SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

SCHEDULE 13D

[Rule 13d-101]

INFORMATION TO BE INCLUDED IN STATEMENTS FILED PURSUANT TO § 24.13d-1(a) AND AMENDMENTS THERETO FILED PURSUANT TO § 240.13D-2(a)

(Amendment No. 5)*

Larimar Therapeutics, Inc.

(Name of Issuer)

Common Stock, par value \$0.01 per share

(Title of Class of Securities)

517125100

(CUSIP Number)

David Clark Elliot Press Deerfield Management Company, L.P. 345 Park Avenue South, 12 Floor New York, New York 10010 (212) 551-1600

With a copy to:

Jonathan D. Weiner, Esq. Mark D. Wood, Esq. Katten Muchin Rosenman LLP 575 Madison Avenue New York, New York 10022 (212) 940-8800

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

September 16, 2022

(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 $\S\S 240.13d-1(e)$, 240.13d-1(f) or 240.13d-1(g), check the following box \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.

(Continued on following pages) (Page 1 of 19 Pages)

* 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).

CUSIP No. <u>517125100</u>					
1	NAMES OF REPORTING PERSONS				

1	NAMES OF R	EPORTING PERSONS			
	Deerfield Priva	ate Design Fund III, L.P.			
2		APPROPRIATE BOX IF A MEMBER OF A GROUP*	(a) 🗆		
_			(b) ⊠		
3	SEC USE ONI	Y			
3	SEC OSE ON				
4	SOURCE OF I	EI IMIDO			
4		TUNDS			
	WC				
5	CHECK IF DI	SCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) OR 2(e)			
6	CITIZENSHIP	OR PLACE OF ORGANIZATION			
	Delaware				
	7	SOLE VOTING POWER			
NUMBER OF		o			
SHARES BENEFICIALLY	8	SHARED VOTING POWER			
OWNED BY		4,721,183			
EACH REPORTING	9	SOLE DISPOSITIVE POWER			
PERSON WITH		0			
WIIII	10	SHARED DISPOSITIVE POWER			
		4,721,183			
11	AGGREGATE	AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON			
	4,721,183				
12	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES*				
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)				
	11.82%				
14		PORTING PERSON			
	PN				

CUSIP No. <u>517125100</u> Page 3 of 19 Pages

1	NAMES OF R	REPORTING PERSONS				
	Deerfield Healthcare Innovations Fund, L.P.					
2	2 CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP*					
3	SEC USE ON	SEC USE ONLY				
4	SOURCE OF FUNDS WC					
5	CHECK IF DI	SCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) OR 2(e)				
6	CITIZENSHIE	P OR PLACE OF ORGANIZATION				
	Delaware					
	7	SOLE VOTING POWER				
NUMBER OF		0				
SHARES BENEFICIALLY	8	SHARED VOTING POWER				
OWNED BY EACH		4,721,197				
REPORTING	9	SOLE DISPOSITIVE POWER				
PERSON WITH		0				
	10	SHARED DISPOSITIVE POWER				
		4,721,197				
11	AGGREGATE	E AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON				
	4,721,197					
12	CHECK BOX	IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES*				
13	PERCENT OF	CLASS REPRESENTED BY AMOUNT IN ROW (11)				
	11.82%					
14	TYPE OF REI	PORTING PERSON				
	PN					

CUSIP No. <u>5171251</u>	00		Page 4 of 19 Pages
1	NAMES OF F	REPORTING PERSONS	
	Deerfield Priv	rate Design Fund IV, L.P.	
2		APPROPRIATE BOX IF A MEMBER OF A GROUP*	(a) □ (b) ⊠
3	SEC USE ON	LY	
4	SOURCE OF	FUNDS	
	WC		
5	CHECK IF DI	ISCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) OR 2(e)	
	OLEMAN SOLUM	DOD BY A SE OF ODG ANYZATION	
6	CITIZENSHII	P OR PLACE OF ORGANIZATION	
	Delaware		
	7	SOLE VOTING POWER	
NUMBER OF		0	
SHARES BENEFICIALLY	8	SHARED VOTING POWER	
OWNED BY		4,721,200	
EACH REPORTING	9	SOLE DISPOSITIVE POWER	
PERSON WITH		0	
***************************************	10	SHARED DISPOSITIVE POWER	
		4,721,200	
11	AGGREGATI	E AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON	
	4,721,200		
12	CHECK BOX	IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES*	
13	PERCENT OF	F CLASS REPRESENTED BY AMOUNT IN ROW (11)	
	11.82%		

