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

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**SCHEDULE 13D**

**Under the Securities Exchange Act of 1934  
(Amendment No. )\***

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**APTINYX INC.**  
(Name of Issuer)

**Common Stock, \$0.01 par value**  
(Title of Class of Securities)

**03836N103**  
(CUSIP Number)

**New Leaf Ventures  
7 Times Square, Suite 3502  
New York, NY 10036  
Attn: Craig Slutzkin  
(646) 871-6400**

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

**Gunderson Dettmer Stough Villeneuve Franklin  
& Hachigian, LLP  
One Marina Park Drive, Suite 900  
Boston, MA 02210  
Attn: Jay K. Hachigian, Esq.  
(617) 648-9100**

**June 25, 2018**  
(Date of Event which Requires Filing of this Statement)

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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:

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**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.

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\* 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).

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1.	Names of Reporting Persons. New Leaf Ventures III, L.P. (“NLV III”)	
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 Items 2(d) or 2(e) <input type="checkbox"/>	
6.	Citizenship or Place of Organization Delaware	
Number of Shares Beneficially Owned by Each Reporting Person With	7.	Sole Voting Power  2,921,734 shares, except that (a) New Leaf Venture Associates III, L.P. (“NLV Associates III”), the sole general partner of NLV III, may be deemed to have sole power to vote such shares, (b) New Leaf Venture Management III, L.L.C. (“NLV Management III”), the sole general partner of NLV Associates III and ultimate general partner of NLV III, may be deemed to have sole power to vote such shares, and (c) Liam Ratcliffe, a member of the Issuer’s board of directors (“Ratcliffe”), Ronald M. Hunt (“Hunt”) and Vijay K. Lathi (“Lathi”), the sole managers of NLV Management III, may be deemed to have shared power to vote such shares.
	8.	Shared Voting Power  See response to row 7.
	9.	Sole Dispositive Power  2,921,734 shares, except that (a) NLV Associates III, the sole general partner of NLV III, may be deemed to have sole power to dispose of such shares, (b) NLV Management III, the sole general partner of NLV Associates III and ultimate general partner of NLV III, may be deemed to have sole power to dispose of such shares, and (c) Ratcliffe, a member of the Issuer’s board of directors, Hunt and Lathi, the sole managers of NLV Management III, may be deemed to have shared power to dispose of such shares.
	10.	Shared Dispositive Power  See response to row 9.
11.	Aggregate Amount Beneficially Owned by Each Reporting Person  2,921,734	
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)  8.7% <sup>1</sup>	
14.	Type of Reporting Person (See Instructions)  PN	

<sup>1</sup> Based on 33,496,224 shares of Common Stock of the Issuer outstanding as of June 21, 2018, reported on the Issuer’s Prospectus filed with the Securities and Exchange Commission on June 21, 2018.

1.	Names of Reporting Persons. New Leaf Biopharma Opportunities I, L.P. ("Biopharma I")	
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 Items 2(d) or 2(e) <input type="checkbox"/>	
6.	Citizenship or Place of Organization Delaware	
Number of Shares Beneficially Owned by Each Reporting Person With	7.	Sole Voting Power  368,345 shares, except that (a) New Leaf BPO Associates I, L.P. ("NLBA I"), the sole general partner of Biopharma I, may be deemed to have sole power to vote such shares, (b) NLV Management III, the sole general partner of NLBA I and ultimate general partner of Biopharma I, may be deemed to have sole power to vote such shares, and (c) Ratcliffe, a member of the Issuer's board of directors, Hunt and Lathi, the sole managers of NLV Management III, may be deemed to have shared power to vote such shares.
	8.	Shared Voting Power  See response to row 7.
	9.	Sole Dispositive Power  368,345 shares, except that (a) NLBA I, the sole general partner of Biopharma I, may be deemed to have sole power to dispose of such shares, (b) NLV Management III, the sole general partner of NLBA I and ultimate general partner of Biopharma I, may be deemed to have sole power to dispose of such shares, and (c) Ratcliffe, a member of the Issuer's board of directors, Hunt and Lathi, the sole managers of NLV Management III, may be deemed to have shared power to dispose of such shares.
	10.	Shared Dispositive Power  See response to Row 9.
11.	Aggregate Amount Beneficially Owned by Each Reporting Person  368,345	
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)  1.1% <sup>1</sup>	
14.	Type of Reporting Person (See Instructions)  PN	

1.	Names of Reporting Persons. New Leaf Venture Associates III, 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 Items 2(d) or 2(e) <input type="checkbox"/>	
6.	Citizenship or Place of Organization Delaware	
Number of Shares Beneficially Owned by Each Reporting Person With	7.	Sole Voting Power  2,921,734 shares, all of which are owned by NLV III, except that (a) NLV Associates III, the sole general partner of NLV III, may be deemed to have sole power to vote such shares, (b) NLV Management III, the sole general partner of NLV Associates III and ultimate general partner of NLV III, may be deemed to have sole power to vote such shares, and (c) Ratcliffe, a member of the Issuer's board of directors, Hunt and Lathi, the sole managers of NLV Management III, may be deemed to have shared power to vote such shares.
	8.	Shared Voting Power  See response to row 7.
	9.	Sole Dispositive Power  2,921,734 shares, all of which are owned by NLV III, except that (a) NLV Associates III, the sole general partner of NLV III, may be deemed to have sole power to dispose of such shares, (b) NLV Management III, the sole general partner of NLV Associates III and ultimate general partner of NLV III, may be deemed to have sole power to dispose of such shares, and (c) Ratcliffe, a member of the Issuer's board of directors, Hunt and Lathi, the sole managers of NLV Management III, may be deemed to have shared power to dispose of such shares.
	10.	Shared Dispositive Power  See response to Row 9.
11.	Aggregate Amount Beneficially Owned by Each Reporting Person 2,921,734	
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) 8.7% <sup>1</sup>	
14.	Type of Reporting Person (See Instructions) PN	

