
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SCHEDULE 13D

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

INOZYME PHARMA, INC.

(Name of Issuer)

Common Stock, \$0.0001 par value per share
(Title of Class of Securities)

45790W 108
(CUSIP Number)

Patrick G. Enright
Managing Member
Longitude Capital Partners III, LLC
2740 Sand Hill Road, 2nd Floor
Menlo Park, CA 94025
(650) 854-5700

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

July 28, 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 (however, see the Notes).

(Continued on following pages)

1	NAMES OF REPORTING PERSONS Longitude Capital Partners III, LLC	
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	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER 0
	8	SHARED VOTING POWER 2,819,379 (1)
	9	SOLE DISPOSITIVE POWER 0
	10	SHARED DISPOSITIVE POWER 2,819,379 (1)
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 2,819,379 (1)	
12	CHECK BOX 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 12.1% (2)	
14	TYPE OF REPORTING PERSON (see instructions) OO	

- (1) All shares are held of record by LVPIII (as defined in Item 2(a) below). LCPIII (as defined in Item 2(a) below) is the general partner of LVPIII and may be deemed to have voting, investment and dispositive power with respect to these securities. Patrick G. Enright and Juliet Tammenoms Bakker, are the managing members of LCPIII and may each be deemed to share voting, investment and dispositive power with respect to these securities.
- (2) Based on 23,364,851 shares of Common Stock outstanding as of July 28, 2020 (including the underwriters exercise in full of their option to purchase additional shares), as reported by the Issuer in its final prospectus dated July 23, 2020 and filed with the Securities and Exchange Commission (the "Commission") on July 24, 2020 pursuant to Rule 424(b)(4) under the Securities Act of 1933, as amended.

1	NAMES OF REPORTING PERSONS Longitude Venture Partners 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) 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	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER 0
	8	SHARED VOTING POWER 2,819,379 (1)
	9	SOLE DISPOSITIVE POWER 0
	10	SHARED DISPOSITIVE POWER 2,819,379 (1)
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 2,819,379 (1)	
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13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW 11 12.1% (2)	
14	TYPE OF REPORTING PERSON (see instructions) PN	

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1	NAMES OF REPORTING PERSONS	
	Patrick G. Enright	
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	
	United States of America	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER
		0
	8	SHARED VOTING POWER
		2,819,379 (1)
	9	SOLE DISPOSITIVE POWER
		0
	10	SHARED DISPOSITIVE POWER
		2,819,379 (1)
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON	
	2,819,379 (1)	
12	CHECK BOX 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	
	12.1% (2)	
14	TYPE OF REPORTING PERSON (see instructions)	
	IN	

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1	NAMES OF REPORTING PERSONS	
	Juliet Tammenoms Bakker	
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	
	United States of America	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	7	SOLE VOTING POWER
		0
	8	SHARED VOTING POWER
		2,819,379 (1)
	9	SOLE DISPOSITIVE POWER
		0
	10	SHARED DISPOSITIVE POWER
		2,819,379 (1)
11	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON	
	2,819,379 (1)	
12	CHECK BOX 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	
	12.1% (2)	
14	TYPE OF REPORTING PERSON (see instructions)	
	IN	

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- (2) Based on 23,364,851 shares of Common Stock outstanding as of July 28, 2020 (including the underwriters exercise in full of their option to purchase additional shares), as reported by the Issuer in its final prospectus dated July 23, 2020 and filed with the Commission on July 24, 2020 pursuant to Rule 424(b)(4) under the Securities Act of 1933, as amended.

Item 1. Security and Issuer.

This joint statement on Schedule 13D (this "Statement") is filed with respect to the common stock, par value \$0.0001 per share ("Common Stock"), of Inozyme Pharma, Inc., a Delaware corporation (the "Issuer"). The address of the principal executive offices of the Issuer is 321 Summer Street, Suite 400, Boston, Massachusetts 02210.

Item 2. Identity and Background.