14

PN

TYPE OF REPORTING PERSON

CUSIP No. <u>517125100</u> Page 5 of 19 Pages

1	NAMES OF R	REPORTING PERSONS				
	Deerfield Partners, L.P.					
2	APPROPRIATE BOX IF A MEMBER OF A GROUP*	(a) □ (b) ⊠				
3	SEC USE ON	SEC USE ONLY				
4	SOURCE OF FUNDS WC					
5	CHECK IF DI	SCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) OR 2(e)				
6	CITIZENSHIE	P OR PLACE OF ORGANIZATION				
	Delaware					
	7	SOLE VOTING POWER				
NUMBER OF		0				
SHARES BENEFICIALLY	8	SHARED VOTING POWER				
OWNED BY EACH		2,777,777				
REPORTING	9	SOLE DISPOSITIVE POWER				
PERSON WITH		0				
	10	SHARED DISPOSITIVE POWER				
		2,777,777				
11	AGGREGATE	E AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON				
	2,777,777					
12	СНЕСК ВОХ	IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES*				
13	PERCENT OF	CLASS REPRESENTED BY AMOUNT IN ROW (11)				
	6.96%					
14	TYPE OF REI	PORTING PERSON				
	PN					

CUSIP No. <u>517125100</u>			Page 6 of 19 Pages	
1	NAMES OF R	EPORTING PERSONS		
2	Deerfield Mgm	APPROPRIATE BOX IF A MEMBER OF A GROUP*	(a) \Box	
2	CHECK THE	APPROPRIATE BOX IF A MEMBER OF A GROUP*	(a) □ (b) ⊠	
3	SEC USE ONI	X		
4	SOURCE OF I	FUNDS		
	AF			
5	CHECK IF DIS	SCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) OR 2(e)		
6	CITIZENSHIP	OR PLACE OF ORGANIZATION		
	Delaware			
	7	SOLE VOTING POWER		
NUMBER OF		0		
SHARES	8	SHARED VOTING POWER		
BENEFICIALLY OWNED BY		4.721 192 (1)		
EACH	9	4,721,183 (1) SOLE DISPOSITIVE POWER		
REPORTING PERSON				
WITH	10	0 SHARED DISPOSITIVE POWER		
	10	SHARED DISPOSITIVE POWER		
		4,721,183 (1)		
11	AGGREGATE	AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON		
	4,721,183 (1)			
12	CHECK BOX	IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES*		
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)			
	11.82%			
14		PORTING PERSON		
	PN			

(1) Comprised of shares of common stock held by Deerfield Private Design Fund III, L.P., of which Deerfield Mgmt III, L.P. is the general partner.

		SCHEDGEE 13D		
CUSIP No. <u>5171251</u>	100		Page 7 of 19 Pages	
1	NAMES OF D	EPORTING PERSONS		
1	NAMES OF K	EFORTING FERSONS		
	Deerfield Mgn			
2	CHECK THE	APPROPRIATE BOX IF A MEMBER OF A GROUP*	(a) □	
			(b) ⊠	
3	SEC USE ONI	LY		
4	SOURCE OF I	EV NIDO		
4	SOURCE OF I	FUNDS		
	AF			
5	CHECK IF DI	SCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) OR 2(e)		
6	CITIZENSHIP	OR PLACE OF ORGANIZATION		
	Dala			
	Delaware 7	SOLE VOTING POWER		
	1	SOLE VOTING POWER		
NUMBER OF		0		
SHARES BENEFICIALLY	8	SHARED VOTING POWER		
OWNED BY		4,721,197 (2)		
EACH REPORTING	9	SOLE DISPOSITIVE POWER		
PERSON				
WITH	10	0 SHARED DISPOSITIVE POWER		
	10	SHARED DISTOSITIVE TOWER		
		4,721,197 (2)		
11	AGGREGATE	AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON		
	4,721,197 (2)			
12	CHECK BOX	IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES*		
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)			
	11.82%			
14	TYPE OF REF	PORTING PERSON		
	PN			

(2) Comprised of shares of common stock held by Deerfield Healthcare Innovations Fund, L.P., of which Deerfield Mgmt HIF, L.P. is the general partner.

