"/>
13.	Percent of Class Represented by Amount in Row 11	
	0.2% (3)	
14.	Type of Reporting Person (see instructions)	
	PN	

(1) This Schedule 13D is filed by the Reporting Persons. The Reporting Persons expressly disclaim status as a “group” for purposes of this Schedule 13D.

(2) These shares are held by VAF V. VV V is the sole general partner of VAF V and may be deemed to have voting and investment power over the securities held by VAF V.

(3) This percentage is calculated based upon 36,668,085 shares of common stock outstanding of Repare Therapeutics Inc. (the “Issuer”), as set forth in the Issuer’s Rule 424(b)(4) Prospectus filed with the Securities and Exchange Commission (“SEC”) on June 19, 2020 and giving effect to the additional 1,650,000 shares of common stock issued and sold by the Issuer to the underwriters pursuant to the underwriters’ option.

1.	Name of Reporting Persons	
	Versant Ophthalmic Affiliates Fund I, L.P.	
2.	Check the Appropriate Box if a Member of a Group (see instructions)	
	(a)	<input type="checkbox"/>
	(b)	<input checked="" type="checkbox"/> (1)
3.	SEC USE ONLY	
4.	Source of Funds (see instructions)	
	WC	
5.	Check if Disclosure of Legal Proceedings Is Required Pursuant to Item 2(d) or 2(e)	<input type="checkbox"/>
6.	Citizenship or Place of Organization	
	Delaware, United States	
	7. Sole Voting Power	
	93,798 shares of common stock (2)	
	8. Shared Voting Power	
	0	
	9. Sole Dispositive Power	
	93,798 shares of common stock (2)	
	10. Shared Dispositive Power	
	0	
11.	Aggregate Amount Beneficially Owned by Each Reporting Person	
	93,798 shares of common stock (2)	
12.	Check if the Aggregate Amount in Row (11) Excludes Certain Shares (see instructions)	<input type="checkbox"/>
13.	Percent of Class Represented by Amount in Row 11	
	0.3% (3)	
14.	Type of Reporting Person (see instructions)	
	PN	

(1) This Schedule 13D is filed by the Reporting Persons. The Reporting Persons expressly disclaim status as a “group” for purposes of this Schedule 13D.

(2) These shares are held by VOA. V V V is the sole general partner of VOA and may be deemed to have voting and investment power over the securities held by VOA.

(3) This percentage is calculated based upon 36,668,085 shares of common stock outstanding of Repare Therapeutics Inc. (the “Issuer”), as set forth in the Issuer’s Rule 424(b)(4) Prospectus filed with the Securities and Exchange Commission (“SEC”) on June 19, 2020 and giving effect to the additional 1,650,000 shares of common stock issued and sold by the Issuer to the underwriters pursuant to the underwriters’ option.

1.	Name of Reporting Persons	
	Versant Ventures V, LLC	
2.	Check the Appropriate Box if a Member of a Group (see instructions)	
	(a)	0
	(b)	x(1)
3.	SEC USE ONLY	
4.	Source of Funds (see instructions)	
	AF	
5.	Check if Disclosure of Legal Proceedings Is Required Pursuant to Item 2(d) or 2(e)	<input type="checkbox"/>
6.	Citizenship or Place of Organization	
	Delaware	
	7. Sole Voting Power	0
	8. Shared Voting Power	2,995,556 shares of common stock (2)
	9. Sole Dispositive Power	0
	10. Shared Dispositive Power	2,995,556 shares of common stock (2)
11.	Aggregate Amount Beneficially Owned by Each Reporting Person	
	2,995,556 shares of common stock (2)	
12.	Check if the Aggregate Amount in Row (11) Excludes Certain Shares (see instructions)	<input type="checkbox"/>
13.	Percent of Class Represented by Amount in Row 11	
	8.2% (3)	
14.	Type of Reporting Person (see instructions)	
	OO	

(1) This Schedule 13D is filed by the Reporting Persons. The Reporting Persons expressly disclaim status as a “group” for purposes of this Schedule 13D.

(2) These shares are held by VVC V, VAF and VOA. VV V is the sole general partner of VVC V, VAF and VOA and may be deemed to have voting and investment power over the securities held by VVC V, VAF and VOA

(3) This percentage is calculated based upon 36,668,085 shares of common stock outstanding of Repare Therapeutics Inc. (the “Issuer”), as set forth in the Issuer’s Rule 424(b)(4) Prospectus filed with the Securities and Exchange Commission (“SEC”) on June 19, 2020 and giving effect to the additional 1,650,000 shares of common stock issued and sold by the Issuer to the underwriters pursuant to the underwriters’ option.