1.	Names of Reporting Persons. New Leaf BPO Associates 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"/>
3.	SEC Use Only
4.	Source of Funds (See Instructions) AF
5.	Check if Disclosure of Legal Proceedings is Required Pursuant to Items 2(d) or 2(e) <input type="checkbox"/>
6.	Citizenship or Place of Organization Delaware
Number of Shares Beneficially Owned by Each Reporting Person With	7. Sole Voting Power 368,345 shares, all of which are owned by Biopharma I, except that (a) NLBA I, the sole general partner of Biopharma I, may be deemed to have sole power to vote such shares, (b) NLV Management III, the sole general partner of NLBA I and ultimate general partner of Biopharma I, may be deemed to have sole power to vote such shares, and (c) Ratcliffe, a member of the Issuer's board of directors, Hunt and Lathi, the sole managers of NLV Management III, may be deemed to have shared power to vote such shares.
	8. Shared Voting Power See response to row 7.
	9. Sole Dispositive Power 368,345 shares, all of which are owned by Biopharma I, except that (a) NLBA I, the sole general partner of Biopharma I, may be deemed to have sole power to dispose of such shares, (b) NLV Management III, the sole general partner of NLBA I and ultimate general partner of Biopharma I, may be deemed to have sole power to dispose of such shares, and (c) Ratcliffe, a member of the Issuer's board of directors, Hunt and Lathi, the sole managers of NLV Management III, may be deemed to have shared power to dispose of such shares.
	10. Shared Dispositive Power See response to row 9.
11.	Aggregate Amount Beneficially Owned by Each Reporting Person 368,345
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) 1.1% <sup>1</sup>
14.	Type of Reporting Person (See Instructions) PN

1.	Names of Reporting Persons. New Leaf Venture Management III, L.L.C.
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 Items 2(d) or 2(e) <input type="checkbox"/>
6.	Citizenship or Place of Organization Delaware
Number of Shares Beneficially Owned by Each Reporting Person With	7. Sole Voting Power  3,290,079 shares, of which (i) 2,921,734 shares are directly owned by NLV III, and (ii) 368,345 shares are directly owned by Biopharma I, except that (a) NLBA I, the sole general partner of Biopharma I, may be deemed to have sole power to vote such shares owned by Biopharma I, (b) NLV Associates III, the sole general partner of NLV III, may be deemed to have sole power to vote of such shares owned by NLV III, (c) NLV Management III, as the sole general partner of NLBA I and ultimate general partner of Biopharma I, may be deemed to have sole power to vote all of the shares directly owned by Biopharma I, and as the sole general partner of NLV Associates III and ultimate general partner of NLV III, may be deemed to have sole power to vote all of the shares directly owned by NLV III, and (d) Ratcliffe, a member of the Issuer's board of directors, Hunt and Lathi, the sole managers of NLV Management III, may be deemed to have shared power to vote all of such shares.
	8. Shared Voting Power  See response to row 7.
	9. Sole Dispositive Power  3,290,079 shares, of which (i) 2,921,734 shares are directly owned by NLV III, and (ii) 368,345 shares are directly owned by Biopharma I, except that (a) NLBA I, the sole general partner of Biopharma I, may be deemed to have sole power to dispose of such shares owned by Biopharma I, (b) NLV Associates III, the sole general partner of NLV III, may be deemed to have sole power to dispose of such shares owned by NLV III, (c) NLV Management III, as the sole general partner of NLBA I and ultimate general partner of Biopharma I, may be deemed to have sole power to dispose of all of the shares directly owned by Biopharma I, and as the sole general partner of NLV Associates III and ultimate general partner of NLV III, may be deemed to have sole power to dispose of all of the shares directly owned by NLV III, and (d) Ratcliffe, a member of the Issuer's board of directors, Hunt and Lathi, the sole managers of NLV Management III, may be deemed to have shared power to dispose of all of such shares.
	10. Shared Dispositive Power  See response to row 9.
11.	Aggregate Amount Beneficially Owned by Each Reporting Person 3,290,079
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) 9.8% <sup>1</sup>
14.	Type of Reporting Person (See Instructions) OO