CUSIP No. <u>5171251</u>	00		Page 8 of 19 Pages
1	NAMES OF R	EPORTING PERSONS	
	Deerfield Mgm	nt, IV, L.P.	
2	CHECK THE	APPROPRIATE BOX IF A MEMBER OF A GROUP*	(a) □ (b) ⊠
3	SEC USE ONI	Y	
4	SOURCE OF F	FUNDS	
5		SCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) OR 2(e)	X
6	CITIZENSHIP	OR PLACE OF ORGANIZATION	
	Delaware		
NUMBER OF	7	SOLE VOTING POWER 0	
SHARES BENEFICIALLY OWNED BY	8	SHARED VOTING POWER 4,721,200 (3)	
EACH REPORTING PERSON	9	SOLE DISPOSITIVE POWER	
WITH	10	SHARED DISPOSITIVE POWER 4,721,200 (3)	
11	AGGREGATE 4,721,200 (3)	AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON	
12		IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES*	
13	PERCENT OF	CLASS REPRESENTED BY AMOUNT IN ROW (11)	

(3) Comprised of shares of common stock held by Deerfield Private Design Fund IV, L.P., of which Deerfield Mgmt IV, L.P. is the general partner.

11.82%

PN

TYPE OF REPORTING PERSON

14

CUSIP No. <u>5171251</u>	00		Page 9 of 19 Pages
1	NAMES OF R	REPORTING PERSONS	
	Deerfield Mgr	nt, L.P.	
2	CHECK THE	APPROPRIATE BOX IF A MEMBER OF A GROUP*	(a) □ (b) ⊠
3	SEC USE ON	LY	
4	SOURCE OF	FUNDS	
	WC		
5	CHECK IF DI	SCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) OR 2(e)	X
6	CITIZENSHII	P OR PLACE OF ORGANIZATION	
	Delaware		
	7	SOLE VOTING POWER	
NUMBER OF		0	
SHARES BENEFICIALLY	8	SHARED VOTING POWER	
OWNED BY		2,777,777 (4)	
EACH REPORTING	9	SOLE DISPOSITIVE POWER	
PERSON WITH		0	
	10	SHARED DISPOSITIVE POWER	
		2,777,777 (4)	
11	AGGREGATE	AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON	
	2,777,777 (4)		
12	CHECK BOX	IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES*	
13	PERCENT OF	F CLASS REPRESENTED BY AMOUNT IN ROW (11)	

(4) Comprised of shares of common stock held by Deerfield Partners, L.P., of which Deerfield Mgmt, L.P. is the general partner.

6.96%

PN

14

TYPE OF REPORTING PERSON

CUSIP No. <u>517125100</u> Page 10 of 19 Pages

1	NAMES OF RI	EPORTING PERSONS				
	Deerfield Mana	Deerfield Management Company, L.P.				
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP*					
			(b) ⊠			
3	SEC USE ONLY					
4	SOURCE OF F	FUNDS				
	AF					
5		SCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) OR 2(e)	\boxtimes			
	CHECK II BIG	SELECTION OF ELECTION IN THE SELECTION OF ELECTION OF				
6	CITIZENCIUD	OR PLACE OF ORGANIZATION				
O		OR PLACE OF ORGANIZATION				
	Delaware					
	7	SOLE VOTING POWER				
NUMBER OF		0				
SHARES BENEFICIALLY	8	SHARED VOTING POWER				
OWNED BY		16,963,029 (5)				
EACH REPORTING	9	SOLE DISPOSITIVE POWER				
PERSON WITH						
WIII	10	SHARED DISPOSITIVE POWER				
		16,963,029 (5)				
11	AGGREGATE	AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON				
	16,963,029 (5)					
12		IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES*				
13	PERCENT OF	CLASS REPRESENTED BY AMOUNT IN ROW (11)				
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)					
	42.45%					
14	TYPE OF REP	ORTING PERSON				
	PN					

