# UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, DC 20549

# **SCHEDULE 13G**

(Rule 13d-102)

Information to be Included in Statements Filed Pursuant to § 240.13d-1(b), (c) and (d) and Amendments Thereto Filed Pursuant to § 240.13d-2

> Under the Securities Exchange Act of 1934 (Amendment No. 3)

# X4 PHARMACEUTICALS, INC.

(Name of Issuer)

Common Stock, \$0.001 par value per share (Title of Class of Securities)

> 98420X103 (CUSIP Number)

December 31, 2023 (Date of Event Which Requires Filing of This Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

 $\Box$  Rule 13d-1(b)

 $\boxtimes$  Rule 13d-1(c)

 $\Box$  Rule 13d-1(d)

\* 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 the disclosures provided in a prior cover page.

The information required in 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, as amended ("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				
	Bain Capital Life Sciences Fund, L.P.				
2 Check the Appropriate Box if a M			propriate Box if a Member of a Group		
	(a) □ (b) □				
3	SEC Use Only				
4	4 Citizenship or Place of Organization				
	Cayman	yman Islands			
		5	Sole Voting Power		
Nu	umber of		0 shares of Common Stock		
	Shares neficially	6	Shared Voting Power		
	wned by		16,915,784 shares of Common Stock (1)		
R	Each eporting	7	Sole Dispositive Power		
]	Person With		0 shares of Common Stock		
	with	8	Shared Dispositive Power		
			16,915,784 shares of Common Stock (1)		
9	Aggregate Amount Beneficially Owned by Each Reporting Person				
	16,915,784 shares of Common Stock (1)				
10	Check if the Aggregate Amount in Row (9) Excludes Certain Shares				
11	11 Percent of Class Represented by Amount in Row 9				
	9.99% (1)				
12	Type of Reporting Person				
	PN				

(1) As of the close of business on December 31, 2023, (i) Bain Capital Life Sciences Fund, L.P. held 566,966 shares of Common Stock and pre-funded warrants to purchase 566,966 shares of Common Stock; (ii) Bain Capital Life Sciences Fund II, L.P. held 1,332,276 shares of Common Stock and pre-funded warrants to purchase 601,714 shares of Common Stock; (iii) BCIP Life Sciences Associates, LP held 220,298 shares of Common Stock and pre-funded warrants to purchase 131,320 shares of Common Stock; (iv) BCLS II Investco, LP held 9,270,081 shares of Common Stock, warrants to purchase 6,448,689 shares of Common Stock, Class C Warrants to purchase 2,064,561 shares of Common Stock and pre-funded warrants to purchase of Common Stock; and (v) BCLS I Investco, LP held 3,490,188 shares of Common Stock, warrants to purchase 2,688,998 shares of Common Stock, Class C Warrants to purchase 860,888 shares of Common Stock and pre-funded warrants to purchase 1,888,599 shares of Common Stock. As a result of the Beneficial Ownership Blockers (as defined herein), beneficial ownership of the Reporting Persons (as defined herein) is capped at 9.99% of the outstanding shares of Common Stock, representing 16,915,784 shares of Common Stock calculated as described herein as of December 31, 2023.

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1	Names of Reporting Persons					
	Bain Capital Life Sciences Fund II, L.P.					
2	Check the Appropriate Box if a Member of a Group					
	(a) □	(1-)				
3	(a) $\Box$ (b) $\Box$ SEC Use Only $\Box$ $\Box$ $\Box$					
5	520 05	, only				
4	Citizenship or Place of Organization					
	Common	Cayman Islands				
<u> </u>	Cayman	1stand	Sole Voting Power			
		5				
Nı	umber of		0 shares of Common Stock			
	Shares	6	Shared Voting Power			
	neficially wned by		(1)			
	Each	7	Sole Dispositive Power			
	eporting					
	Person With		0 shares of Common Stock			
	vv itil	8	Shared Dispositive Power			
			(1)			
9	Aggrega	te Am	nount Beneficially Owned by Each Reporting Person			
	(1)					
10	(1) O Check if the Aggregate Amount in Row (9) Excludes Certain Shares					
10	Cheek h	the r	Eglogate A mount in Row (7) Exolutes Cortain Shares			
11	Percent	of Cla	ss Represented by Amount in Row 9			
	(1)					
12						
	PN					