1.	Names of Reporting Persons. Liam Ratcliffe
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 Items 2(d) or 2(e) <input type="checkbox"/>
6.	Citizenship or Place of Organization USA
Number of Shares Beneficially Owned by Each Reporting Person With	7. Sole Voting Power 0
	8. Shared Voting Power 3,290,079 shares, of which (i) 2,921,734 shares are directly owned by NLV III, and (ii) 368,345 shares are directly owned by Biopharma I, except that (a) NLBA I, the sole general partner of Biopharma I, may be deemed to have sole power to vote such shares owned by Biopharma I, (b) NLV Associates III, the sole general partner of NLV III, may be deemed to have sole power to vote of such shares owned by NLV III, (c) NLV Management III, as the sole general partner of NLBA I and ultimate general partner of Biopharma I, may be deemed to have sole power to vote all of the shares directly owned by Biopharma I, and as the sole general partner of NLV Associates III and ultimate general partner of NLV III, may be deemed to have sole power to vote all of the shares directly owned by NLV III, and (d) Ratcliffe, a member of the Issuer's board of directors, Hunt and Lathi, the sole managers of NLV Management III, may be deemed to have shared power to vote all of such shares.
	9. Sole Dispositive Power 0
	10. Shared Dispositive Power 3,290,079 shares, of which (i) 2,921,734 shares are directly owned by NLV III, and (ii) 368,345 shares are directly owned by Biopharma I, except that (a) NLBA I, the sole general partner of Biopharma I, may be deemed to have sole power to dispose of such shares owned by Biopharma I, (b) NLV Associates III, the sole general partner of NLV III, may be deemed to have sole power to dispose of such shares owned by NLV III, (c) NLV Management III, as the sole general partner of NLBA I and ultimate general partner of Biopharma I, may be deemed to have sole power to dispose of all of the shares directly owned by Biopharma I, and as the sole general partner of NLV Associates III and ultimate general partner of NLV III, may be deemed to have sole power to dispose of all of the shares directly owned by NLV III, and (d) Ratcliffe, a member of the Issuer's board of directors, Hunt and Lathi, the sole managers of NLV Management III, may be deemed to have shared power to dispose of all of such shares.
11.	Aggregate Amount Beneficially Owned by Each Reporting Person 3,290,079
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) 9.8% <sup>1</sup>
14.	Type of Reporting Person (See Instructions) IN

1.	Names of Reporting Persons. Ronald M. Hunt
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 Items 2(d) or 2(e) <input type="checkbox"/>
6.	Citizenship or Place of Organization USA
Number of Shares Beneficially Owned by Each Reporting Person With	7. Sole Voting Power 0
	8. Shared Voting Power 3,290,079 shares, of which (i) 2,921,734 shares are directly owned by NLV III, and (ii) 368,345 shares are directly owned by Biopharma I, except that (a) NLBA I, the sole general partner of Biopharma I, may be deemed to have sole power to vote such shares owned by Biopharma I, (b) NLV Associates III, the sole general partner of NLV III, may be deemed to have sole power to vote of such shares owned by NLV III, (c) NLV Management III, as the sole general partner of NLBA I and ultimate general partner of Biopharma I, may be deemed to have sole power to vote all of the shares directly owned by Biopharma I, and as the sole general partner of NLV Associates III and ultimate general partner of NLV III, may be deemed to have sole power to vote all of the shares directly owned by NLV III, and (d) Ratcliffe, a member of the Issuer's board of directors, Hunt and Lathi, the sole managers of NLV Management III, may be deemed to have shared power to vote all of such shares.
	9. Sole Dispositive Power 0
	10. Shared Dispositive Power 3,290,079 shares, of which (i) 2,921,734 shares are directly owned by NLV III, and (ii) 368,345 shares are directly owned by Biopharma I, except that (a) NLBA I, the sole general partner of Biopharma I, may be deemed to have sole power to dispose of such shares owned by Biopharma I, (b) NLV Associates III, the sole general partner of NLV III, may be deemed to have sole power to dispose of such shares owned by NLV III, (c) NLV Management III, as the sole general partner of NLBA I and ultimate general partner of Biopharma I, may be deemed to have sole power to dispose of all of the shares directly owned by Biopharma I, and as the sole general partner of NLV Associates III and ultimate general partner of NLV III, may be deemed to have sole power to dispose of all of the shares directly owned by NLV III, and (d) Ratcliffe, a member of the Issuer's board of directors, Hunt and Lathi, the sole managers of NLV Management III, may be deemed to have shared power to dispose of all of such shares.
11.	Aggregate Amount Beneficially Owned by Each Reporting Person 3,290,079
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) 9.8% <sup>1</sup>
14.	Type of Reporting Person (See Instructions) IN