1.	Name of Reporting Persons	
	Versant Venture Capital V (Canada) LP	
2.	Check the Appropriate Box if a Member of a Group (see instructions)	
	(a)	<input type="checkbox"/>
	(b)	<input checked="" type="checkbox"/> x(1)
3.	SEC USE ONLY	
4.	Source of Funds (see instructions)	
	WC	
5.	Check if Disclosure of Legal Proceedings Is Required Pursuant to Item 2(d) or 2(e)	<input type="checkbox"/>
6.	Citizenship or Place of Organization	
	Ontario, Canada	
	7. Sole Voting Power	
	214,390 shares of common stock (2)	
	8. Shared Voting Power	
	0	
	9. Sole Dispositive Power	
	214,390 shares of common stock (2)	
	10. Shared Dispositive Power	
	0	
11.	Aggregate Amount Beneficially Owned by Each Reporting Person	
	214,390 shares of common stock (2)	
12.	Check if the Aggregate Amount in Row (11) Excludes Certain Shares (see instructions)	<input type="checkbox"/>
13.	Percent of Class Represented by Amount in Row 11	
	0.6% (3)	
14.	Type of Reporting Person (see instructions)	
	PN	

(1) This Schedule 13D is filed by the Reporting Persons. The Reporting Persons expressly disclaim status as a “group” for purposes of this Schedule 13D.

(2) These shares are held by VVC CAN. VV V CAN GP is the sole general partner of VV V CAN, and VV V CAN is the sole general partner of VVC CAN. VV V CAN GP and VV V CAN share voting and dispositive power over the shares held by VVC CAN.

(3) This percentage is calculated based upon 36,668,085 shares of common stock outstanding of Repare Therapeutics Inc. (the “Issuer”), as set forth in the Issuer’s Rule 424(b)(4) Prospectus filed with the Securities and Exchange Commission (“SEC”) on June 19, 2020 and giving effect to the additional 1,650,000 shares of common stock issued and sold by the Issuer to the underwriters pursuant to the underwriters’ option.

1.	Name of Reporting Persons	
	Versant Ventures V GP-GP (Canada), Inc.	
2.	Check the Appropriate Box if a Member of a Group (see instructions)	<input type="checkbox"/>
	(a)	<input type="checkbox"/>
	(b)	<input checked="" type="checkbox"/>
3.	SEC USE ONLY	
4.	Source of Funds (see instructions)	
	AF	
5.	Check if Disclosure of Legal Proceedings Is Required Pursuant to Item 2(d) or 2(e)	<input type="checkbox"/>
6.	Citizenship or Place of Organization	
	Delaware	
	7. Sole Voting Power	
	0	
	8. Shared Voting Power	
Number of Shares Beneficially Owned by Each Reporting Person With	214,390 shares of common stock (2)	
	9. Sole Dispositive Power	
	0	
	10. Shared Dispositive Power	
	214,390 shares of common stock (2)	
11.	Aggregate Amount Beneficially Owned by Each Reporting Person	
	214,390 shares of common stock (2)	
12.	Check if the Aggregate Amount in Row (11) Excludes Certain Shares (see instructions)	<input type="checkbox"/>
13.	Percent of Class Represented by Amount in Row 11	
	0.6% (3)	
14.	Type of Reporting Person (see instructions)	
	OO	

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(2) These shares are held by VVC CAN. VV V CAN GP is the sole general partner of VV V CAN, and VV V CAN is the sole general partner of VVC CAN. VV V CAN GP and VV V CAN share voting and dispositive power over the shares held by VVC CAN.

(3) This percentage is calculated based upon 36,668,085 shares of common stock outstanding of Repare Therapeutics Inc. (the “Issuer”), as set forth in the Issuer’s Rule 424(b)(4) Prospectus filed with the Securities and Exchange Commission (“SEC”) on June 19, 2020 and giving effect to the additional 1,650,000 shares of common stock issued and sold by the Issuer to the underwriters pursuant to the underwriters’ option.

1.	Name of Reporting Persons	
	Versant Ventures V (Canada), L.P.	
2.	Check the Appropriate Box if a Member of a Group (see instructions)	<input type="checkbox"/> <input checked="" type="checkbox"/>
	(a)	x(1)
	(b)	
3.	SEC USE ONLY	
4.	Source of Funds (see instructions)	
	AF	
5.	Check if Disclosure of Legal Proceedings Is Required Pursuant to Item 2(d) or 2(e)	<input type="checkbox"/>
6.	Citizenship or Place of Organization	
	Delaware	
	7. Sole Voting Power	
	0	
	8. Shared Voting Power	
Number of Shares Beneficially Owned by Each Reporting Person With	214,390 shares of common stock (2)	
	9. Sole Dispositive Power	
	0	
	10. Shared Dispositive Power	
	214,390 shares of common stock (2)	
11.	Aggregate Amount Beneficially Owned by Each Reporting Person	
	214,390 shares of common stock (2)	
12.	Check if the Aggregate Amount in Row (11) Excludes Certain Shares (see instructions)	<input type="checkbox"/>
13.	Percent of Class Represented by Amount in Row 11	
	0.6% (3)	
14.	Type of Reporting Person (see instructions)	
	OO	

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(2) These shares are held by VVC CAN. VV V CAN GP is the sole general partner of VV V CAN, and VV V CAN is the sole general partner of VVC CAN. VV V CAN GP and VV V CAN share voting and dispositive power over the shares held by VVC CAN.

