
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**

WASHINGTON, D.C. 20549

SCHEDULE 13D

**UNDER THE SECURITIES EXCHANGE ACT OF 1934
(Amendment No. 3)***

Repare Therapeutics Inc.

(Name of Issuer)

Common Shares

(Title of Class of Securities)

760273102

(CUSIP Number)

Ansbert Gadicke

MPM Asset Management

450 Kendall Street

Cambridge, MA 01242

Telephone: (617) 425-9200

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

July 12, 2021

(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.

Note: Schedules filed in paper format shall include a signed original and five copies of the schedule, including all exhibits. See §240.13d-7 for other parties to whom copies are to be sent.

* 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 (however, see the Notes).

| | | |
|--|---|-------------------------------------|
| 1. | Name of Reporting Persons MPM BioVentures 2014, 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 Items 2(d) or 2(e) | |
| 6. | Citizenship or Place of Organization Delaware | |
| Number of Shares Beneficially Owned by Each Reporting Person With: | 7. | Sole Voting Power 2,036,689 |
| | 8. | Shared Voting Power 0 |
| | 9. | Sole Dispositive Power 2,036,689 |
| | 10. | Shared Dispositive Power 0 |
| 11. | Aggregate Amount Beneficially Owned by Each Reporting Person 2,036,689 | |
| 12. | Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions) | |
| 13. | Percent of Class Represented by Amount in Row (11) 5.5%(2) | |
| 14. | Type of Reporting Person (See Instructions) PN | |

- (1) This schedule is filed by MPM BioVentures 2014, L.P. (“BV 2014”), MPM BioVentures 2014 (B), L.P. (“BV 2014(B)”), MPM Asset Management Investors BV2014 LLC (“AM BV2014 LLC”), UBS Oncology Impact Fund L.P. (“UBS Oncology”), MPM BioVentures 2014 GP LLC (“BV 2014 GP”), MPM BioVentures 2014 LLC (“BV 2014 LLC”), Oncology Impact Fund (Cayman) Management LP (“Oncology Cayman”), MPM Oncology Impact Management LP (“Oncology LP”) and MPM Oncology Impact Management GP LLC (“Oncology GP”) (collectively, the “MPM Entities”) and Ansbert Gadicke, Luke Evin and Todd Foley (collectively, the “Listed Persons” and together with the MPM Entities, the “Filing Persons”). The MPM Entities and the Listed Persons expressly disclaim status as a “group” for purposes of this Schedule 13D.
- (2) This percentage is calculated based upon 37,000,707 outstanding common shares of Repare Therapeutics, Inc. (the “Issuer”), as disclosed in the Issuer’s Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on May 13, 2021.

| | | |
|--|---|-----------------------------------|
| 1. | Name of Reporting Persons MPM BioVentures 2014 (B), 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 Items 2(d) or 2(e) | |
| 6. | Citizenship or Place of Organization Delaware | |
| Number of Shares Beneficially Owned by Each Reporting Person With: | 7. | Sole Voting Power 135,843 |
| | 8. | Shared Voting Power 0 |
| | 9. | Sole Dispositive Power 135,843 |
| | 10. | Shared Dispositive Power 0 |
| 11. | Aggregate Amount Beneficially Owned by Each Reporting Person 135,843 | |
| 12. | Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions) | |
| 13. | Percent of Class Represented by Amount in Row (11) 0.4%(2) | |
| 14. | Type of Reporting Person (See Instructions) PN | |

- (1) This Schedule is filed by the MPM Entities and the Listed Persons. The MPM Entities and the Listed Persons expressly disclaim status as a “group” for purposes of this Schedule 13D.
- (2) This percentage is calculated based upon 37,000,707 outstanding common shares of the Issuer, as disclosed in the Issuer’s Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on May 13, 2021.

| | | |
|--|---|----------------------------------|
| 1. | Name of Reporting Persons MPM Asset Management Investors BV2014 LLC | |
| 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 Items 2(d) or 2(e) | |
| 6. | Citizenship or Place of Organization Delaware | |
| Number of Shares Beneficially Owned by Each Reporting Person With: | 7. | Sole Voting Power 70,104 |
| | 8. | Shared Voting Power 0 |
| | 9. | Sole Dispositive Power 70,104 |
| | 10. | Shared Dispositive Power 0 |
| 11. | Aggregate Amount Beneficially Owned by Each Reporting Person 70,104 | |
| 12. | Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions) | |
| 13. | Percent of Class Represented by Amount in Row (11) 0.2%(2) | |
| 14. | Type of Reporting Person (See Instructions) OO | |