(5) Comprised of (i) an aggregate of 16,941,357 shares of common stock held by Deerfield Private Design Fund III, L.P., Deerfield Private Design Fund IV, L.P., Deerfield Healthcare Innovations Fund, L.P. and Deerfield Partners, L.P., of which Deerfield Management Company, L.P. is the investment manager and (ii) an aggregate of 21,672 shares of common stock issuable upon exercise of options (the "Leff Options") held by Jonathan Leff, an employee of Deerfield Management Company, L.P., for the benefit, and subject to the direction, of Deerfield Management Company, L.P. The Leff Options consist of (i) an option that was granted to Mr. Leff on July 16, 2020 (the "2020 Option") and vests in equal monthly installments over a 36-month period, which commenced on July 16, 2020, subject to Mr. Leff's continued service with the Issuer through each applicable vesting date and (ii) an option that was granted to Mr. Leff on May 12, 2021 and is fully vested. The number of shares reported as being beneficially owned by Deerfield Management Company, L.P. does not include (i) shares of common stock issuable upon exercise of the 2020 Option to the extent it is unvested and will not vest within 60 days or (ii) shares of common stock issuable upon exercise of an option granted to Mr. Leff on May 10, 2022 (the "2022 Option"), which is scheduled to vest on the earlier of May 10, 2023 and the date of the Issuer's next annual meeting of stockholders, in each case, subject to Mr. Leff's continued service with the Issuer through each applicable vesting date. The 2022 Option is held by Mr. Leff for the benefit, and at the direction, of Deerfield Management Company, L.P.

CUSIP No. <u>517125100</u> Page 11 of 19 Pages

			.=			
1	NAMES OF RI	EPORTING PERSONS				
	James E. Flynn	James E. Flynn				
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP*					
			(b) ⊠			
3	SEC USE ONL	Y				
4	SOURCE OF F	FUNDS				
	AF					
5	CHECK IF DIS	SCLOSURE OF LEGAL PROCEEDINGS IS REQUIRED PURSUANT TO ITEMS 2(d) OR 2(e)				
6	CITIZENSHIP	OR PLACE OF ORGANIZATION				
	United States o	of America				
	7	SOLE VOTING POWER				
NUMBER OF		0				
NUMBER OF SHARES	8	SHARED VOTING POWER				
BENEFICIALLY	o	SHARED VOTING FOWER				
OWNED BY EACH		16,963,029 (6)				
REPORTING	9	SOLE DISPOSITIVE POWER				
PERSON WITH		0				
***************************************	10	SHARED DISPOSITIVE POWER				
		16,963,029 (6)				
11	AGGREGATE	AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON				
	16,963,029 (6)					
12		IF THE AGGREGATE AMOUNT IN ROW (11) EXCLUDES CERTAIN SHARES*				
13	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (11)					
	42.45%					
14		ORTING PERSON				
14		OKI ING I ERBON				
IN						

(6) Comprised of (i) an aggregate of 16,941,357 shares of common stock held by Deerfield Private Design Fund III, L.P., Deerfield Private Design Fund IV, L.P., Deerfield Healthcare Innovations Fund, L.P. and Deerfield Partners, L.P., of which Deerfield Management Company, L.P. is the investment manager and (ii) an aggregate of 21,672 shares of common stock issuable upon exercise of options (the "Leff Options") held by Jonathan Leff, an employee of Deerfield Management Company, L.P., for the benefit, and subject to the direction, of Deerfield Management Company, L.P. The Leff Options consist of (i) an option that was granted to Mr. Leff on July 16, 2020 (the "2020 Option") and vests in equal monthly installments over a 36-month period, which commenced on July 16, 2020, subject to Mr. Leff's continued service with the Issuer through each applicable vesting date and (ii) an option that was granted to Mr. Leff on May 12, 2021 and is fully vested. The number of shares reported as being beneficially owned by James E. Flynn does not include (i) shares of common stock issuable upon exercise of the 2020 Option to the extent it is unvested and will not vest within 60 days or (ii) shares of common stock issuable upon exercise of an option granted to Mr. Leff on May 10, 2022 (the "2022 Option"), which is scheduled to vest on the earlier of May 10, 2023 and the date of the Issuer's next annual meeting of stockholders, in each case, subject to Mr. Leff's continued service with the Issuer through each applicable vesting date. The 2022 Option is held by Mr. Leff for the benefit, and at the direction, of Deerfield Management Company, L.P. Flynn is the sole member of the general partner of each of Deerfield Mgmt III, L.P., Deerfield Mgmt IV, L.P., Deerfield Mgmt HIF, L.P., Deerfield Mgmt, L.P. and Deerfield Management Company, L.P.