(3) This percentage is calculated based upon 36,668,085 shares of common stock outstanding of Repare Therapeutics Inc. (the “Issuer”), as set forth in the Issuer’s Rule 424(b)(4) Prospectus filed with the Securities and Exchange Commission (“SEC”) on June 19, 2020 and giving effect to the additional 1,650,000 shares of common stock issued and sold by the Issuer to the underwriters pursuant to the underwriters’ option.

1.	Name of Reporting Persons	
	Versant Venture Capital VI, L.P.	
2.	Check the Appropriate Box if a Member of a Group (see instructions)	
	(a)	<input type="checkbox"/>
	(b)	<input checked="" type="checkbox"/> x(1)
3.	SEC USE ONLY	
4.	Source of Funds (see instructions)	
	WC	
5.	Check if Disclosure of Legal Proceedings Is Required Pursuant to Item 2(d) or 2(e)	<input type="checkbox"/>
6.	Citizenship or Place of Organization	
	Delaware	
	7. Sole Voting Power	
	3,419,451 shares of common stock(2)	
	8. Shared Voting Power	
	0	
	9. Sole Dispositive Power	
	3,419,451 shares of common stock(2)	
	10. Shared Dispositive Power	
	0	
11.	Aggregate Amount Beneficially Owned by Each Reporting Person	
	3,419,451 shares of common stock (2)	
12.	Check if the Aggregate Amount in Row (11) Excludes Certain Shares (see instructions)	<input type="checkbox"/>
13.	Percent of Class Represented by Amount in Row 11	
	9.3% (3)	
14.	Type of Reporting Person (see instructions)	
	PN	

(1) This Schedule 13D is filed by the Reporting Persons. The Reporting Persons expressly disclaim status as a “group” for purposes of this Schedule 13D.

(2) These shares are held by Versant VI. LLC VI is the general partner of GP VI, which is the general partner of Versant VI. LLC VI and GP VI share voting and dispositive power over the shares held by Versant VI.

(3) This percentage is calculated based upon 36,668,085 shares of common stock outstanding of Repare Therapeutics Inc. (the “Issuer”), as set forth in the Issuer’s Rule 424(b)(4) Prospectus filed with the Securities and Exchange Commission (“SEC”) on June 19, 2020 and giving effect to the additional 1,650,000 shares of common stock issued and sold by the Issuer to the underwriters pursuant to the underwriters’ option.

1.	Name of Reporting Persons	
	Versant Ventures VI GP, L.P.	
2.	Check the Appropriate Box if a Member of a Group (see instructions)	
	(a)	<input type="checkbox"/>
	(b)	<input checked="" type="checkbox"/>
3.	SEC USE ONLY	
4.	Source of Funds (see instructions)	
	AF	
5.	Check if Disclosure of Legal Proceedings Is Required Pursuant to Item 2(d) or 2(e)	<input type="checkbox"/>
6.	Citizenship or Place of Organization	
	Delaware	
	7. Sole Voting Power	
	0	
	8. Shared Voting Power	
	3,419,451 shares of common stock (2)	
	9. Sole Dispositive Power	
	0	
	10. Shared Dispositive Power	
	3,419,451 shares of common stock (2)	
11.	Aggregate Amount Beneficially Owned by Each Reporting Person	
	3,419,451 shares of common stock (2)	
12.	Check if the Aggregate Amount in Row (11) Excludes Certain Shares (see instructions)	<input type="checkbox"/>
13.	Percent of Class Represented by Amount in Row 11	
	9.3% (3)	
14.	Type of Reporting Person (see instructions)	
	PN	

(1) This Schedule 13D is filed by the Reporting Persons. The Reporting Persons expressly disclaim status as a “group” for purposes of this Schedule 13D.

(2) These shares are held by Versant VI. LLC VI is the general partner of GP VI, which is the general partner of Versant VI. LLC VI and GP VI share voting and dispositive power over the shares held by Versant VI.

(3) This percentage is calculated based upon 36,668,085 shares of common stock outstanding of Repare Therapeutics Inc. (the “Issuer”), as set forth in the Issuer’s Rule 424(b)(4) Prospectus filed with the Securities and Exchange Commission (“SEC”) on June 19, 2020 and giving effect to the additional 1,650,000 shares of common stock issued and sold by the Issuer to the underwriters pursuant to the underwriters’ option.

1.	Name of Reporting Persons	
	Versant Ventures VI GP-GP, LLC	
2.	Check the Appropriate Box if a Member of a Group (see instructions)	
	(a)	0
	(b)	x(1)
3.	SEC USE ONLY	
4.	Source of Funds (see instructions)	
	AF	
5.	Check if Disclosure of Legal Proceedings Is Required Pursuant to Item 2(d) or 2(e)	0
6.	Citizenship or Place of Organization	
	Delaware	
	7. Sole Voting Power	0
	8. Shared Voting Power	3,419,451 shares of common stock (2)
	9. Sole Dispositive Power	0
	10. Shared Dispositive Power	3,419,451 shares of common stock (2)
11.	Aggregate Amount Beneficially Owned by Each Reporting Person	
	3,419,451 shares of common stock (2)	
12.	Check if the Aggregate Amount in Row (11) Excludes Certain Shares (see instructions)	<input type="checkbox"/>
13.	Percent of Class Represented by Amount in Row 11	
	9.3% (3)	
14.	Type of Reporting Person (see instructions)	
	OO	

(1) This Schedule 13D is filed by the Reporting Persons. The Reporting Persons expressly disclaim status as a “group” for purposes of this Schedule 13D.