- (1) This Schedule is filed by the MPM Entities and the Listed Persons. The MPM Entities and the Listed Persons expressly disclaim status as a “group” for purposes of this Schedule 13D.
- (2) This percentage is calculated based upon 37,000,707 outstanding common shares of the Issuer, as disclosed in the Issuer’s Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on May 13, 2021.

| | | |
|--|---|-------------------------------------|
| 1. | Name of Reporting Persons UBS Oncology Impact Fund, 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 Items 2(d) or 2(e) | |
| 6. | Citizenship or Place of Organization Delaware | |
| Number of Shares Beneficially Owned by Each Reporting Person With: | 7. | Sole Voting Power 1,639,849 |
| | 8. | Shared Voting Power 0 |
| | 9. | Sole Dispositive Power 1,639,849 |
| | 10. | Shared Dispositive Power 0 |
| 11. | Aggregate Amount Beneficially Owned by Each Reporting Person 1,639,849 | |
| 12. | Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions) | |
| 13. | Percent of Class Represented by Amount in Row (11) 4.4%(2) | |
| 14. | Type of Reporting Person (See Instructions) PN | |

- (1) This Schedule is filed by the MPM Entities and the Listed Persons. The MPM Entities and the Listed Persons expressly disclaim status as a “group” for purposes of this Schedule 13D.
- (2) This percentage is calculated based upon 37,000,707 outstanding common shares of the Issuer, as disclosed in the Issuer’s Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on May 13, 2021.

| | | |
|--|---|--|
| 1. | Name of Reporting Persons MPM BioVentures 2014 GP LLC | |
| 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 Items 2(d) or 2(e) | |
| 6. | Citizenship or Place of Organization Delaware | |
| Number of Shares Beneficially Owned by Each Reporting Person With: | 7. | Sole Voting Power 0 |
| | 8. | Shared Voting Power 2,172,532(2) |
| | 9. | Sole Dispositive Power 0 |
| | 10. | Shared Dispositive Power 2,172,532(2) |
| 11. | Aggregate Amount Beneficially Owned by Each Reporting Person 2,172,536(2) | |
| 12. | Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions) | |
| 13. | Percent of Class Represented by Amount in Row (11) 5.9%(3) | |
| 14. | Type of Reporting Person (See Instructions) OO | |

- (1) This Schedule is filed by the MPM Entities and the Listed Persons. The MPM Entities and the Listed Persons expressly disclaim status as a “group” for purposes of this Schedule 13D.
- (2) Includes 2,036,689 shares held by BV 2014 and 135,843 shares held by BV 2014(B). BV 2014 GP and BV 2014 LLC are the direct and indirect general partners of BV 2014 and BV 2014(B).
- (3) This percentage is calculated based upon 37,000,707 outstanding common shares of the Issuer, as disclosed in the Issuer’s Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on May 13, 2021.

| | | |
|--|---|--|
| 1. | Name of Reporting Persons MPM BioVentures 2014 LLC | |
| 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 Items 2(d) or 2(e) | |
| 6. | Citizenship or Place of Organization Delaware | |
| Number of Shares Beneficially Owned by Each Reporting Person With: | 7. | Sole Voting Power 0 |
| | 8. | Shared Voting Power 2,242,636(2) |
| | 9. | Sole Dispositive Power 0 |
| | 10. | Shared Dispositive Power 2,242,636(2) |
| 11. | Aggregate Amount Beneficially Owned by Each Reporting Person 2,242,636(2) | |
| 12. | Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions) | |
| 13. | Percent of Class Represented by Amount in Row (11) 6.1%(3) | |
| 14. | Type of Reporting Person (See Instructions) OO | |

- (1) This Schedule is filed by the MPM Entities and the Listed Persons. The MPM Entities and the Listed Persons expressly disclaim status as a “group” for purposes of this Schedule 13D.
- (2) Includes 2,036,689 shares held by BV 2014, 135,843 shares held by BV 2014(B) and 70,104 shares held by AM BV2014 LLC. BV 2014 GP and BV 2014 LLC are the direct and indirect general partners of BV 2014 and BV 2014(B). BV 2014 LLC is the manager of AM BV2014 LLC.
- (3) This percentage is calculated based upon 37,000,707 outstanding common shares of the Issuer, as disclosed in the Issuer’s Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on May 13, 2021.