This Amendment No. 5 (this "Amendment") to Schedule 13D is filed by (i) Deerfield Private Design Fund III, L.P. ("Deerfield Private Design Fund III, L.P. ("Deerfield Private Design Fund IV, L.P. ("Deerfield Healthcare Innovations Fund"), (iii) Deerfield Private Design Fund IV, L.P. ("Deerfield Partners, L.P. ("Deerfield Partners"), (v) Deerfield Mgmt III, L.P. ("Deerfield Mgmt III"), (vi) Deerfield Mgmt HIF, L.P. ("Deerfield Mgmt HIF"), (vii) Deerfield Mgmt IV, L.P. ("Deerfield Mgmt IV"), (viii) Deerfield Mgmt, L.P. ("Deerfield Mgmt"), (ix) Deerfield Management Company, L.P. ("Deerfield Management") and (x) James E. Flynn ("Flynn" and, together with Deerfield Private Design Fund III, Deerfield Mgmt III, Deerfield Mgmt HIF, Deerfield Mgmt IV, Deerfield Mgmt IV, Deerfield Mgmt III, Deerfield Mgmt HIF, Deerfield Mgmt IV, Deerfield Mgmt and Deerfield Management, the "Reporting Persons"), with respect to the securities of Larimar Therapeutics, Inc. (as amended by Amendment No. 1, Amendment No. 2, Amendment No. 3, Amendment No. 4 and this Amendment No. 5, the "Schedule 13D"). Deerfield Private Design Fund III, Deerfield Healthcare Innovations Fund, Deerfield Private Design Fund IV and Deerfield Partners are collectively referred to herein as the "Funds".

Capitalized terms used herein but not otherwise defined herein shall have the meanings ascribed to them in the Schedule 13D.

Item 2. Identity and Background.

Items 2(a), 2(b), 2(c) and 2(f) are hereby amended and restated in their entirety to read as follows:

- (a) This statement is filed by Deerfield Private Design Fund III, Deerfield Healthcare Innovations Fund, Deerfield Private Design Fund IV, Deerfield Partners, Deerfield Mgmt III, Deerfield Mgmt III, Deerfield Mgmt IV, Deerfield Mgmt, Deerfield Management Company and Flynn as a joint statement pursuant to Rule 13d-1(k) promulgated under the Securities Exchange Act of 1934, as amended (the "Exchange Act").
- (b) The address of the principal business and/or principal office of the Reporting Persons is 345 Park Avenue, 12th Floor, New York, NY 10010.
- (c) Flynn is the managing member of the general partner of each of Deerfield Mgmt III, Deerfield Mgmt IV, Deerfield Mgmt HIF, Deerfield Mgmt and Deerfield Management Company. Deerfield Mgmt III is the general partner of Deerfield Private Design Fund III. Deerfield Mgmt IV is the general partner of Deerfield Private Design Fund IV. Deerfield Mgmt HIF is the general partner of Deerfield Healthcare Innovations Fund. Deerfield Mgmt is the general partner of Deerfield Partners. Deerfield Management Company is the investment manager of each Fund. Each Fund purchases, holds and sells securities and other investment products. Schedule A hereto sets forth information regarding persons referred in Instruction C to Schedule 13D
- (f) Each of Deerfield Private Design Fund III, Deerfield Private Design Fund IV, Deerfield Healthcare Innovations Fund, Deerfield Partners, Deerfield Mgmt III, Deerfield Mgmt III, Deerfield Mgmt IV, Deerfield Mgmt and Deerfield Management Company is organized under the laws of the State of Delaware. James E. Flynn is a citizen of the United States of America.

The Reporting Persons have entered into a Joint Filing Agreement, a copy of which is attached hereto as Exhibit G.

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

Item 3 of the Schedule 13D is hereby amended by adding the following:

On September 16, 2022, each Fund purchased 2,777,777 shares of Common Stock (collectively, the "Public Offering Shares") at a price of \$3.15 per share, or an aggregate purchase price of \$8,749,997.55. Each Fund utilized available cash assets to acquire the Public Offering Shares.

Item 4. Purpose of the Transaction.

Item 4 of the Schedule 13D is hereby amended by adding the following:

Each Fund acquired its Public Offering Shares for investment purposes in an underwritten offering conducted by the Company (the "Public Offering") pursuant to the Prospectus Supplement, dated as of September 13, 2022, to the Issuer's Prospectus, dated as of September 1, 2020. Prior to the closing of the Public Offering, on September 13, 2022, representatives of the Reporting Persons indicated to the underwriters in the Public Offering that the Funds would be interested in purchasing shares of Common Stock in the Public Offering.