(2) These shares are held by Versant VI. LLC VI is the general partner of GP VI, which is the general partner of Versant VI. LLC VI and GP VI share voting and dispositive power over the shares held by Versant VI.

(3) This percentage is calculated based upon 36,668,085 shares of common stock outstanding of Repare Therapeutics Inc. (the “Issuer”), as set forth in the Issuer’s Rule 424(b)(4) Prospectus filed with the Securities and Exchange Commission (“SEC”) on June 19, 2020 and giving effect to the additional 1,650,000 shares of common stock issued and sold by the Issuer to the underwriters pursuant to the underwriters’ option.

1.	Name of Reporting Persons	
	Versant Vantage I, L.P.	
2.	Check the Appropriate Box if a Member of a Group (see instructions)	
	(a)	0
	(b)	x(1)
3.	SEC USE ONLY	
4.	Source of Funds (see instructions)	
	WC	
5.	Check if Disclosure of Legal Proceedings Is Required Pursuant to Item 2(d) or 2(e)	0
6.	Citizenship or Place of Organization	
	Delaware	
	7. Sole Voting Power	
	608,282 shares of common stock(2)	
	8. Shared Voting Power	
	0	
	9. Sole Dispositive Power	
	608,282 shares of common stock (2)	
	10. Shared Dispositive Power	
	0	
11.	Aggregate Amount Beneficially Owned by Each Reporting Person	
	608,282 shares of common stock (2)	
12.	Check if the Aggregate Amount in Row (11) Excludes Certain Shares (see instructions)	0
13.	Percent of Class Represented by Amount in Row 11	
	1.7% (3)	
14.	Type of Reporting Person (see instructions)	
	PN	

(1) This Schedule 13D is filed by the Reporting Persons. The Reporting Persons expressly disclaim status as a “group” for purposes of this Schedule 13D.

(2) These shares are held by Vantage LP. Vantage LLC is the general partner of Vantage GP, which is the general partner of Vantage LP. Vantage LLC and Vantage GP share voting and dispositive power over the shares held by Vantage LP.

(3) This percentage is calculated based upon 36,668,085 shares of common stock outstanding of Repare Therapeutics Inc. (the “Issuer”), as set forth in the Issuer’s Rule 424(b)(4) Prospectus filed with the Securities and Exchange Commission (“SEC”) on June 19, 2020 and giving effect to the additional 1,650,000 shares of common stock issued and sold by the Issuer to the underwriters pursuant to the underwriters’ option.

1.	Name of Reporting Persons	
	Versant Vantage I GP, L.P.	
2.	Check the Appropriate Box if a Member of a Group (see instructions)	
	(a)	0
	(b)	x(1)
3.	SEC USE ONLY	
4.	Source of Funds (see instructions)	
	AF	
5.	Check if Disclosure of Legal Proceedings Is Required Pursuant to Item 2(d) or 2(e)	0
6.	Citizenship or Place of Organization	
	Delaware	
	7. Sole Voting Power	0
	8. Shared Voting Power	608,282 shares of common stock (2)
	9. Sole Dispositive Power	0
	10. Shared Dispositive Power	608,282 shares of common stock (2)
11.	Aggregate Amount Beneficially Owned by Each Reporting Person	
	608,282 shares of common stock (2)	
12.	Check if the Aggregate Amount in Row (11) Excludes Certain Shares (see instructions)	0
13.	Percent of Class Represented by Amount in Row 11	
	1.7% (3)	
14.	Type of Reporting Person (see instructions)	
	PN	

(1) This Schedule 13D is filed by the Reporting Persons. The Reporting Persons expressly disclaim status as a “group” for purposes of this Schedule 13D.

(2) These shares are held by Vantage LP. Vantage LLC is the general partner of Vantage GP, which is the general partner of Vantage LP. Vantage LLC and Vantage GP share voting and dispositive power over the shares held by Vantage LP.

(3) This percentage is calculated based upon 36,668,085 shares of common stock outstanding of Repare Therapeutics Inc. (the “Issuer”), as set forth in the Issuer’s Rule 424(b)(4) Prospectus filed with the Securities and Exchange Commission (“SEC”) on June 19, 2020 and giving effect to the additional 1,650,000 shares of common stock issued and sold by the Issuer to the underwriters pursuant to the underwriters’ option.