(1) As of the close of business on December 31, 2023, (i) Bain Capital Life Sciences Fund, L.P. held 566,966 shares of Common Stock and pre-funded warrants to purchase 566,966 shares of Common Stock; (ii) Bain Capital Life Sciences Fund II, L.P. held 1,332,276 shares of Common Stock and pre-funded warrants to purchase 601,714 shares of Common Stock; (iii) BCIP Life Sciences Associates, LP held 220,298 shares of Common Stock and pre-funded warrants to purchase 131,320 shares of Common Stock; (iv) BCLS II Investco, LP held 9,270,081 shares of Common Stock, warrants to purchase 6,448,689 shares of Common Stock, Class C Warrants to purchase 2,064,561 shares of Common Stock and pre-funded warrants to purchase 7,303,890 shares of Common Stock; and (v) BCLS I Investco, LP held 3,490,188 shares of Common Stock, warrants to purchase 2,688,998 shares of Common Stock. Class C Warrants to purchase 860,888 shares of Common Stock and pre-funded warrants to purchase 1,888,599 shares of Common Stock. As a result of the Beneficial Ownership Blockers, beneficial ownership of the Reporting Persons is capped at 9.99% of the outstanding shares of Common Stock, representing 16,915,784 shares of Common Stock calculated as described herein as of December 31, 2023.