(a) This Statement is being filed by Longitude Venture Partners III, L.P. ("LVPIII"), Longitude Capital Partners III, LLC ("LCPIII"), and together with LVPIII, the "Reporting Entities") and Patrick G. Enright ("Enright") and Juliet Tammenoms Bakker ("Tammenoms Bakker") and together with Enright, the "Managing Members"). The Reporting Entities and the Managing Members are collectively referred to as the "Reporting Persons." The agreement among the Reporting Persons to file jointly in accordance with the provisions of Rule 13d-1(k)(1) under the Act is attached hereto as Exhibit 1. Each Reporting Person disclaims beneficial ownership of all securities reported in this Statement except to the extent of such Reporting Person's pecuniary interest therein, other than those securities reported herein as being held directly by such Reporting Person.

(b) The address of the principal offices of each Reporting Entity and the business address of each Managing Member is 2740 Sand Hill Road, Second Floor, Menlo Park, California 94025.

(c) Each Reporting Entity is a venture capital investment entity. Each Managing Member is engaged through venture capital investment entities in acquiring, holding and disposing of interests in various companies for investment purposes. The Managing Members are managing members of LCPIII, the general partner of LVPIII.

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

(e) None of the Reporting Persons are, nor during the last five years have 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) LCPIII is a limited liability company organized under the laws of the State of Delaware. LVPIII is a limited partnership organized under the laws of the State of Delaware. Each of the Managing Members is a citizen of the United States of America.

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

On January 17, 2017, LVPIII purchased 8,333,333 shares of the Issuer's Series A preferred stock for a purchase price of \$1.00 per share and an aggregate purchase price of \$8,333,333.

On November 6, 2018, LVPIII purchased 6,666,667 additional shares of the Issuer's Series A preferred stock for a purchase price of \$1.00 per share and an aggregate purchase price of \$6,666,667.

On November 8, 2018, LVPIII purchased 699,300 shares of the Issuer's Series A-2 preferred stock for a price per share of \$1.43 and an aggregate purchase price of \$999,999.

On June 5, 2020, LVPIII purchased 699,300 additional shares of the Issuer's Series A-2 preferred stock for a price per share of \$1.43 and an aggregate purchase price of \$999,999.

On July 28, 2020, effective upon the closing of the Issuer's initial public offering of its Common Stock (the "Offering"), the Issuer's Series A preferred stock and Series A-2 preferred stock automatically converted into shares of the Issuer's Common Stock on a 7.4730-for-1 basis for no consideration, which resulted in LVPIII holding 2,194,379 shares of Common Stock (the "Conversion").

In addition, on July 28, 2020, in connection with the Offering, LVPIII purchased an additional 625,000 shares of the Issuer's Common Stock for a purchase price of \$16.00 per share and an aggregate purchase price of \$10,000,000 (the "Purchase"). Following the Conversion and the Purchase, LVPIII directly held an aggregate of 2,819,379 shares of Common Stock.

All shares of the capital stock of the Issuer purchased by LVPIII have been purchased using investment funds provided to LVPIII by its limited partner and general partner investors. Unless noted above, no part of the purchase price was borrowed by any Reporting Person for the purpose of acquiring any securities discussed in this Item 3.

Item 4. Purpose of Transaction.

The information set forth in Item 3 of this Statement is incorporated herein by reference. The Reporting Persons hold the securities of the Issuer for general investment purposes. The Reporting Persons may, from time to time, depending on prevailing market, economic and other conditions, acquire additional shares of Common Stock or other securities of the Issuer, dispose of any such securities, or engage in discussions with the Issuer concerning such acquisitions or dispositions or further investments in the Issuer. The Reporting Persons intend to review their investment in the Issuer on a continuing basis and, depending upon the price and availability of shares of Common Stock or other securities of the Issuer, subsequent developments affecting the Issuer, the Issuer's business and prospects, other investment and business opportunities available to the Reporting Persons, general stock market and economic conditions, tax considerations and other factors considered relevant, may decide at any time to increase or to decrease the size of their investment in the Issuer in the open market, in privately negotiated transactions, pursuant to 10b5-1 trading plans or otherwise.

Except as set forth above, the Reporting Persons have no present plans or intentions which would result in or relate to any of the transactions described in subparagraphs (a) through (j) of Item 4 of Schedule 13D.

Item 5. Interest in Securities of the Issuer.

(a) and (b) See Items 7-11 of the cover pages of this Statement and Item 2 above.