1.	Name of Reporting Persons	
	Versant Vantage I GP-GP, LLC	
2.	Check the Appropriate Box if a Member of a Group (see instructions)	
	(a)	0
	(b)	x(1)
3.	SEC USE ONLY	
4.	Source of Funds (see instructions)	
	AF	
5.	Check if Disclosure of Legal Proceedings Is Required Pursuant to Item 2(d) or 2(e)	0
6.	Citizenship or Place of Organization	
	Delaware	
	7. Sole Voting Power	0
	8. Shared Voting Power	608,282 shares of common stock (2)
	9. Sole Dispositive Power	0
	10. Shared Dispositive Power	608,282 shares of common stock (2)
11.	Aggregate Amount Beneficially Owned by Each Reporting Person	
	608,282 shares of common stock (2)	
12.	Check if the Aggregate Amount in Row (11) Excludes Certain Shares (see instructions)	0
13.	Percent of Class Represented by Amount in Row 11	
	1.7% (3)	
14.	Type of Reporting Person (see instructions)	
	OO	

(1) This Schedule 13D is filed by the Reporting Persons. The Reporting Persons expressly disclaim status as a “group” for purposes of this Schedule 13D.

(2) These shares are held by Vantage LP. Vantage LLC is the general partner of Vantage GP, which is the general partner of Vantage LP. Vantage LLC and Vantage GP share voting and dispositive power over the shares held by Vantage LP.

(3) This percentage is calculated based upon 36,668,085 shares of common stock outstanding of Repare Therapeutics Inc. (the “Issuer”), as set forth in the Issuer’s Rule 424(b)(4) Prospectus filed with the Securities and Exchange Commission (“SEC”) on June 19, 2020 and giving effect to the additional 1,650,000 shares of common stock issued and sold by the Issuer to the underwriters pursuant to the underwriters’ option.

Explanatory Note: This 13D relates to shares of Common Stock, \$0.001 par value per share (“Common Stock”), of Repare Therapeutics Inc., a Delaware corporation (the “Issuer”).

Item 1. Security and Issuer

This Schedule 13D (the “Statement”) relates to the common stock, par value \$0.001 per share (the “Shares”) of Repare Therapeutics Inc., a corporation organized under the Business Corporations Act (Québec) (the “Issuer”), with its principal executive offices located at 7210 Frederick-Banting, Suite 100, Montréal, Québec, Canada H4S 2A1. The Shares are listed on the NASDAQ Global Market under the ticker symbol “RPTX”. Information given in response to each item shall be deemed incorporated by reference in all other items, as applicable.

On June 12, 2020, the Issuer effected a reverse stock-split at a ratio of 1-for-6.062 (the “Reverse Stock Split”). References in this Schedule 13D to numbers of Shares and exercise prices give effect to the Reverse Stock Split.

On June 23, 2020, the Issuer completed its initial public offering pursuant to which the Issuer agreed to issue and sell an aggregate of 11,000,000 Shares (the “IPO”). In addition, the Issuer granted the underwriters an option to purchase, at the public offering price less any underwriting discounts and commissions, up to an additional 1,650,000 Shares. The price to the public for each Share was \$20.00. As a result of the IPO, and the underwriters’ exercise of their option to purchase additional Shares, the total number of outstanding Shares following the IPO was 36,668,085.

Item 2. Identity and Background

This Schedule 13D is filed by Versant Venture Capital V, L.P. (“VVC V”), Versant Affiliates Fund V, L.P. (“VAF V”), Versant Ophthalmic Affiliates Fund I, L.P. (“VOA”), Versant Ventures V, LLC (“VV V”), Versant Venture Capital VI, L.P. (“Versant VI”), Versant Ventures VI GP, L.P. (“GP VI”), Versant Ventures VI GP-GP, LLC (“LLC VI”), Versant Vantage I, L.P. (“Vantage LP”), Versant Vantage I GP, L.P. (“Vantage GP”), Versant Vantage I GP-GP, LLC (“Vantage LLC”), Versant Ventures V GP-GP (Canada), Inc. (“VV V CAN GP”), Versant Ventures V (Canada), L.P. (“VV V CAN”), Versant Venture Capital V (Canada) LP (“VVC CAN” and, with VV V CAN GP, Vantage LLC, VVC V, VAF V, VOA, VV V CAN, VV V, Versant VI, GP VI, LLC VI, Vantage LP and Vantage GP, collectively, the “Reporting Persons”). VV V is the sole general partner of VVC V, VAF V and VOA. LLC VI is the general partner of GP VI, which is the general partner of Versant VI. LLC VI and GP VI share voting and dispositive power over the shares held by Versant VI. Vantage LLC is the general partner of Vantage GP, which is the general partner of Vantage LP. Vantage LLC and Vantage GP share voting and dispositive power over the shares held by Vantage LP. VV V CAN GP is the sole general partner of VV V CAN, and VV V CAN is the sole general partner of VVC CAN. VV V CAN GP and VV V CAN share voting and dispositive power over the shares held by VVC CAN. The Reporting Persons expressly disclaim status as a “group” for purposes of this Schedule 13D.

(a) The principal business and principal business office of the Reporting Persons is Versant Ventures, One Sansome Street, Suite 3630, San Francisco, CA 94104.

(c) The principal business of the Reporting Persons is venture capital investments.

(d) During the last five years, none of the Reporting Persons has been convicted in a criminal proceeding (excluding traffic violations or similar misdemeanors).