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1       Names of Reporting Persons         BCIP Life Sciences Associates, LP         2       Check the Appropriate Box if a Member of a Group         (a)       (b)         3       SEC Use Only         4       Citizenship or Place of Organization         Delaware       0 shares of Common Stock         Shares       6       Shared Voting Power         0 shares of Common Stock       0 shares of Common Stock         Reporting       7       Sole Dispositive Power         0 shares of Common Stock       8         Beneficially       (1)       10         9       Aggregate Amount Beneficially Owned by Each Reporting Person       (1)         10       Check if the Aggregate Amount in Row (9) Excludes Certain Shares         □       11       Percent of Class Represented by Amount in Row 9         (1)       12       Type of Reporting Person         PN						
2       Check the Appropriate Box if a Member of a Group         (a)       (b)         3       SEC Use Only         4       Citizenship or Place of Organization         Delaware       0 shares of Common Stock         Shares       6       Shared Voting Power         0 ohares of Common Stock       6         Shares       6       Shared Voting Power         0 Owned by       (1)         Each       7       Sole Dispositive Power         0 ohares of Common Stock       8         Beneficially       0 shares of Common Stock         With       7       Sole Dispositive Power         0 ohares of Common Stock       8         Shared Dispositive Power       0         (1)       10         9       Aggregate Amount Beneficially Owned by Each Reporting Person         (1)       10         10       Check if the Aggregate Amount in Row (9) Excludes Certain Shares         11       Percent of Class Represented by Amount in Row 9         (1)       12         12       Type of Reporting Person	1	1 Names of Reporting Persons				
2       Check the Appropriate Box if a Member of a Group         (a)       (b)         3       SEC Use Only         4       Citizenship or Place of Organization         Delaware       0 shares of Common Stock         Shares       6       Shared Voting Power         0 ohares of Common Stock       6         Shares       6       Shared Voting Power         0 Owned by       (1)         Each       7       Sole Dispositive Power         0 ohares of Common Stock       8         Beneficially       0 shares of Common Stock         With       7       Sole Dispositive Power         0 ohares of Common Stock       8         Shared Dispositive Power       0         (1)       10         9       Aggregate Amount Beneficially Owned by Each Reporting Person         (1)       10         10       Check if the Aggregate Amount in Row (9) Excludes Certain Shares         11       Percent of Class Represented by Amount in Row 9         (1)       12         12       Type of Reporting Person		BCIP Life Sciences Associates. LP				
(a)       (b)         3       SEC Use Only         4       Citizenship or Place of Organization         Delaware       0 shares of Common Stock         Shares       6       Shared Voting Power         0 shares of Common Stock       1)         Owned by       2         Person       0 shares of Common Stock         %       7       Sole Dispositive Power         0 shares of Common Stock       0         9       Aggregate Amount Beneficially Owned by Each Reporting Person         (1)       (1)         10       Check if the Aggregate Amount in Row (9) Excludes Certain Shares         □       -         11       Percent of Class Represented by Amount in Row 9         (1)       -         12       Type of Reporting Person						
3       SEC Use Only         4       Citizenship or Place of Organization         Delaware       Delaware         8       Sole Voting Power         0       shares of Common Stock         6       Shared Voting Power         8       Shared Voting Power         9       Aggregate Amount Beneficially Owned by Each Reporting Person         10       Check if the Aggregate Amount in Row (9) Excludes Certain Shares         11       Percent of Class Represented by Amount in Row 9         12       Type of Reporting Person			11			
4       Citizenship or Place of Organization         Delaware       5         Sole Voting Power         0       shares of Common Stock         Shares       6         Beneficially       (1)         Vumber of Each       7         Sole Dispositive Power         Person       0 shares of Common Stock         With       7         8       Shared Dispositive Power         (1)       0 shares of Common Stock         9       Aggregate Amount Beneficially Owned by Each Reporting Person         (1)       (1)         10       Check if the Aggregate Amount in Row (9) Excludes Certain Shares         [1]       Percent of Class Represented by Amount in Row 9         (1)       Image:		(a) $\Box$ (b) $\Box$				
Delaware       5       Sole Voting Power         Number of Shares       6       Shared Voting Power         0 shares of Common Stock       1)         Owned by       (1)         Each Reporting Person       7       Sole Dispositive Power         0 shares of Common Stock       0         With       8       Shared Dispositive Power         (1)       10       Shared Dispositive Power         (1)       10       Check if the Aggregate Amount in Row (9) Excludes Certain Shares         11       Percent of Class Represented by Amount in Row 9         (1)       10         12       Type of Reporting Person	3	SEC Use				