| | | |
|--|---|--|
| 1. | Name of Reporting Persons Oncology Impact Fund (Cayman) Management LP | |
| 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 Items 2(d) or 2(e) | |
| 6. | Citizenship or Place of Organization Delaware | |
| Number of Shares Beneficially Owned by Each Reporting Person With: | 7. | Sole Voting Power 1,639,849(2) |
| | 8. | Shared Voting Power 0 |
| | 9. | Sole Dispositive Power 1,639,849(2) |
| | 10. | Shared Dispositive Power 0 |
| 11. | Aggregate Amount Beneficially Owned by Each Reporting Person 1,639,849(2) | |
| 12. | Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions) | |
| 13. | Percent of Class Represented by Amount in Row (11) 4.4%(3) | |
| 14. | Type of Reporting Person (See Instructions) PN | |

- (1) This Schedule is filed by the MPM Entities and the Listed Persons. The MPM Entities and the Listed Persons expressly disclaim status as a “group” for purposes of this Schedule 13D.
- (2) Consists of shares held by UBS Oncology. Oncology GP is the general partner of Oncology LP, the General Partner of Oncology (Cayman), the General Partner of UBS Oncology.
- (3) This percentage is calculated based upon 37,000,707 outstanding common shares of the Issuer, as disclosed in the Issuer’s Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on May 13, 2021.

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| 1. | Name of Reporting Persons MPM Oncology Impact Management LP | |
| 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 Items 2(d) or 2(e) | |
| 6. | Citizenship or Place of Organization Delaware | |
| Number of Shares Beneficially Owned by Each Reporting Person With: | 7. | Sole Voting Power 1,639,849(2) |
| | 8. | Shared Voting Power 0 |
| | 9. | Sole Dispositive Power 1,639,849(2) |
| | 10. | Shared Dispositive Power 0 |
| 11. | Aggregate Amount Beneficially Owned by Each Reporting Person 1,639,849(2) | |
| 12. | Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions) | |
| 13. | Percent of Class Represented by Amount in Row (11) 4.4%(3) | |
| 14. | Type of Reporting Person (See Instructions) PN | |

- (1) This Schedule is filed by the MPM Entities and the Listed Persons. The MPM Entities and the Listed Persons expressly disclaim status as a “group” for purposes of this Schedule 13D.
- (2) Consists of shares held by UBS Oncology. Oncology GP is the general partner of Oncology LP, the General Partner of Oncology (Cayman), the General Partner of UBS Oncology.
- (3) This percentage is calculated based upon 37,000,707 outstanding common shares of the Issuer, as disclosed in the Issuer’s Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on May 13, 2021.

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| 1. | Name of Reporting Persons MPM Oncology Impact Management GP LLC | |
| 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 Items 2(d) or 2(e) | |
| 6. | Citizenship or Place of Organization Delaware | |
| Number of Shares Beneficially Owned by Each Reporting Person With: | 7. | Sole Voting Power 1,639,849(2) |
| | 8. | Shared Voting Power 0 |
| | 9. | Sole Dispositive Power 1,639,849(2) |
| | 10. | Shared Dispositive Power 0 |
| 11. | Aggregate Amount Beneficially Owned by Each Reporting Person 1,639,849(2) | |
| 12. | Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions) | |
| 13. | Percent of Class Represented by Amount in Row (11) 4.4%(3) | |
| 14. | Type of Reporting Person (See Instructions) OO | |

- (1) This Schedule is filed by the MPM Entities and the Listed Persons. The MPM Entities and the Listed Persons expressly disclaim status as a “group” for purposes of this Schedule 13D.
- (2) Consists of shares held by UBS Oncology. Oncology GP is the general partner of Oncology LP, the General Partner of Oncology (Cayman), the General Partner of UBS Oncology.
- (3) This percentage is calculated based upon 37,000,707 outstanding common shares of the Issuer, as disclosed in the Issuer’s Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on May 13, 2021.