1.	Names of Reporting Persons. Vijay K. Lathi
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 Items 2(d) or 2(e) <input type="checkbox"/>
6.	Citizenship or Place of Organization USA
Number of Shares Beneficially Owned by Each Reporting Person With	7. Sole Voting Power 0
	8. Shared Voting Power 3,290,079 shares, of which (i) 2,921,734 shares are directly owned by NLV III, and (ii) 368,345 shares are directly owned by Biopharma I, except that (a) NLBA I, the sole general partner of Biopharma I, may be deemed to have sole power to vote such shares owned by Biopharma I, (b) NLV Associates III, the sole general partner of NLV III, may be deemed to have sole power to vote of such shares owned by NLV III, (c) NLV Management III, as the sole general partner of NLBA I and ultimate general partner of Biopharma I, may be deemed to have sole power to vote all of the shares directly owned by Biopharma I, and as the sole general partner of NLV Associates III and ultimate general partner of NLV III, may be deemed to have sole power to vote all of the shares directly owned by NLV III, and (d) Ratcliffe, a member of the Issuer's board of directors, Hunt and Lathi, the sole managers of NLV Management III, may be deemed to have shared power to vote all of such shares.
	9. Sole Dispositive Power 0
	10. Shared Dispositive Power 3,290,079 shares, of which (i) 2,921,734 shares are directly owned by NLV III, and (ii) 368,345 shares are directly owned by Biopharma I, except that (a) NLBA I, the sole general partner of Biopharma I, may be deemed to have sole power to dispose of such shares owned by Biopharma I, (b) NLV Associates III, the sole general partner of NLV III, may be deemed to have sole power to dispose of such shares owned by NLV III, (c) NLV Management III, as the sole general partner of NLBA I and ultimate general partner of Biopharma I, may be deemed to have sole power to dispose of all of the shares directly owned by Biopharma I, and as the sole general partner of NLV Associates III and ultimate general partner of NLV III, may be deemed to have sole power to dispose of all of the shares directly owned by NLV III, and (d) Ratcliffe, a member of the Issuer's board of directors, Hunt and Lathi, the sole managers of NLV Management III, may be deemed to have shared power to dispose of all of such shares.
11.	Aggregate Amount Beneficially Owned by Each Reporting Person 3,290,079
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) 9.8% <sup>1</sup>
14.	Type of Reporting Person (See Instructions) IN

**SCHEDULE 13D****Item 1. Security and Issuer.**

This statement relates to the Common Stock, par value \$0.01 per share (the "Common Stock"), of Aptinyx Inc. (the "Issuer"), of the Issuer. The address of the principal executive offices of the Issuer is 909 Davis Street, Suite 600, Evanston, IL 60201.

**Item 2. Identity and Background.**

(a) This Schedule 13D is being filed on behalf of each of the following Reporting Persons pursuant to Rule 13d-1(k) of Regulation D-G under the Securities Exchange Act of 1934, as amended (the "Exchange Act"). The "Reporting Persons" are, collectively, New Leaf Ventures III, L.P. ("NLV III"), New Leaf Venture Associates III, L.P. ("NLV Associates III"), New Leaf Biopharma Opportunities I, L.P. ("Biopharma I"), New Leaf BPO Associates I, L.P. ("NLBA I"), New Leaf Venture Management III, L.L.C. ("NLV Management III"), Liam Ratcliffe, a member of the Issuer's board of directors ("Ratcliffe"), Ronald M. Hunt ("Hunt") and Vijay K. Lathi ("Lathi"). Ratcliffe, Hunt and Lathi (collectively, the "Managers") are the sole managers of NLV Management III.

(b) The principal business address of each NLV III, NLV Associates III, Biopharma I, NLBA I, NLV Management III, Ratcliffe and Hunt is c/o New Leaf Ventures, 7 Times Square, Suite 3502, New York, NY 10036. The address of the principal business office of Lathi is New Leaf Venture Partners, 1200 Park Place, Suite 300, San Mateo, CA 94043.

(c) The principal business of each of NLV III and Biopharma I is that of a private investment partnership and to make, hold and dispose of equity and equity-related investments, principally in healthcare, medical device and life sciences companies. The sole general partner of NLV III is NLV Associates III and the sole general partner of Biopharma I is NLBA I. The sole general partner of each of NLV Associates III and NLBA I is NLV Management III. The ultimate general partner of each of NLV III and Biopharma I is NLV Management III. The principal business of NLV Associates III is that of a limited partnership acting as the general partner of NLV III, the principal business of NLBA I is that of a limited partnership acting as the general partner of Biopharma I, and the principal business of NLV Management III is that of a limited liability company acting as the general partner of each of NLV Associates III and NLBA I and the ultimate general partner of each of NLV III and Biopharma I. Ratcliffe, a member of the Issuer's board of directors, Hunt and Lathi, are the sole managers of NLV Management III. Each of NLV III, Biopharma I, NLV Associates III and NLBA I is organized as a Delaware limited partnership. NLV Management III is organized as a Delaware limited liability company.

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

(e) None of the Reporting Persons has, during the last five years, been a party to a civil proceeding of a judicial or administrative body of competent jurisdiction and as a result of such proceeding was or is 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 individuals named in this Item 2 is a citizen of the United States.

Item 3. Source and Amount of Funds or Other Consideration.

On June 20, 2018, the Registration Statement on Form S-1 filed with the Securities and Exchange Commission by the Issuer (File No. 333-225150) in connection with its initial public offering of 6,399,999 shares of the Issuer's Common Stock was declared effective.

On May 4, 2016, NLV III purchased 28,895,188 shares of Series A-1 convertible preferred stock convertible into 1,047,450 shares of Common Stock (after giving effect to a 27.58621-for-one conversion into Common Stock immediately prior to the closing of the Issuer's Initial Public Offering (the "IPO Conversion")) for a purchase price of \$0.16472 per share, and an approximate aggregate purchase price of \$4,759,615.37.

On February 2, 2017, NLV III purchased 33,022,786 shares of Series A-2 convertible preferred stock convertible into 1,197,076 shares of Common Stock (after giving effect to the IPO Conversion) for a purchase price of \$0.23061 per share, and an approximate purchase price of \$7,615,385.68.