(e) During the last five years, none of the Reporting Persons was a party to a civil proceeding of a judicial or administrative body of competent jurisdiction or were subject to a judgment, decree or final order enjoining future violations of, or prohibiting or mandating activities subject to, federal or state securities laws or finding any violation with respect to such laws.

(f) Each of the Reporting Persons is incorporated in the state of Delaware.

Item 3. Source and Amount of Funds or Other Consideration

Prior to the Issuer's initial public offering (the "IPO") the Reporting Persons purchased from the Issuer in a series of private transactions, 4,784,605 shares of the Issuer's Class A Preferred Stock and 1,460,744 shares of the Issuer's Class B Preferred Stock for an approximate aggregate purchase price of \$30.6 million. Upon closing of the IPO, the shares of Class A Preferred Stock and Class B Preferred Stock held by the Reporting Persons automatically converted into shares of Common Stock of the Issuer on a 1-to-1 basis, resulting in the Reporting Persons holding a total of 6,987,679 shares of Common Stock before giving effect to purchases in the IPO. In addition, at the time of the IPO, Vantage LP purchased an aggregate of 150,000 shares of Common Stock of the Issuer at the IPO price of \$20.00 per share and VVC VI purchased an aggregate of 100,000 shares of Common Stock of the Issuer at the IPO price of \$20.00. The Reporting Persons hold an aggregate of 7,237,679 shares of Common Stock of the Issuer as of June 23, 2020.

Item 4. Purpose of Transaction

The Reporting Persons purchased the aforementioned securities for investment purposes with the aim of increasing the value of their investments and the Issuer. Subject to applicable legal requirements, one or more of the Reporting Persons may purchase additional securities of the Issuer from time to time in open market or private transactions, depending on its evaluation of the Issuer's business, prospects and financial condition, the market for the Issuer's securities, other developments concerning the Issuer, the reaction of the Issuer to the Reporting Persons' ownership of the Issuer's securities, other opportunities available to the Reporting Persons, and general economic, money market and stock market conditions. In addition, depending upon the factors referred to above, the Reporting Persons may dispose of all or a portion of their securities of the Issuer at any time. Each of the Reporting Persons reserve the right to increase or decrease its holdings on such terms and at such times as each may decide.

Except as set forth in this Item 4 and Item 6 below, none of the Reporting Persons have a present plan or proposal that relates to or would result in any of the actions specified in clauses (a) through (j) of Item 4 of Schedule 13D of the Act. However, each of the Reporting Persons reserves the right to propose or participate in future transactions which may result in one or more of such actions, including but not limited to, an extraordinary corporate transaction, such as a merger, reorganization or liquidation, sale of a material amount of assets of the Issuer or its subsidiaries, or other transactions which might have the effect of causing the Common Stock to become eligible for termination of registration under Section 12(g) of the Securities Exchange Act of 1934 (the "Act"). The Reporting Persons also retain the right to change their investment intent at any time, to acquire additional shares of Common Stock or other securities of the Issuer from time to time, or to sell or otherwise dispose of all or part of the Common Stock beneficially owned by them (or any shares of Common Stock into which such securities are converted) in any manner permitted by law. The Reporting Persons may engage from time to time in ordinary course transactions with financial institutions with respect to the securities described herein.

Item 5. Interest in Securities of the Issuer

The following information with respect to the ownership of the Common Stock of the Issuer by the persons filing this statement on Schedule 13D is provided as of June 19, 2020. The Reporting Persons collectively beneficially own an aggregate of 7,237,679 shares of the Common Stock of the Issuer, representing 19.7% of the outstanding Common Stock as of June 23, 2020:

<u>Reporting Persons</u>	<u>Shares Held Directly</u>	<u>Sole Voting Power</u>	<u>Shared Voting Power(1)</u>	<u>Sole Dispositive Power</u>	<u>Shared Dispositive Power (1)</u>	<u>Beneficial Ownership</u>	<u>Percentage of Class (2)</u>
VVC V	2,817,021	2,817,021	0	2,817,021	0	2,817,021	7.7%
VAF V	84,737	84,737	0	84,737	0	84,737	0.2%
VOA	93,798	93,798	0	93,798	0	93,798	0.3%
VV V	0	0	2,995,556	0	2,995,556	2,995,556	8.2%
VVC CAN	214,390	214,390	0	214,390	0	214,390	0.6%
VV V CAN	0	0	214,390	0	214,390	214,390	0.6%
VV V CAN GP	0	0	214,390	0	214,390	214,390	0.6%
Versant VI	3,419,451	3,419,451	0	3,419,451	0	3,419,451	9.3%
GP VI	0	0	3,419,451	0	3,419,451	3,419,451	9.3%
LLC VI	0	0	3,419,451	0	3,419,451	3,419,451	9.3%
Vantage LP	608,282	608,282	0	608,282	0	608,282	1.7%
Vantage GP	0	0	608,282	0	608,282	608,282	1.7%
Vantage LLC	0	0	608,282	0	608,282	608,282	1.7%

(1) VVC V is the general partner of VAF V, VOA. LLC VI is the general partner of GP VI, which is the general partner of Versant VI. LLC VI and GP VI share voting and dispositive power over the shares held by Versant VI. Vantage LLC is the general partner of Vantage GP, which is the general partner of Vantage LP. Vantage LLC and Vantage GP share voting and dispositive power over the shares held by Vantage LP. VV V CAN GP is the sole general partner of VV V CAN, which is the sole general partner of VVC CAN, VV V CAN GP AND VV V CAN share voting and dispositive power over the shares held by VVC CAN.