Item 5. Interest in Securities of the Issuer.

Items 5(a), 5(b) and 5(c) of the Schedule 13D are hereby amended and restated in their entirety to read as follows:

(a)

(1) <u>Deerfield Private Design Fund III</u>

Number of shares: 4,721,183 Percentage of shares: 11.82%*

(2) <u>Deerfield Healthcare Innovations Fund</u>

Number of shares: 4,721,197 Percentage of shares: 11.82%*

(3) <u>Deerfield Private Design Fund IV</u>

Number of shares: 4,721,200 Percentage of shares: 11.82%*

(4) <u>Deerfield Partners</u>

Number of shares: 2,777,777
Percentage of shares: 6.96%*

(5) <u>Deerfield Mgmt III</u>

Number of shares: 4,721,183 (comprised of shares held by Deerfield Private Design Fund III)

Percentage of shares: 11.82%*

(6) Deerfield Mgmt HIF

Number of shares: 4,721,197 (comprised of shares held by Deerfield Healthcare Innovations Fund)

Percentage of shares: 11.82%*

(7) <u>Deerfield Mgmt IV</u>

Number of shares: 4,721,200 (comprised of shares held by Deerfield Private Design Fund)

Percentage of shares: 11.82%

(8) <u>Deerfield Mgmt</u>

Number of shares: 2,777,777 (comprised of shares held by Deerfield Partners)

Percentage of shares: 6.96%*

(9) <u>Deerfield Management</u>

Number of shares: 16,963,029 (comprised of shares held by Deerfield Private Design Fund III, Deerfield Private Design

Fund IV, Deerfield Healthcare Innovations Fund, Deerfield Partners and shares underlying options

held by Jonathan Leff at the direction and for the benefit of Deerfield Management)

Percentage of shares: 42.45%*

(10) <u>James E. Flynn</u>

Number of shares: 16,963,029 (comprised of shares held by Deerfield Private Design Fund III, Deerfield Private Design

Fund IV, Deerfield Healthcare Innovations Fund, Deerfield Partners and shares underlying options

held by Jonathan Leff at the direction and for the benefit of Deerfield Management)

Percentage of shares: 42.45%*

(b)

(1) <u>Deerfield Private Design Fund III</u>

Sole power to vote or direct the vote: 0

Shared power to vote or direct the vote: 4,721,183 Sole power to dispose or to direct the disposition: 0

Shared power to dispose or direct the disposition: 4,721,183

^{*}Throughout this report, the percentage of outstanding Common Stock beneficially owned by the Reporting Persons reflects 39,935,450 shares of Common Stock outstanding as of September 16, 2022, including shares issued in the Public Offering, based on information set forth in the Prospectus Supplement, dated as of September 13, 2022, filed by the Company with the Securities and Exchange Commission on September 14, 2022.

(2) <u>Deerfield Healthcare Innovations Fund</u>

Sole power to vote or direct the vote: 0

Shared power to vote or direct the vote: 4,721,197 Sole power to dispose or to direct the disposition: 0 Shared power to dispose or direct the disposition: 4,721,197

(3) <u>Deerfield Private Design Fund IV</u>

Sole power to vote or direct the vote: 0

Shared power to vote or direct the vote: 4,721,200 Sole power to dispose or to direct the disposition: 0 Shared power to dispose or direct the disposition: 4,721,200

(4) <u>Deerfield Partners</u>

Sole power to vote or direct the vote: 0 Shared power to vote or direct the vote: 2,777,777 Sole power to dispose or to direct the disposition: 0 Shared power to dispose or direct the disposition: 2,777,777

(5) <u>Deerfield Mgmt III</u>

Sole power to vote or direct the vote: 0 Shared power to vote or direct the vote: 4,721,183 Sole power to dispose or to direct the disposition: 0 Shared power to dispose or direct the disposition: 4,721,183

(6) <u>Deerfield Mgmt HIF</u>

Sole power to vote or direct the vote: 0 Shared power to vote or direct the vote: 4,721,197 Sole power to dispose or to direct the disposition: 0 Shared power to dispose or direct the disposition: 4,721,197