In December 2017, (i) NLV III purchased 15,233,315 shares of Series B convertible preferred stock convertible into 552,208 shares of Common Stock (after giving effect to the IPO Conversion) for a purchase price of \$0.29793 per share, and an approximate aggregate purchase price of \$4,538,461.54, and (ii) Biopharma I purchased 6,712,986 shares of Series B convertible preferred stock convertible into 243,345 shares of Common Stock (after giving effect to the IPO Conversion) for a purchase price of \$0.29793 per share, and an approximate aggregate purchase price of \$2,000,000.81. The shares purchased in the aforementioned transactions are collectively referred to as the "Pre-IPO Shares."

On June 25, 2018, (i) NLV III purchased 125,000 shares of Common Stock for an aggregate purchase price of \$2,000,000.00 and (ii) Biopharma I purchased 125,000 shares of Common Stock for an aggregate purchase price of \$2,000,000.00 (collectively, the "IPO Shares").

Unless noted above, the source of funds for all purchases and acquisitions by NLV III and Biopharma I was from working capital. Certain purchases by NLV III were made using its working capital funded partially through a line of credit in the normal course of business and then paid down from the proceeds from investor capital calls. Except as noted above, no part of the purchase price was borrowed by either NLV III or Biopharma I for the purpose of acquiring any securities discussed in this Item 3.

Item 4. Purpose of Transaction.

The Reporting Persons consummated the transactions described herein in order to acquire an interest in the Issuer for investment purposes. The Reporting Persons expect to evaluate the Issuer's financial condition and prospects and their respective interests in, and intentions with respect to, the Issuer and their respective investments in the securities of the Issuer, on an on-going basis, which review may be based on various factors, including the Issuer's business and financial condition, results of operations and prospects, general economic and industry conditions, the securities markets in general and those for the Issuer's securities in particular, as well as other developments and other investment opportunities. Accordingly, each Reporting Person reserves the right to change its intentions, as it deems appropriate. In particular, each Reporting Person may at any time and from time to time, in the open market, in privately negotiated transactions or otherwise, increase or decrease its holdings in the Issuer that the Reporting Persons now own or may hereafter acquire.

Ratcliffe is a member of the Issuer's board of directors.

Except as set forth in this Item 4, the Reporting Persons have no present plans or proposals that relate to or would result in any of the actions described in subparagraphs (a) through (j) of Item 4 of Schedule 13D. The Reporting Persons do, however, reserve the right in the future to adopt such plans or proposals subject to compliance with applicable regulatory requirements.

Item 5. Interest in Securities of the Issuer.

The information reported below is based on a total of 33,496,224 shares of Common Stock outstanding as reported on the Issuer's Prospectus filed with the SEC on June 21, 2018.

(a,b) Regarding aggregate beneficial ownership, see Row 11 of the cover page of each Reporting Person. Regarding percentage beneficial ownership, see Row 13 of the cover page of each Reporting Person. Regarding sole power to vote shares, see Row 7 of the cover page of each Reporting Person. Regarding shared power to vote shares, see Row 8 of the cover page of each Reporting Person. Regarding sole power to dispose of shares, see Row 9 of the cover page of each Reporting Person. Regarding shared power to dispose of shares, see Row 10 of the cover page of each Reporting Person.

Each of the Reporting Persons, except for NLV III with respect to the shares directly owned by it and Biopharma I with respect to the shares directly owned by it, disclaims beneficial ownership of such shares for all purposes, except to the extent of their respective pecuniary interests therein, if any.

(c) Except as set forth in Item 3 above, the Reporting Persons have not effected any transaction in the Common Stock of the Company during the past 60 days.

(d) Under certain circumstances set forth in the limited partnership agreement of each of NLV III, Biopharma I, NLV Associates III, NLBA I and the limited liability company agreement of NLV Management III, the partners and the members of each of such entities, as applicable, may be deemed to have the right to receive dividends from, or the proceeds from, the sale of shares of the issuer owned by each such entity of which they are a partner or member.

(e) Not applicable.

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

Certain of the Reporting Persons have agreed to enter into lock-up agreements (each a "Lock-Up Agreement"), pursuant to which such entities agreed, subject to certain exceptions, not to sell, transfer or otherwise convey any of the Issuer's securities held by them for 180 days following the date of the underwriting agreement. The Form of Lock-Up Agreement is attached to this Schedule 13D as Exhibit B.

Certain of the Reporting Persons have entered into an investor rights agreement with the Issuer, certain directors of the Issuer and certain holders of shares of the Issuer. After the closing of the Offering, the shareholders party thereto are entitled to certain registration rights, including the right to demand that the Issuer file a registration statement or request that their shares be covered by a registration statement that the Issuer is otherwise filing. The Amended and Restated Investor Rights Agreement, dated December 11, 2017, is attached as Exhibit 4.2 to the Issuer's Registration Statement on Form S-1 (File No. 333-225150) filed on May 23, 2018, and is incorporated herein by reference.

The Issuer has entered into an indemnification agreement with each of its directors, executive officers and key employees, including Hunt. The indemnification agreement, among other things, require the Issuer or will require the Issuer to indemnify Hunt (and in certain cases each of NLV III and Biopharma II) to the fullest extent permitted by applicable law, including indemnification of expenses such as attorneys' fees, judgments, fines and settlement amounts incurred by Hunt in any action or proceeding, including any action or proceeding by or in right of the Issuer, arising out of his services as a director. The form of Indemnity Agreement for the Issuer's directors and officers is attached as Exhibit 10.6 to the Issuer's Registration Statement on Form S-1 (File No. 333-225150) filed on June 11, 2018, and is incorporated herein by reference.