| | | |
|--|---|--|
| 1. | Name of Reporting Persons Ansbert Gadicke | |
| 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) OO | |
| 5. | Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e) | |
| 6. | Citizenship or Place of Organization United States | |
| Number of Shares Beneficially Owned by Each Reporting Person With: | 7. | Sole Voting Power 0 |
| | 8. | Shared Voting Power 3,882,485(2) |
| | 9. | Sole Dispositive Power 0 |
| | 10. | Shared Dispositive Power 3,882,485(2) |
| 11. | Aggregate Amount Beneficially Owned by Each Reporting Person 3,882,485(2) | |
| 12. | Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions) | |
| 13. | Percent of Class Represented by Amount in Row (11) 10.5%(3) | |
| 14. | Type of Reporting Person (See Instructions) IN | |

- (1) This Schedule is filed by the MPM Entities and the Listed Persons. The MPM Entities and the Listed Persons expressly disclaim status as a “group” for purposes of this Schedule 13D.
- (2) Includes 2,036,689 shares held by BV 2014, 135,843 shares held by BV 2014(B), 70,104 shares held by AM BV 2014 LLC and 1,639,849 shares held by UBS Oncology. The Reporting Person is a managing director of BV 2014 LLC and the managing member of Oncology GP.
- (3) This percentage is calculated based upon 37,000,707 outstanding common shares of the Issuer, as disclosed in the Issuer’s Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on May 13, 2021.

| | | |
|--|---|--|
| 1. | Name of Reporting Persons Luke Evnin | |
| 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) OO | |
| 5. | Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e) | |
| 6. | Citizenship or Place of Organization United States | |
| Number of Shares Beneficially Owned by Each Reporting Person With: | 7. | Sole Voting Power 0 |
| | 8. | Shared Voting Power 2,242,636(2) |
| | 9. | Sole Dispositive Power 0 |
| | 10. | Shared Dispositive Power 2,242,636(2) |
| 11. | Aggregate Amount Beneficially Owned by Each Reporting Person 2,242,636(2) | |
| 12. | Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions) | |
| 13. | Percent of Class Represented by Amount in Row (11) 6.1%(3) | |
| 14. | Type of Reporting Person (See Instructions) IN | |

- (1) This Schedule is filed by the MPM Entities and the Listed Persons. The MPM Entities and the Listed Persons expressly disclaim status as a “group” for purposes of this Schedule 13D.
- (2) Includes 2,036,689 shares held by BV 2014, 135,843 shares held by BV 2014(B) and 70,104 shares held by AM BV 2014 LLC. The Reporting Person is a managing director of BV 2014 LLC.
- (3) This percentage is calculated based upon 37,000,707 outstanding common shares of the Issuer, as disclosed in the Issuer’s Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on May 13, 2021.

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|--|---|--|
| 1. | Name of Reporting Persons Todd Foley | |
| 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) OO | |
| 5. | Check if Disclosure of Legal Proceedings Is Required Pursuant to Items 2(d) or 2(e) | |
| 6. | Citizenship or Place of Organization United States | |
| Number of Shares Beneficially Owned by Each Reporting Person With: | 7. | Sole Voting Power 0 |
| | 8. | Shared Voting Power 2,242,636(2) |
| | 9. | Sole Dispositive Power 0 |
| | 10. | Shared Dispositive Power 2,242,636(2) |
| 11. | Aggregate Amount Beneficially Owned by Each Reporting Person 2,242,636(2) | |
| 12. | Check if the Aggregate Amount in Row (11) Excludes Certain Shares (See Instructions) | |
| 13. | Percent of Class Represented by Amount in Row (11) 6.1%(3) | |
| 14. | Type of Reporting Person (See Instructions) IN | |

- (1) This Schedule is filed by the MPM Entities and the Listed Persons. The MPM Entities and the Listed Persons expressly disclaim status as a “group” for purposes of this Schedule 13D.
- (2) Includes 2,036,689 shares held by BV 2014, 135,843 shares held by BV 2014(B) and 70,104 shares held by AM BV 2014 LLC. The Reporting Person is a managing director of BV 2014 LLC.
- (3) This percentage is calculated based upon 37,000,707 outstanding common shares of the Issuer, as disclosed in the Issuer’s Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on May 13, 2021.

This Amendment No. 3 to Schedule 13D (“Amendment No. 3”) is being filed as an amendment to the initial statement on Schedule 13D relating to the common shares (the “Common Shares”), of Repare Therapeutics Inc. (the “Issuer”), as filed with the Securities and Exchange Commission (the “SEC”) on July 6, 2020, as amended by Amendment No. 1 filed March 23, 2021 and Amendment No. 2 filed May 25, 2021 (as amended, the “Original Schedule 13D”). This Schedule 13D/A is being filed by the Filing Persons to report the open market sales and distribution in kind of the Issuer’s Common Shares by certain Filing Persons.