(7) <u>Deerfield Mgmt IV</u>

Sole power to vote or direct the vote: 0 Shared power to vote or direct the vote: 4,721,200 Sole power to dispose or to direct the disposition: 0 Shared power to dispose or direct the disposition: 4,721,200

(8) <u>Deerfield Mgmt</u>

Sole power to vote or direct the vote: 0

Shared power to vote or direct the vote: 2,777,777 Sole power to dispose or to direct the disposition: 0

Shared power to dispose or direct the disposition: 2,777,777

(9) <u>Deerfield Management</u>

Sole power to vote or direct the vote: 0

Shared power to vote or direct the vote: 16,963,029 Sole power to dispose or to direct the disposition: 0

Shared power to dispose or direct the disposition: 16,963,029

(10) <u>James E. Flynn</u>

Sole power to vote or direct the vote: 0

Shared power to vote or direct the vote: 16,963,029 Sole power to dispose or to direct the disposition: 0

Shared power to dispose or direct the disposition: 16,963,029

James E. Flynn is the managing member of the general partner of each of Deerfield Mgmt III, Deerfield Mgmt IV, Deerfield Mgmt HIF, Deerfield Mgmt, and Deerfield Management. Deerfield Mgmt III is the general partner of Deerfield Private Design Fund III. Deerfield Mgmt HIF is the general partner of Deerfield Healthcare Innovations Fund. Deerfield Mgmt IV is the general partner of Deerfield Private Design Fund IV. Deerfield Mgmt is the general partner of Deerfield Private Design Fund III, Deerfield Healthcare Innovations Fund, Deerfield Private Design Fund IV and Deerfield Partners.

(c) Except as set forth in Item 3 of this Schedule 13D, no Reporting Person has effected any transactions in the Common Stock during the past 60 days.

Item 7. Material to be Filed as Exhibits.

Item 7 of the Schedule 13D is hereby amended by adding the following Exhibits

Exhibit G Joint Filing Agreement, dated as of September 16, 2022, by and among the Reporting Persons.*

Exhibit H Power of Attorney previously filed as Exhibit 24 to a Form 4 with regard to DA32 Life Science Tech Acquisition Corp. filed with

the Securities and Exchange Commission on August 3, 2021 by Deerfield Partners, L.P., Deerfield Mgmt, L.P., Deerfield

Management Company, L.P. and James E. Flynn.

^{*} Filed herewith.

SIGNATURE

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

Dated: September 16, 2022

DEERFIELD PRIVATE DESIGN FUND III, L.P.

By: Deerfield Mgmt III, L.P., General Partner By: J.E. Flynn Capital III, LLC, General Partner

By: /s/ Jonathan Isler
Name: Jonathan Isler
Title: Attorney-in-Fact

DEERFIELD HEALTHCARE INNOVATIONS FUND, L.P.

By: Deerfield Mgmt HIF, L.P., General Partner By: J.E. Flynn Capital HIF, LLC, General Partner

By: /s/ Jonathan Isler

Jonathan Isler, Attorney-In-Fact

DEERFIELD PRIVATE DESIGN FUND IV, L.P.

By: Deerfield Mgmt IV, L.P., General Partner By: J.E. Flynn Capital IV, LLC, General Partner

By: /s/ Jonathan Isler
Name: Jonathan Isler
Title: Attorney-in-Fact

DEERFIELD PARTNERS, L.P.

By: Deerfield Mgmt, L.P., General Partner By: J.E. Flynn Capital, LLC, General Partner

By: /s/ Jonathan Isler
Name: Jonathan Isler
Title: Attorney-in-Fact

DEERFIELD MGMT, L.P.

By: J.E. Flynn Capital, LLC, General Partner

By: /s/ Jonathan Isler
Name: Jonathan Isler
Title: Attorney-in-Fact

DEERFIELD MGMT III, L.P.

By: J.E. Flynn Capital III, LLC, General Partner

By: /s/ Jonathan Isler
Name: Jonathan Isler
Title: Attorney-in-Fact

DEERFIELD MGMT HIF, L.P.

By: J.E. Flynn Capital HIF, LLC, General Partner

By: /s/ Jonathan Isler

Jonathan Isler, Attorney-in-Fact

DEERFIELD MGMT IV, L.P.

By: J.E. Flynn Capital IV, LLC, General Partner

By: /s/ Jonathan Isler
Name: Jonathan Isler
Title: Attorney-in-Fact

DEERFIELD MANAGEMENT COMPANY, L.P.