Item 7. Material to be Filed as Exhibits.

Exhibit A – Joint Filing Agreement.

Exhibit B – Form of Lock-up Agreement.

Exhibit C – Amended and Restated Investor Rights Agreement, dated December 11, 2017, filed on May 23, 2018 as Exhibit 4.2 to the Issuer’s Registration Statement on Form S-1 (File No. 333-225150), and incorporated herein by reference.

Exhibit D – Form of Indemnification Agreement for board members and senior management, filed on June 11, 2018 as Exhibit 10.6 to the Issuer’s Registration Statement on Form S-1 (File No. 333-225150), and incorporated herein by reference.

**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.

Date: July 3, 2018

NEW LEAF VENTURES III, L.P.

By: New Leaf Venture Associates III, L.P.  
By: New Leaf Venture Management III, L.L.C.

By: /s/ Craig L. Slutzkin  
Chief Financial Officer

NEW LEAF BIOPHARMA OPPORTUNITIES I, L.P.

By: New Leaf BPO Associates I, L.P.  
By: New Leaf Venture Management III, L.L.C.

By: /s/ Craig L. Slutzkin  
Chief Financial Officer

NEW LEAF VENTURE ASSOCIATES III, L.P.

By: New Leaf Venture Management III, L.L.C.

By: /s/ Craig L. Slutzkin  
Chief Financial Officer

NEW LEAF BPO ASSOCIATES I, L.P.

By: New Leaf Venture Management III, L.L.C.

By: /s/ Craig L. Slutzkin  
Chief Financial Officer

NEW LEAF VENTURE MANAGEMENT III, L.L.C.

By: /s/ Craig L. Slutzkin  
Chief Financial Officer

LIAM RATCLIFFE

By: \* \_\_\_\_\_  
Liam Ratcliffe

RONALD M. HUNT

By: \* \_\_\_\_\_  
Ronald M. Hunt

VIJAY K. LATHI

By: \* \_\_\_\_\_  
Vijay K. Lathi

\*By: /s/ Craig L. Slutzkin  
Name: Craig Slutzkin  
Attorney-in-Fact

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[\*This Schedule 13D was executed pursuant to a Power of Attorney. Note that copies of the applicable Powers of Attorney are already on file with the appropriate agencies.]

**Exhibit A**

AGREEMENT REGARDING THE JOINT FILING OF  
SCHEDULE 13D

The undersigned, being duly authorized thereunto, hereby execute this agreement as an exhibit to this Schedule 13D to evidence the agreement of the below-named parties, in accordance with the rules promulgated pursuant to the Securities Exchange Act of 1934, to file this Schedule jointly on behalf of each such party.

Date: July 3, 2018

NEW LEAF VENTURES III, L.P.

By: New Leaf Venture Associates III, L.P.  
By: New Leaf Venture Management III, L.L.C.

By: /s/ Craig L. Slutzkin  
Chief Financial Officer

NEW LEAF BIOPHARMA OPPORTUNITIES I, L.P.

By: New Leaf BPO Associates I, L.P.  
By: New Leaf Venture Management III, L.L.C.

By: /s/ Craig L. Slutzkin  
Chief Financial Officer

NEW LEAF VENTURE ASSOCIATES III, L.P.

By: New Leaf Venture Management III, L.L.C.

By: /s/ Craig L. Slutzkin  
Chief Financial Officer

NEW LEAF BPO ASSOCIATES I, L.P.

By: New Leaf Venture Management III, L.L.C.

By: /s/ Craig L. Slutzkin  
Chief Financial Officer

NEW LEAF VENTURE MANAGEMENT III, L.L.C.

By: /s/ Craig L. Slutzkin  
Chief Financial Officer

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LIAM RATCLIFFE

By: \* \_\_\_\_\_  
Liam Ratcliffe

RONALD M. HUNT

By: \* \_\_\_\_\_  
Ronald M. Hunt

VIJAY K. LATHI

By: \* \_\_\_\_\_  
Vijay K. Lathi

\*By: /s/ Craig L. Slutzkin  
Name: Craig Slutzkin  
Attorney-in-Fact

[\*This Schedule 13D was executed pursuant to a Power of Attorney. Note that copies of the applicable Powers of Attorney are already on file with the appropriate agencies.]

**Exhibit B**

FORM OF LOCK-UP AGREEMENT

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FORM OF LOCK-UP AGREEMENT

March 15, 2018

J. P. MORGAN SECURITIES LLC  
COWEN AND COMPANY, LLC  
LEERINK PARTNERS LLC

BMO CAPITAL MARKETS CORP.  
As Representatives of  
the several Underwriters listed in  
Schedule 1 to the Underwriting  
Agreement referred to below

c/o J. P. Morgan Securities LLC  
383 Madison Avenue  
New York, New York 10179

c/o Cowen and Company, LLC  
599 Lexington Avenue  
New York, New York 10022

c/o Leerink Partners LLC  
299 Park Avenue, 21st Floor  
New York, New York 10171

c/o BMO Capital Markers Corp.  
3 Times Square  
New York, New York 10036

Re: Aptinyx Inc. — Public Offering

Ladies and Gentlemen:

The undersigned understands that you, as Representatives of the several Underwriters, propose to enter into an underwriting agreement (the “Underwriting Agreement”) with Aptinyx Inc., a Delaware corporation (the “Company”), providing for the initial public offering (the “Public Offering”) by the several Underwriters named in Schedule 1 to the Underwriting Agreement (the “Underwriters”), of common stock of the Company (the “Common Stock”). Capitalized terms used herein and not otherwise defined shall have the meanings set forth in the Underwriting Agreement.