Items 4, 5 and 7 of the Original Schedule 13D are hereby amended and supplemented to the extent hereinafter expressly set forth and, except as amended and supplemented hereby, the Original Schedule 13D remains in full force and effect. All capitalized terms used in this Amendment No. 3 but not defined herein shall have the meanings ascribed thereto in the Original Schedule 13D.

Item 4. Purpose of Transaction

Item 4 of the Original Schedule 13D is hereby amended and supplemented by adding the following paragraph at the end of Item 4:

The MPM Entities sold an aggregate of 396,746 Common Shares in open market transactions from May 25, 2021 through July 12, 2021 for aggregate gross proceeds of \$13,233,847.

Item 5. Interest in Securities of the Issuer

(a) – (b) The following information with respect to the ownership of the Common Shares of the Issuer by the Filing Persons is provided as of July 20, 2021:

| Reporting Person | Shares Held Directly | Sole Voting Power | Shared Voting Power | Sole Dispositive Power | Shared Dispositive Power | Beneficial Ownership | Percentage of Class (1) |
|--------------------|----------------------|-------------------|---------------------|------------------------|--------------------------|----------------------|-------------------------|
| BV 2014 | 2,036,689 | 2,036,689 | 0 | 2,036,689 | 0 | 2,036,689 | 5.5% |
| BV 2014(B) | 135,843 | 135,843 | 0 | 135,843 | 0 | 135,843 | 0.4% |
| AM BV 2014 LLC | 70,104 | 70,104 | 0 | 70,104 | 0 | 70,104 | 0.2% |
| UBS Oncology | 1,639,849 | 1,639,849 | 0 | 1,639,849 | 0 | 1,639,849 | 4.4% |
| BV 2014 GP(2) | 0 | 0 | 2,172,532 | 0 | 2,172,532 | 2,172,532 | 5.9% |
| BV 2014 LLC(3) | 0 | 0 | 2,242,636 | 0 | 2,242,636 | 2,242,636 | 6.1% |
| Oncology Cayman(4) | 0 | 0 | 1,639,849 | 0 | 1,639,849 | 1,639,849 | 4.4% |
| Oncology LP(4) | 0 | 0 | 1,639,849 | 0 | 1,639,849 | 1,639,849 | 4.4% |
| Oncology GP(4) | 0 | 0 | 1,639,849 | 0 | 1,639,849 | 1,639,849 | 4.4% |
| Ansbert Gadicke(5) | 0 | 0 | 3,882,485 | 0 | 3,882,485 | 3,882,485 | 10.5% |
| Luke Evin(6) | 0 | 0 | 2,242,636 | 0 | 2,242,636 | 2,242,636 | 6.1% |
| Todd Foley(6) | 0 | 0 | 2,242,636 | 0 | 2,242,636 | 2,242,636 | 6.1% |

- (1) This percentage is calculated based upon 37,000,707 outstanding common shares of the Issuer, as disclosed in the Issuer’s Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission on May 13, 2021.
- (2) Includes securities held by BV 2014 and BV 2014(B). BV 2014 GP and BV 2014 LLC are the direct and indirect general partners of BV 2014 and BV 2014(B).
- (3) Includes securities held by BV 2014, BV 2014(B) and AM BV2014 LLC. BV 2014 GP and BV 2014 LLC are the direct and indirect general partners of BV 2014 and BV 2014(B). BV 2014 LLC is the manager of AM BV2014 LLC.

- (4) Includes shares held by UBS Oncology. Oncology GP is the general partner of Oncology LP, the General Partner of Oncology (Cayman), the General Partner of UBS Oncology.
- (5) Includes securities held by BV 2014, BV 2014(B), AM BV 2014 LLC and UBS Oncology. The Reporting Person is a managing director of BV 2014 LLC and the managing member of Oncology GP.
- (6) Includes securities held by BV 2014, BV 2014(B) and AM BV 2014 LLC. The Reporting Person is a managing director of BV 2014 LLC.

Each Filing Person disclaims membership in a “group.” Each Filing Person also disclaims beneficial ownership of any shares of the Issuer, except for the shares set forth in the table above next to the respective Filing Person’s name in subsection (b) of this Item 5.