(2) This percentage is calculated based upon 36,668,085 shares of common stock outstanding of Repare Therapeutics Inc. (the “Issuer”), as set forth in the Issuer’s Rule 424(b)(4) Prospectus filed with the Securities and Exchange Commission (“SEC”) on June 19, 2020 and giving effect to the additional 1,650,000 shares of common stock issued and sold by the Issuer to the underwriters pursuant to the underwriters’ option.

- (c) Except as set forth herein, none of the Reporting Persons has effected any transactions in shares of the Issuer's Common Stock during the last 60 days.
- (d) No other person is known to have the right to receive or the power to direct the receipt of dividends from, or any proceeds from the sale of, the shares of Common Stock beneficially owned by any of the Reporting Persons.
- (e) Not applicable.

ITEM 6. Contracts, Arrangements, Understandings or Relationships with Respect to Securities of the Issuer.

Registration Rights Agreement

The Reporting Persons and certain other stockholders of the Issuer entered into an Amended and Restated Registration Rights Agreement with the Issuer (the "Registration Rights Agreement"), dated as of September 3, 2019. Pursuant to the Registration Rights Agreement and subject to the terms and conditions therein, the parties agreed that:

Demand Registration Rights

At any time beginning six months following the date of the completion of the IPO, the holders of at least a majority of the registrable securities then outstanding of the Issuer may make a written request that the Issuer register some or all of their registrable securities, subject to certain specified conditions and exceptions, including that the aggregated gross offering price of such offering must exceed \$50 million. The Issuer is required to use commercially reasonable efforts to effect the registration and will pay all registration expenses, other than underwriting discounts and commissions, related to any demand registration. The Issuer is not obligated to effect more than two of these registrations.

Piggyback Registration Rights

Whenever the Issuer proposes to file a registration statement under the Securities Act, including a registration statement on Form S-3 as discussed below, other than with respect to a demand registration or a registration statement on Forms S-4 or S-8, the Reporting Persons will be entitled to notice of the registration and have the right, subject to limitations that the underwriters may impose on the number of Shares included in the registration, to include the Shares held by the Reporting Persons in the registration.

Form S-3 Registration Rights

Pursuant to the Registration Rights Agreement, at any time after the Issuer is qualified to file a registration statement on Form S-3 under the Securities Act, and subject to limitations and conditions specified in the Registration Rights Agreement, any holder of the registrable securities then outstanding may make a written request that the Issuer prepare and file a registration statement on Form S-3 covering their Shares, so long as the aggregate price to the public equal or exceeds \$5,000,000. The Issuer is not obligated to effect more than two of these Form S-3 registrations in any 12-month period.

Lock-Up Agreement

In connection with the IPO, the Reporting Persons and certain other stockholders entered into Lock-Up Agreements with the Issuer's underwriters. Pursuant to their Lock-Up Agreements, the Reporting Persons agreed that they will not, during the period ending 180 days after the date of the IPO (the "Lock-Up Period"), directly or indirectly (1) sell, assign, transfer, pledge, contract to sell, or otherwise dispose of, any Shares or securities convertible into or exercisable or exchangeable for Shares with respect to which the Reporting Persons have or acquires the power of disposition or (2) enter into any swap or other agreement that transfers, in whole or in part, the economic risk of ownership of any such Shares.

After the Lock-Up Period expires, the Reporting Persons' Shares will be eligible for sale in the public market, subject to any applicable limitations under Rule 144 under the Securities Act, and other applicable U.S. securities laws.

The foregoing description of the Registration Rights Agreement and the Lock-Up Agreement does not purport to be complete and are qualified in their entirety by reference to the full text of the Registration Rights Agreement and Lock-Up Agreement, which are filed as Exhibits 2 and 3 and incorporated herein by reference.

ITEM 7. Materials to be Filed as Exhibits.

- Exhibit 1: Joint Filing Agreement as required by Rule 13d-1(k)(1) under the Securities Exchange Act of 1934, as amended.
- Exhibit 2: Amended and Restated Registration Rights Agreement by and among the Issuer and each of the persons listed on Schedules A and B thereto, dated as of September 3, 2019 (incorporated by reference to Exhibit 4.2 to the Issuer's Registration Statement on Form S-1 (SEC 333-238822), filed with the SEC on May 29, 2020).
- Exhibit 3: Form of Lock-Up Agreement filed as Exhibit A to Exhibit 1.1 to the Issuer's Registration Statement on Form S-1/A (SEC 333-238822), filed with the SEC on June 15, 2020).

SIGNATURE

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

July 6, 2020

Versant Venture Capital V, L.P.

