

☐ Check this box if no longer subject to Section 16. Form 4 or Form 5 obligations may continue. See Instruction 1(b).

STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934 or Section 30(h) of the Investment Company Act of 1940

1. Name and Address of Reporting Person* <u>ORBIMED ADVISORS LLC</u>  (Last) (First) (Middle) <u>601 LEXINGTON AVENUE</u> <u>54TH FLOOR</u>  (Street) <u>NEW YORK NY 10022-4629</u>  (City) (State) (Zip)	2. Issuer Name and Ticker or Trading Symbol <u>Repare Therapeutics Inc. [ RPTX ]</u>	5. Relationship of Reporting Person(s) to Issuer (Check all applicable)  <input checked="" type="checkbox"/> Director 10% Owner  Officer (give title below) Other (specify below)
	3. Date of Earliest Transaction (Month/Day/Year) <u>08/17/2021</u>	
	4. If Amendment, Date of Original Filed (Month/Day/Year)	6. Individual or Joint/Group Filing (Check Applicable Line)  <input checked="" type="checkbox"/> Form filed by One Reporting Person <input type="checkbox"/> Form filed by More than One Reporting Person

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)		4. Securities Acquired (A) or Disposed Of (D) (Instr. 3, 4 and 5)			5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Indirect Beneficial Ownership (Instr. 4)
			Code	V	Amount	(A) or (D)	Price			
Common Stock	08/17/2021		S		16,886 <sup>(1)</sup>	D	\$34.12	3,259,439	I	See Footnotes <sup>(2)(5)</sup>
Common Stock	08/17/2021		S		512 <sup>(3)</sup>	D	\$34.12	98,688	I	See Footnotes <sup>(4)(5)</sup>
Common Stock	08/18/2021		S		2,852 <sup>(6)</sup>	D	\$33.99	3,256,857	I	See Footnotes <sup>(2)(5)</sup>
Common Stock	08/18/2021		S		78 <sup>(7)</sup>	D	\$33.99	98,610	I	See Footnotes <sup>(4)(5)</sup>

Table II - Derivative Securities Acquired, Disposed of, or Beneficially Owned (e.g., puts, calls, warrants, options, convertible securities)

1. Title of Derivative Security (Instr. 3)	2. Conversion or Exercise Price of Derivative Security	3. Transaction Date (Month/Day/Year)	3A. Deemed Execution Date, if any (Month/Day/Year)	4. Transaction Code (Instr. 8)		5. Number of Derivative Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)	6. Date Exercisable and Expiration Date (Month/Day/Year)		7. Title and Amount of Securities Underlying Derivative Security (Instr. 3 and 4)	8. Price of Derivative Security (Instr. 5)	9. Number of derivative Securities Beneficially Owned Following Reported Transaction(s) (Instr. 4)	10. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	11. Nature of Indirect Beneficial Ownership (Instr. 4)
				Code	V		Date Exercisable	Expiration Date					

1. Name and Address of Reporting Person* <u>ORBIMED ADVISORS LLC</u>  (Last) (First) (Middle) <u>601 LEXINGTON AVENUE</u> <u>54TH FLOOR</u>  (Street) <u>NEW YORK NY 10022-4629</u>  (City) (State) (Zip)
1. Name and Address of Reporting Person* <u>OrbiMed Capital GP VII LLC</u>  (Last) (First) (Middle) <u>601 LEXINGTON AVENUE</u> <u>54TH FLOOR</u>  (Street) <u>NEW YORK NY 10022</u>

(City)	(State)	(Zip)
1. Name and Address of Reporting Person*		
<a href="#">ORBIMED CAPITAL LLC</a>		
(Last)	(First)	(Middle)
<a href="#">601 LEXINGTON AVENUE</a>		
<a href="#">54TH FLOOR</a>		
(Street)		
<a href="#">NEW YORK</a>	<a href="#">NY</a>	<a href="#">10022</a>
(City)	(State)	(Zip)

**Explanation of Responses:**

1. These shares of the Issuer's common stock were sold in a block order at price of \$34.12 pursuant to a Rule 10b5-1 trading plan established by OrbiMed Private Investments VII, LP ("OPI VII").
2. These shares of the Issuer's common stock are held of record by OPI VII. OrbiMed Capital GP VII LLC ("GP VII") is the general partner of OPI VII, and OrbiMed Advisors LLC ("OrbiMed Advisors"), a registered investment adviser under the Investment Advisors Act of 1940, as amended, is the managing member of GP VII. OrbiMed Advisors and GP VII exercise investment and voting power through a management committee comprised of Carl L. Gordon, Sven H. Borho, and W. Carter Neild, each of whom disclaims beneficial ownership of the Shares held by OPI VII.
3. These shares of the Issuer's common stock were sold in a block order at price of \$34.12 pursuant to a Rule 10b5-1 trading plan established by OrbiMed Partners Master Fund Limited ("OPM").
4. These shares of the Issuer's common stock are held of record by OPM. OrbiMed Capital LLC ("OrbiMed Capital") is the investment advisor to OPM. OrbiMed Capital exercises voting and investment power through a management committee comprised of Carl L. Gordon, Sven H. Borho, and W. Carter Neild, each of whom disclaims beneficial ownership of the Shares held by OPM.
5. This report on Form 4 is jointly filed by GP VII, OrbiMed Advisors, and OrbiMed Capital. Each of the Reporting Persons disclaims beneficial ownership of the securities reported herein for purposes of Rule 16a-1(a) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), except to the extent of its pecuniary interest therein, if any. OrbiMed Advisors and GP VII have designated David Bonita ("Bonita"), a member of OrbiMed Advisors, to serve on the Issuer's board of directors. This report shall not be deemed an admission that any of the Reporting Persons, or Bonita, is a beneficial owner of such securities for the purposes of Section 16 of the Exchange Act, or for any other purposes.
6. These shares of the Issuer's common stock were sold in a block order at price of \$33.99 pursuant to a Rule 10b5-1 trading plan established by OPI VII.
7. These shares of the Issuer's common stock were sold in a block order at price of \$33.99 pursuant to a Rule 10b5-1 trading plan established by OPM.

[OrbiMed Advisors LLC, By:](#)  
[/s/ Douglas Coon, Chief](#) [08/19/2021](#)  
[Compliance Officer](#)

[OrbiMed Capital GP VII LLC,](#)  
[By: /s/ Douglas Coon, Chief](#) [08/19/2021](#)  
[Compliance Officer](#)

[OrbiMed Capital LLC, By: /s/](#)  
[Douglas Coon, Chief](#) [08/19/2021](#)  
[Compliance Officer](#)

\*\* Signature of Reporting Person      Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

\* If the form is filed by more than one reporting person, see Instruction 4 (b)(v).

\*\* Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

**Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.**