(c) The Reporting Persons sold the following Common Shares in the open market in the sixty days preceding the date of this filing:

| <u>Date of Sale</u> | <u>Price Range</u> | <u>Average Price</u> | <u>Sold by BV 2014</u> | <u>Sold by AM BV 2014 LLC</u> | <u>Sold by UBS Oncology</u> |
|---------------------|--------------------|----------------------|------------------------|-------------------------------|-----------------------------|
| 5/18/2021 | \$ 33.06-\$34.05 | \$ 33.90 | 6,292 | 217 | 8,264 |
| 5/18/2021 | \$ 34.07-\$35.01 | \$ 34.61 | 3,638 | 125 | 4,778 |
| 5/18/2021 | \$ 35.14 | \$ 35.14 | 39 | 1 | 50 |
| 5/19/2021 | \$ 33.70-\$34.64 | \$ 34.23 | 3,895 | 134 | 5,114 |
| 5/19/2021 | \$ 34.74-\$35.25 | \$ 35.00 | 1,874 | 65 | 2,461 |
| 5/20/2021 | \$ 34.10-\$35.04 | \$ 34.66 | 3,985 | 137 | 5,235 |
| 5/20/2021 | \$ 35.14-\$35.22 | \$ 35.19 | 256 | 9 | 335 |
| 5/21/2021 | \$ 34.40-\$34.99 | \$ 34.80 | 128,922 | 4,437 | 169,310 |
| 5/24/2021 | \$ 32.57-\$33.56 | \$ 33.30 | 1,511 | 52 | 1,984 |
| 5/24/2021 | \$ 33.60-\$34.37 | \$ 34.28 | 7,945 | 274 | 10,434 |
| 5/25/2021 | \$ 32.45-\$33.32 | \$ 32.87 | 2,756 | 96 | 3,620 |
| 5/25/2021 | \$ 33.59 | \$ 33.59 | 43 | 1 | 56 |
| 5/26/2021 | \$ 31.955-\$32.90 | \$ 32.74 | 9,512 | 327 | 12,493 |
| 5/26/2021 | \$ 32.98-\$33.12 | \$ 33.01 | 726 | 25 | 953 |
| 5/27/2021 | \$ 32.07-\$33.05 | \$ 32.81 | 1,843 | 63 | 2,421 |
| 5/27/2021 | \$ 33.075-\$33.59 | \$ 33.16 | 1,544 | 53 | 2,027 |
| 5/28/2021 | \$ 32.04-\$32.89 | \$ 32.67 | 7,131 | 246 | 9,365 |
| 6/1/2021 | \$ 32.12-\$32.98 | \$ 32.50 | 6,449 | 222 | 8,470 |
| 6/2/2021 | \$ 31.29-\$32.24 | \$ 31.83 | 2,521 | 87 | 3,310 |
| 6/2/2021 | \$ 32.31-\$32.58 | \$ 32.42 | 126 | 4 | 167 |
| 6/3/2021 | \$ 31.35-\$32.265 | \$ 31.92 | 9,497 | 327 | 12,472 |
| 6/4/2021 | \$ 30.10-\$31.09 | \$ 30.80 | 3,426 | 118 | 4,498 |
| 6/4/2021 | \$ 31.10-\$31.54 | \$ 31.28 | 1,999 | 69 | 2,626 |
| 6/7/2021 | \$ 30.41-\$31.25 | \$ 30.74 | 1,023 | 35 | 1,342 |
| 6/7/2021 | \$ 31.50-\$32.49 | \$ 32.25 | 724 | 25 | 951 |
| 6/7/2021 | \$ 32.50-\$33.15 | \$ 32.96 | 8,100 | 279 | 10,638 |
| 6/8/2021 | \$ 32.16-\$33.145 | \$ 32.80 | 3,852 | 133 | 5,060 |
| 6/8/2021 | \$ 33.16-\$33.93 | \$ 33.41 | 7,308 | 251 | 9,596 |
| 6/9/2021 | \$33.66—\$34.65 | \$ 34.42 | 4,627 | 158 | 6,077 |
| 6/9/2021 | \$34.69—\$35.00 | \$ 34.79 | 10,379 | 359 | 13,630 |
| 6/14/2021 | \$ 32.95-\$33.57 | \$ 33.09 | 852 | 29 | 1,119 |
| 6/16/2021 | \$ 32.95-\$33.66 | \$ 33.33 | 1,800 | 62 | 2,365 |
| 6/17/2021 | \$ 33.06-\$34.03 | \$ 33.78 | 13,123 | 452 | 17,235 |
| 6/17/2021 | \$ 34.07-\$34.26 | \$ 34.12 | 728 | 25 | 955 |