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In consideration of the Underwriters' agreement to purchase and make the Public Offering of the Common Stock, and for other good and valuable consideration receipt of which is hereby acknowledged, the undersigned hereby agrees that, without the prior written consent of J.P. Morgan Securities LLC, Cowen and Company, LLC, and Leerink Partners LLC, on behalf of the Underwriters, the undersigned will not, during the period beginning on the date of this letter agreement (this "Letter Agreement") and continuing for 180 days after the date of the final prospectus relating to the Public Offering (the "Prospectus") (such period, the "Restricted Period"), (1) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, or otherwise transfer or dispose of, directly or indirectly, any shares of Common Stock or any securities convertible into or exercisable or exchangeable for Common Stock (including without limitation, Common Stock or such other securities which may be deemed to be beneficially owned by the undersigned in accordance with the rules and regulations of the Securities and Exchange Commission (the "SEC") and securities which may be issued upon exercise of a stock option or warrant), or publicly disclose the intention to make any offer, sale, pledge or disposition, (2) enter into any swap or other agreement that transfers, in whole or in part, any of the economic consequences of ownership of the Common Stock or such other securities, whether any such transaction described in clause (1) or (2) above is to be settled by delivery of Common Stock or such other securities, in cash or otherwise or (3) make any demand for or exercise any right with respect to the registration of any shares of Common Stock or any security convertible into or exercisable or exchangeable for Common Stock, in each case other than:

(A) the Common Stock, if any, to be sold by the undersigned pursuant to the Underwriting Agreement,

(B) sales or transfers of shares of Common Stock acquired in the Public Offering or in open market transactions after the consummation of the Public Offering,

(C) transfers of shares of Common Stock (i) as a bona fide gift or gifts, (ii) by will, other testamentary document or intestate succession to the legal representative, heir, beneficiary or a member of the immediate family of the undersigned in a transaction not involving a disposition for value or (iii) by operation of law, such as pursuant to a qualified domestic order or as required by a divorce settlement,

(D) if the undersigned is an individual, transfers of shares of Common Stock or any security directly or indirectly convertible into Common Stock in a transaction not involving a disposition for value to any trust for the direct or indirect benefit of the undersigned or the immediate family of the undersigned, or limited partnerships the partners of which are the undersigned and/or the immediate family members of the undersigned, in each case for estate planning purposes,

(E) if the undersigned is a trust, distributions of shares of Common Stock or any security directly or indirectly convertible into Common Stock to its beneficiaries in a transaction not involving a disposition for value,

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(F) if the undersigned is a corporation, limited liability company, partnership (whether general, limited or otherwise) or other entity, distribution of shares of Common Stock or any security directly or indirectly convertible into Common Stock to current or former members, stockholders, limited partners, general partners, subsidiaries or affiliates (as defined in Rule 405 promulgated under the Securities Act of 1933, as amended) of the undersigned or to any investment fund or other entity that controls or manages the undersigned (including, for the avoidance of doubt, a fund managed by the same manager or managing member or general partner or management company or by an entity controlling, controlled by, or under common control with such manager or managing member or general partner or management company as the undersigned or who shares a common investment advisor with the undersigned) in a transaction not involving a disposition for value,

(G) the receipt by the undersigned of shares of Common Stock in connection with the conversion of the outstanding preferred stock of the Company upon the consummation of the Public Offering into shares of Common Stock, provided that any such shares of Common Stock received upon such conversion shall be subject to the terms of this Letter Agreement,

(H) transfers or dispositions in connection with a change of control (it being further understood that this Letter Agreement shall not restrict the undersigned from entering into any agreement or arrangement in connection therewith, including an agreement to vote in favor of, or tender Common Stock or other securities of the Company in, any such transaction or taking or not taking any other action in connection with any such transaction); provided that in the event that the acquisition, merger, consolidation or other transaction in connection with such change of control is not completed, the Common Stock owned by the undersigned shall remain subject to the restrictions contained in this Letter Agreement, and

(I) the entering into by the undersigned of a written trading plan ("Rule 10b5-1 Plan") pursuant to Rule 10b5-1 of the Securities Exchange Act of 1934, as amended (the "Exchange Act") during the Restricted Period, provided that no sales or transfers of shares of the undersigned's Common Stock shall be made pursuant to such Rule 10b5-1 Plan prior to the expiration of the Restricted Period and no filing under the Exchange Act or other public announcement shall be required or voluntarily made by the undersigned or any other person in connection therewith without the permission of J.P. Morgan Securities LLC, Cowen and Company, LLC, and Leerink Partners LLC, prior to the expiration of the Restricted Period; provided that in the case of any transfer or distribution pursuant to clause (C), (D), (E) or (F), each transferee, beneficiary, donee, heir or distributee shall execute and deliver to the Representatives a lock-up letter in the form of this Letter Agreement; and provided, further, that in the case of any transfer or distribution pursuant to clause (B), (C), (D), (E) or (F), no filing by any party (the undersigned, transferor, transferee, beneficiary, donor, donee, heir, distributor, distributee or the Company) under the Exchange Act, or other public announcement shall be required or shall be made voluntarily in connection with such transfer or distribution (other than a filing on a Form 5 and any required Schedule 13G (or 13G/A) or 13F filing, in each case, made after the expiration of the Restricted Period). If the undersigned is an officer or director of the Company, the undersigned further agrees that the foregoing provisions shall be equally applicable to any Company-directed Common Stock the undersigned may purchase in the Public Offering.