By: Versant Ventures V, LLC

Its: General Partner

By: /s/ Robin L. Praeger
Robin L. Praeger, Managing Director

Versant Affiliates Fund V, L.P.

By: Versant Ventures V, LLC

Its: General Partner

By: /s/ Robin L. Praeger
Robin L. Praeger, Managing Director

Versant Ophthalmic Affiliates Fund I, L.P.

By: Versant Ventures V, LLC

Its: General Partner

By: /s/ Robin L. Praeger
Robin L. Praeger, Managing Director

Versant Ventures V, LLC

By: /s/ Robin L. Praeger
Robin L. Praeger, Managing Director

Versant Venture Capital V (Canada) LP

By: Versant Ventures V (Canada), L.P.

Its: General Partner

By: Versant Ventures V GP-GP (Canada), Inc.

Its: General Partner

By: /s/ Robin L. Praeger
Robin L. Praeger, Director

Versant Ventures V GP-GP (Canada), Inc.

By: /s/ Robin L. Praeger
Robin L. Praeger, Director

Versant Ventures V (Canada), L.P.

By: Versant Ventures V GP-GP (Canada), Inc.

Its: General Partner

By: /s/ Robin L. Praeger
Robin L. Praeger, Director

Versant Venture Capital VI, L.P.

By: Versant Ventures VI GP, L.P.

Its: General Partner

By: Versant Ventures VI GP-GP, LLC

Its: General Partner

By: /s/ Robin L. Praeger

Robin L. Praeger, Managing Director

Versant Ventures VI GP, L.P.

By: Versant Ventures VI GP-GP, LLC

Its: General Partner

By: /s/ Robin L. Praeger

Robin L. Praeger, Managing Director

Versant Ventures VI GP-GP, LLC

By: /s/ Robin L. Praeger

Robin L. Praeger, Managing Director

Versant Vantage I, L.P.

By: Versant Vantage I GP, L.P.

Its: General Partner

By: Versant Vantage I GP-GP, LLC

Its: General Partner

By: /s/ Robin L. Praeger

Robin L. Praeger, Managing Director

Versant Vantage I GP, L.P.

By: Versant Vantage I GP-GP, LLC

Its: General Partner

By: /s/ Robin L. Praeger

Robin L. Praeger, Managing Director

Versant Vantage I GP-GP, LLC

By: /s/ Robin L. Praeger

Robin L. Praeger, Managing Director

Exhibit 1

Joint Filing Agreement

The undersigned hereby agree that a single Schedule 13D (or any amendment thereto) relating to the Common Stock of Repare Therapeutics Inc. shall be filed on behalf of each of the undersigned and that this Agreement shall be filed as an exhibit to such Schedule 13D.

July 6, 2020

Versant Venture Capital V, L.P.

By: Versant Ventures V, LLC
Its: General Partner

By: /s/ Robin L. Praeger
Robin L. Praeger, Managing Director

Versant Affiliates Fund V, L.P.

By: Versant Ventures V, LLC
Its: General Partner

By: /s/ Robin L. Praeger
Robin L. Praeger, Managing Director

Versant Ophthalmic Affiliates Fund I, L.P.

By: Versant Ventures V, LLC
Its: General Partner

By: /s/ Robin L. Praeger
Robin L. Praeger, Managing Director

Versant Ventures V, LLC

By: /s/ Robin L. Praeger
Robin L. Praeger, Managing Director

Versant Ventures V GP-GP (Canada), Inc.

By: /s/ Robin L. Praeger
Robin L. Praeger, Director

Versant Venture Capital V (Canada) LP

By: Versant Ventures V (Canada), L.P.
Its: General Partner
By: Versant Ventures V GP-GP (Canada), Inc.
Its: General Partner

By: /s/ Robin L. Praeger
Robin L. Praeger, Director

Versant Ventures V (Canada), L.P.

By: Versant Ventures V GP-GP (Canada), Inc.

Its: General Partner

By: /s/ Robin L. Praeger

Robin L. Praeger, Director

Versant Venture Capital VI, L.P.

By: Versant Ventures VI GP, L.P.

Its: General Partner

By: Versant Ventures VI GP-GP, LLC

Its: General Partner

By: /s/ Robin L. Praeger

Robin L. Praeger, Managing Director

Versant Ventures VI GP, L.P.

By: Versant Ventures VI GP-GP, LLC

Its: General Partner

By: /s/ Robin L. Praeger

Robin L. Praeger, Managing Director

Versant Ventures VI GP-GP, LLC

By: /s/ Robin L. Praeger

Robin L. Praeger, Managing Director

Versant Vantage I, L.P.

By: Versant Vantage I GP, L.P.

Its: General Partner

By: Versant Vantage I GP-GP, LLC

Its: General Partner

By: /s/ Robin L. Praeger

Robin L. Praeger, Managing Director

Versant Vantage I GP, L.P.

By: Versant Vantage I GP-GP, LLC

Its: General Partner

By: /s/ Robin L. Praeger

Robin L. Praeger, Managing Director

Versant Vantage I GP-GP, LLC

By: /s/ Robin L. Praeger

Robin L. Praeger, Managing Director