| | | | | | |
|-----------|-------------------|---------|---------|--------|---------|
| 6/18/2021 | \$ 32.95-\$33.94 | \$33.46 | 2,471 | 85 | 3,245 |
| 6/18/2021 | \$ 32.97-\$34.14 | \$34.03 | 1,363 | 47 | 1,789 |
| 6/21/2021 | \$ 33.33-\$34.30 | \$33.80 | 2,471 | 85 | 3,244 |
| 6/21/2021 | \$ 34.39-\$34.87 | \$34.63 | 13,540 | 466 | 17,782 |
| 6/22/2021 | \$ 32.95-\$33.93 | \$33.36 | 1,436 | 50 | 1,885 |
| 6/22/2021 | \$ 33.98-\$34.16 | \$34.09 | 183 | 6 | 240 |
| 6/23/2021 | \$ 32.95-\$33.03 | \$32.98 | 601 | 21 | 788 |
| 6/24/2021 | \$ 33.11-\$33.90 | \$33.53 | 2,607 | 90 | 3,424 |
| 6/25/2021 | \$ 33.10-\$33.98 | \$33.51 | 9,612 | 331 | 12,624 |
| 6/28/2021 | \$ 33.59-\$34.54 | \$34.06 | 5,878 | 202 | 7,720 |
| 6/28/2021 | \$ 34.60-\$35.10 | \$34.82 | 1,150 | 40 | 1,510 |
| 6/29/2021 | \$ 32.95-\$33.78 | \$33.29 | 1,150 | 40 | 1,510 |
| 7/9/2021 | \$ 32.95-\$33.20 | \$33.06 | 1,732 | 60 | 2,275 |
| 7/12/2021 | \$ 33.05-\$34.04 | \$33.58 | 24,408 | 838 | 32,055 |
| 7/12/2021 | \$34.055-\$34.135 | \$34.10 | 303 | 10 | 398 |
| | | | 327,351 | 11,268 | 429,900 |

The information provided and incorporated by reference in Item 3 and Item 6 is hereby incorporated by reference in this Item 5.

(d) Inapplicable.

(e) Inapplicable.

Item 7. Material to Be Filed as Exhibits

C. Agreement regarding filing of joint Schedule 13D.

Signatures

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.

Date: July 20, 2021

MPM BioVENTURES 2014, L.P.

By: MPM BioVentures 2014 GP LLC,
its General Partner

By: MPM BioVentures 2014 LLC,
Its Managing Member

By: /s/ Ansbert Gadicke

Name: Ansbert Gadicke

Title: Managing Director

MPM BioVENTURES 2014 (B), L.P.

By: MPM BioVentures 2014 GP LLC,
its General Partner

By: MPM BioVentures 2014 LLC,
Its Managing Member

By: /s/ Ansbert Gadicke

Name: Ansbert Gadicke

Title: Managing Director

MPM ASSET MANAGEMENT INVESTORS BV2014 LLC

By: MPM BioVentures 2014 LLC
Its: Manager

By: /s/ Ansbert Gadicke

Name: Ansbert Gadicke

Title: Managing Director

MPM BIOVENTURES 2014 GP, LLC

By: MPM BioVentures 2014 LLC,
Its Managing Member

By: /s/ Ansbert Gadicke
Name: Ansbert Gadicke
Title: Managing Director

MPM BIOVENTURES 2014 LLC

By: /s/ Ansbert Gadicke
Name: Ansbert Gadicke
Title: Managing Director

UBS ONCOLOGY IMPACT FUND, L.P.

By: Oncology Impact Fund (Cayman) Management L.P.,
its General Partner
By: MPM Oncology Impact Management LP,
Its General Partner
By: MPM Oncology Impact Management GP LLC,
Its General Partner

By: /s/ Ansbert Gadicke
Name: Ansbert Gadicke
Title: Managing Member

ONCOLOGY IMPACT FUND (CAYMAN) MANAGEMENT L.P.