(c) Except as reported in this Statement, none of the Reporting Persons has effected any transactions in the Issuer's securities within the past 60 days.

(d) Under certain circumstances set forth in the limited partnership agreement of LVPIII, the general partner and limited partners of LVPIII may be deemed to have the right to receive dividends from, or the proceeds from, the sale of shares of the Issuer owned by such entity of which they are a partner.

(e) Not applicable.

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

The information set forth in Items 3 and 4 of this Statement is incorporated herein by reference.

In connection with its purchase of shares of the Issuer's Series A-2 preferred stock, LVPIII and certain of the Issuer's other investors entered into a Second Amended and Restated Investors' Rights Agreement, dated November 9, 2018, with the Issuer (the "Rights Agreement"). After the closing of the Offering, the stockholders 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 terms and provisions of the Rights Agreement are described more fully in the Issuer's Registration Statement on Form S-1 (File No. 333-239648) declared effective by the Commission on July 23, 2020 (the "Registration Statement"), and the above summary is qualified by reference to such description and the full text of the Rights Agreement, which is filed as Exhibit 2 to this Statement and is incorporated herein by reference.

In connection with the Offering, LVPIII has entered into a lock-up agreement, pursuant to which LVPIII agreed, subject to certain exceptions, not to sell, transfer or otherwise convey any of the Issuer's securities held by LVPIII for 180 days following the date of the underwriting agreement for the Offering. The terms and provisions of such lock-up agreement are described more fully in the Registration Statement, and the above summary is qualified by reference to such description and the full text of the lock-up agreement, a form of which is filed as Exhibit 3 to this Statement and is incorporated herein by reference.

Item 7. Material to be Filed as Exhibits.

Exhibit 1: Joint Filing Agreement, dated August 7, 2020, by and among the Reporting Persons (filed herewith).

Exhibit 2: Investors' Rights Agreement, dated November 9, 2018, by and among the Issuer and certain of its stockholders (filed as Exhibit 10.1 to the Issuer's Registration Statement on Form S-1 as filed with the Commission on July 20, 2020 (SEC File No. 333-239648) and incorporated herein by reference).

Exhibit 3: Form of Lock-Up Agreement for certain directors, officers and other stockholders of the Issuer (included as Exhibit A to the form of Underwriting Agreement filed as Exhibit 1.1 to the Issuer's Registration Statement on Form S-1 as filed with the Commission on July 20, 2020 (SEC File No. 333-239648) 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.

Dated: August 7, 2020

LONGITUDE VENTURE PARTNERS III, L.P.

**By: LONGITUDE CAPITAL PARTNERS III, LLC
Its: General Partner**

By: /s/ Patrick G. Enright
Patrick G. Enright, Managing Member

LONGITUDE CAPITAL PARTNERS III, LLC

By: /s/ Patrick G. Enright
Patrick G. Enright, Managing Member

/s/ Patrick G. Enright
Patrick G. Enright

/s/ Juliet Tammenoms Bakker
Juliet Tammenoms Bakker

JOINT FILING AGREEMENT

The undersigned hereby agree that the foregoing statement on Schedule 13D is filed on behalf of each of the undersigned, and any amendments thereto executed by the undersigned shall be filed on behalf of each of the undersigned without the necessity of filing any additional joint filing agreement. The undersigned acknowledge that each is responsible for the timely filing of such statement on Schedule 13D and any amendments thereto, and for the completeness and accuracy of the information concerning him, her or it contained therein, but shall not be responsible for the completeness or accuracy of the information concerning the others of the undersigned, except to the extent that it knows or has reason to believe that such information is inaccurate or incomplete. This Joint Filing Agreement may be executed in any number of counterparts, all of which taken together shall constitute one and the same instrument.

Dated: August 7, 2020

LONGITUDE VENTURE PARTNERS III, L.P.

By: LONGITUDE CAPITAL PARTNERS III, LLC
Its: General Partner

By: /s/ Patrick G. Enright
Patrick G. Enright, Managing Member

LONGITUDE CAPITAL PARTNERS III, LLC

By: /s/ Patrick G. Enright
Patrick G. Enright, Managing Member

/s/ Patrick G. Enright
Patrick G. Enright

/s/ Juliet Tammenoms Bakker
Juliet Tammenoms Bakker