By: Flynn Management LLC, General Partner

By: /s/ Jonathan Isler
Name: Jonathan Isler
Title: Attorney-in-Fact

JAMES E. FLYNN

/s/ Jonathan Isler

Jonathan Isler, Attorney-in-Fact

Schedule A

Schedule A to the Schedule 13D is hereby amended to add the following:

General Partner of Deerfield Mgmt, L.P.

The general partner of Deerfield Mgmt is J.E. Flynn Capital IV, LLC. The address of the principal business and/or principal office of Deerfield Mgmt and J.E. Flynn Capital IV, LLC is 780 Third Avenue, 37th Floor, New York, New York 10017.

General Partner of Deerfield Partners, L.P.

The general partner of Deerfield Partners is Deerfield Mgmt. The address of the principal business and/or principal office of Deerfield Mgmt and Deerfield Partners is 780 Third Avenue, 37th Floor, New York, New York 10017.

JOINT FILING AGREEMENT

Pursuant to and in accordance with the Securities Exchange Act of 1934, as amended, and the rules and regulations thereunder (the "Exchange Act") the undersigned hereby agree to the joint filing on behalf of each of them of any filing required by such party under Section 13 of the Exchange Act or any rule or regulation thereunder (including any amendment, restatement, supplement, and/or exhibit thereto) with respect to securities of Larimar Therapeutics, Inc., a Delaware corporation, and further agree to the filing, furnishing, and/or incorporation by reference of this Agreement as an exhibit thereto. Each of them is responsible for the timely filing of such filings and any amendments thereto, and for the completeness and accuracy of the information concerning such person contained therein; but none of them is responsible for the completeness or accuracy of the information concerning the other persons making the filing, unless such person knows or has reason to believe that such information is inaccurate. This Agreement shall remain in full force and effect until revoked by any party hereto in a signed writing provided to each other party hereto, and then only with respect to such revoking party. This Agreement may be executed in any number of counterparts all of which taken together shall constitute one and the same instrument.

Dated: September 16, 2022

DEERFIELD PRIVATE DESIGN FUND III, L.P.

By: Deerfield Mgmt III, L.P., General Partner By: J.E. Flynn Capital III, LLC, General Partner

By: /s/ Jonathan Isler
Name: Jonathan Isler
Title: Attorney-in-Fact

DEERFIELD HEALTHCARE INNOVATIONS FUND, L.P.

By: Deerfield Mgmt HIF, L.P., General Partner By: J.E. Flynn Capital HIF, LLC, General Partner

By: /s/ Jonathan Isler

Jonathan Isler, Attorney-In-Fact

DEERFIELD PRIVATE DESIGN FUND IV, L.P.

By: Deerfield Mgmt IV, L.P., General Partner By: J.E. Flynn Capital IV, LLC, General Partner

By: /s/ Jonathan Isler
Name: Jonathan Isler
Title: Attorney-in-Fact

DEERFIELD PARTNERS, L.P.

By: Deerfield Mgmt, L.P., General Partner By: J.E. Flynn Capital, LLC, General Partner

By: /s/ Jonathan Isler
Name: Jonathan Isler
Title: Attorney-in-Fact

DEERFIELD MGMT, L.P.

By: J.E. Flynn Capital, LLC, General Partner

By: /s/ Jonathan Isler Name: Jonathan Isler

Title: Attorney-in-Fact

DEERFIELD MGMT III, L.P.

By: J.E. Flynn Capital III, LLC, General Partner

By: /s/ Jonathan Isler
Name: Jonathan Isler
Title: Attorney-in-Fact

DEERFIELD MGMT HIF, L.P.

By: J.E. Flynn Capital HIF, LLC, General Partner

By: /s/ Jonathan Isler

Jonathan Isler, Attorney-in-Fact

DEERFIELD MGMT IV, L.P.

By: J.E. Flynn Capital IV, LLC, General Partner

By: /s/ Jonathan Isler
Name: Jonathan Isler
Title: Attorney-in-Fact

DEERFIELD MANAGEMENT COMPANY, L.P.

By: Flynn Management LLC, General Partner

By: /s/ Jonathan Isler
Name: Jonathan Isler
Title: Attorney-in-Fact

JAMES E. FLYNN

/s/ Jonathan Isler

Jonathan Isler, Attorney-in-Fact