By: MPM Oncology Impact Management LP,
Its General Partner
By: MPM Oncology Impact Management GP LLC,
Its General Partner

By: /s/ Ansbert Gadicke
Name: Ansbert Gadicke
Title: Managing Member

MPM ONCOLOGY IMPACT MANAGEMENT LP

By: MPM Oncology Impact Management GP LLC,
Its General Partner

By: /s/ Ansbert Gadicke
Name: Ansbert Gadicke
Title: Managing Member

MPM ONCOLOGY IMPACT MANAGEMENT GP LLC

By: /s/ Ansbert Gadicke
Name: Ansbert Gadicke
Title: Managing Member

By: /s/ Todd Foley
Name: Todd Foley

By: /s/ Luke Evnin
Name: Luke Evnin

By: /s/ Ansbert Gadicke
Name: Ansbert Gadicke

Schedule I

General Partners/Members

Ansbert Gadicke
c/o MPM Asset Management
450 Kendall Street
Cambridge, MA 02142
Principal Occupation: Managing director of MPM BioVentures 2014 LLC and managing member of MPM Oncology Impact Management LP.
Citizenship: USA

Luke Evin
c/o MPM Asset Management
450 Kendall Street
Cambridge, MA 02142
Principal Occupation: Managing director of MPM BioVentures 2014 LLC.
Citizenship: USA

Todd Foley
c/o MPM Asset Management
450 Kendall Street
Cambridge, MA 02142
Principal Occupation: Managing director of MPM BioVentures 2014 LLC.
Citizenship: USA

C. Agreement regarding filing of joint Schedule 13D.

Exhibit C

Joint Filing Statement

I, the undersigned, hereby express my agreement that the attached Schedule 13D (and any amendments thereto) relating to the beneficial ownership by the undersigned of the equity securities of Repare Therapeutics Inc. is filed on behalf of each of the undersigned.

Date: July 20, 2021

MPM BIOVENTURES 2014, L.P.

By: MPM BioVentures 2014 GP LLC,
its General Partner

By: MPM BioVentures 2014 LLC,
Its Managing Member

By: /s/ Ansbert Gadicke

Name: Ansbert Gadicke

Title: Managing Director

MPM BIOVENTURES 2014 (B), L.P.

By: MPM BioVentures 2014 GP LLC,
its General Partner

By: MPM BioVentures 2014 LLC,
Its Managing Member

By: /s/ Ansbert Gadicke

Name: Ansbert Gadicke

Title: Managing Director

MPM ASSET MANAGEMENT INVESTORS BV2014 LLC

By: MPM BioVentures 2014 LLC
Its: Manager

By: /s/ Ansbert Gadicke

Name: Ansbert Gadicke

Title: Managing Director

MPM BIOVENTURES 2014 GP, LLC

By: MPM BioVentures 2014 LLC,
Its Managing Member

By: /s/ Ansbert Gadicke
Name: Ansbert Gadicke
Title: Managing Director

MPM BIOVENTURES 2014 LLC

By: /s/ Ansbert Gadicke
Name: Ansbert Gadicke
Title: Managing Director

UBS ONCOLOGY IMPACT FUND, L.P.

By: Oncology Impact Fund (Cayman) Management L.P.,
its General Partner
By: MPM Oncology Impact Management LP,
Its General Partner
By: MPM Oncology Impact Management GP LLC,
Its General Partner

By: /s/ Ansbert Gadicke
Name: Ansbert Gadicke
Title: Managing Member

ONCOLOGY IMPACT FUND (CAYMAN) MANAGEMENT L.P.

By: MPM Oncology Impact Management LP,
Its General Partner
By: MPM Oncology Impact Management GP LLC,
Its General Partner

By: /s/ Ansbert Gadicke
Name: Ansbert Gadicke
Title: Managing Member

MPM ONCOLOGY IMPACT MANAGEMENT LP

By: MPM Oncology Impact Management GP LLC,
Its General Partner

By: /s/ Ansbert Gadicke
Name: Ansbert Gadicke
Title: Managing Member

MPM ONCOLOGY IMPACT MANAGEMENT GP LLC

By: /s/ Ansbert Gadicke
Name: Ansbert Gadicke
Title: Managing Member

By: /s/ Todd Foley
Name: Todd Foley

By: /s/ Luke Evin
Name: Luke Evin

By: /s/ Ansbert Gadicke
Name: Ansbert Gadicke