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For purposes of this Letter Agreement, (i) “immediate family” shall mean any relationship by blood, marriage or adoption, not more remote than first cousin and (ii) “change of control” shall mean any bona fide third-party tender offer, merger, consolidation or other similar transaction, in each case, the result of which is that any “person” (as defined in Section 13(d)(3) of the Exchange Act), or group of persons, other than the Company, becomes the beneficial owner (as defined in Rules 13d-3 and 13d-5 of the Exchange Act) of a majority of total voting power of the voting stock of the Company.

If the undersigned is an officer or director of the Company, (i) J.P. Morgan Securities LLC, Cowen and Company, LLC, and Leerink Partners LLC, on behalf of the Underwriters agree that, at least three business days before the effective date of any release or waiver of the foregoing restrictions in connection with a transfer of shares of Common Stock, J.P. Morgan Securities LLC, Cowen and Company, LLC, and Leerink Partners LLC, on behalf of the Underwriters will notify the Company of the impending release or waiver, and (ii) the Company has agreed in the Underwriting Agreement to announce the impending release or waiver by press release through a major news service or as otherwise permitted under FINRA Rule 5131 at least two business days before the effective date of the release or waiver. Any release or waiver granted by J.P. Morgan Securities LLC, Cowen and Company, LLC, and Leerink Partners LLC, on behalf of the Underwriters hereunder to any such officer or director shall only be effective two business days after the date of such announcement. The provisions of this paragraph will not apply if (a) the release or waiver is effected solely to permit a transfer not for consideration and (b) the transferee has agreed in writing to be bound by the same terms described in this Letter Agreement to the extent and for the duration that such terms remain in effect at the time of the transfer.

In furtherance of the foregoing, the Company, and any duly appointed transfer agent for the registration or transfer of the securities described herein, are hereby authorized to decline to make any transfer of securities if such transfer would constitute a violation or breach of this Letter Agreement.

The undersigned hereby represents and warrants that the undersigned has full power and authority to enter into this Letter Agreement. All authority herein conferred or agreed to be conferred and any obligations of the undersigned shall be binding upon the successors, assigns, heirs or personal representatives of the undersigned.

Notwithstanding anything herein to the contrary, in the event that J.P. Morgan Securities LLC, Cowen and Company, LLC, and Leerink Partners LLC release any securities held by executive officers, directors and/or 1% or greater stockholders of the Company from the lock-up restrictions described above, the same percentage of shares of the Company’s securities held by such persons that are so released from the lock-up restrictions shall be released with respect to the shares held by the undersigned concurrently therewith; provided, however, that the Representatives will not be obligated to release the undersigned from such lock-up restrictions unless the Representatives have first released more than an aggregate of \$1,000,000 of Shares (the value of such released shares to be determined based on the closing price on the date that the applicable shares are approved for release) from such lock-up restrictions. In the event that the undersigned is released from any of its obligations under this agreement prior to the expiration of the Lock-up Period (“Early Release”), J.P. Morgan Securities LLC, Cowen and Company, LLC, and Leerink Partners LLC shall provide written notice promptly, and in no event later than five (5) business days prior to the effective date of such Early Release, to the Company, and the Company will notify the undersigned immediately upon receiving such notice.

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The undersigned understands that, if (i) the Underwriting Agreement does not become effective by September 20, 2018, (ii) the Underwriting Agreement (other than the provisions thereof which survive termination) shall terminate or be terminated prior to payment for and delivery of the Common Stock to be sold thereunder, (iii) the Company advises the Representatives in writing, on the one hand or the Representatives advise the Company, on the other hand, that it has determined not to proceed with the Public Offering, or (iv) if the Company files an application with the SEC to withdraw the registration statement related to the Public Offering, the undersigned shall be released from, all obligations under this Letter Agreement. The undersigned understands that the Underwriters are entering into the Underwriting Agreement and proceeding with the Public Offering in reliance upon this Letter Agreement.

This Letter Agreement and any claim, controversy or dispute arising under or related to this Letter Agreement shall be governed by and construed in accordance with the laws of the State of New York.

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Very truly yours,

NEW LEAF VENTURES III, L.P.

By: New Leaf Venture Associates III, L.P.

Its: General Partner

By: New Leaf Venture Management III, L.L.C.

Its: General Partner

By:

Name:

Its:

NEW LEAF BIOPHARMA

OPPORTUNITIES I, L.P.

By: New Leaf BPO Associates I, L.P.

Its: General Partner

By: New Leaf Venture Management III, L.L.C.

Its: General Partner

By:

Name:

Its:

*[Signature Page to the Lock-up Agreement]*