Delaware       5       Sole Voting Power         Number of Shares       6       Shared Voting Power         0 shares of Common Stock       1)         Owned by       (1)         Each Reporting Person       7       Sole Dispositive Power         0 shares of Common Stock       0         With       8       Shared Dispositive Power         (1)       10       Shared Dispositive Power         (1)       10       Check if the Aggregate Amount in Row (9) Excludes Certain Shares         11       Percent of Class Represented by Amount in Row 9         (1)       10         12       Type of Reporting Person						
Number of Shares       5       Sole Voting Power         0 shares of Common Stock       0 shares of Common Stock         Beneficially       6       Shared Voting Power         Owned by       (1)         Each Reporting Person With       7       Sole Dispositive Power         0 shares of Common Stock       8       Shared Dispositive Power         (1)       8       Shared Dispositive Power         (1)       10       Check if the Aggregate Amount Beneficially Owned by Each Reporting Person         (1)       10       Check if the Aggregate Amount in Row (9) Excludes Certain Shares         11       Percent of Class Represented by Amount in Row 9         (1)       11         12       Type of Reporting Person	4	Citizenship or Place of Organization				
Number of Shares       5       Sole Voting Power         0 shares of Common Stock       0 shares of Common Stock         Beneficially       6       Shared Voting Power         Owned by       (1)         Each Reporting Person With       7       Sole Dispositive Power         0 shares of Common Stock       8       Shared Dispositive Power         (1)       8       Shared Dispositive Power         (1)       10       Check if the Aggregate Amount Beneficially Owned by Each Reporting Person         (1)       10       Check if the Aggregate Amount in Row (9) Excludes Certain Shares         11       Percent of Class Represented by Amount in Row 9         (1)       11         12       Type of Reporting Person		5.1				
Number of Shares     0 shares of Common Stock       6     Shared Voting Power       Beneficially     (1)       Owned by     (1)       Each Reporting Person     7     Sole Dispositive Power       0 shares of Common Stock     8       8     Shared Dispositive Power       (1)     0       9     Aggregate Amount Beneficially Owned by Each Reporting Person       (1)		Delaware				
Shares     6     Shared Voting Power       Beneficially     (1)       Each     7     Sole Dispositive Power       Reporting     0 shares of Common Stock       With     8     Shared Dispositive Power       (1)     8     Shared Dispositive Power       (1)     10     Check if the Aggregate Amount in Row (9) Excludes Certain Shares       11     Percent of Class Represented by Amount in Row 9       (1)     (1)			5	Sole Voting Power		
Shares     6     Shared Voting Power       Beneficially     (1)       Each     7     Sole Dispositive Power       Reporting     0 shares of Common Stock       With     8     Shared Dispositive Power       (1)     8     Shared Dispositive Power       (1)     10     Check if the Aggregate Amount in Row (9) Excludes Certain Shares       11     Percent of Class Represented by Amount in Row 9       (1)     (1)	2.1	1 0		0 shares of Common Stock		
Beneficially Owned by Each Reporting Person     7     Sole Dispositive Power       0 shares of Common Stock     0 shares of Common Stock       8     Shared Dispositive Power       10     10       10     Check if the Aggregate Amount in Row (9) Excludes Certain Shares       11     Percent of Class Represented by Amount in Row 9       12     Type of Reporting Person			6			
Owned by Each Reporting Person       (1)         With       7       Sole Dispositive Power         0 shares of Common Stock       0         8       Shared Dispositive Power         (1)       (1)         9       Aggregate Amount Beneficially Owned by Each Reporting Person         (1)       (1)         10       Check if the Aggregate Amount in Row (9) Excludes Certain Shares         11       Percent of Class Represented by Amount in Row 9         (1)       Image: Image			0	Shured Voting Fower		
Each Reporting Person With       7       Sole Dispositive Power         0 shares of Common Stock       8       Shared Dispositive Power         10       8       Shared Dispositive Power         11       Percent of Class Represented by Amount in Row 9         11       Percent of Class Represented by Amount in Row 9         12       Type of Reporting Person				(1)		
Person With       0 shares of Common Stock         8       Shared Dispositive Power         10       Aggregate Amount Beneficially Owned by Each Reporting Person         11       Check if the Aggregate Amount in Row (9) Excludes Certain Shares         11       Percent of Class Represented by Amount in Row 9         12       Type of Reporting Person			7	Sole Dispositive Power		
With     8     Shared Dispositive Power       (1)     (1)       9     Aggregate Amount Beneficially Owned by Each Reporting Person       (1)     (1)       10     Check if the Aggregate Amount in Row (9) Excludes Certain Shares       □	R	eporting				
a     Shared Dispositive Power       (1)       9       Aggregate Amount Beneficially Owned by Each Reporting Person       (1)       10       Check if the Aggregate Amount in Row (9) Excludes Certain Shares       □       11       Percent of Class Represented by Amount in Row 9       (1)       12       Type of Reporting Person	]					
9       Aggregate Amount Beneficially Owned by Each Reporting Person <ul> <li>(1)</li> <li>(1)</li> </ul> 10         Check if the Aggregate Amount in Row (9) Excludes Certain Shares <ul> <li>□</li> </ul> 11         Percent of Class Represented by Amount in Row 9 <ul> <li>(1)</li> <li>(1)</li> </ul> 12         Type of Reporting Person		with	8	Shared Dispositive Power		
9       Aggregate Amount Beneficially Owned by Each Reporting Person <ul> <li>(1)</li> <li>(1)</li> </ul> 10         Check if the Aggregate Amount in Row (9) Excludes Certain Shares <ul> <li>□</li> </ul> 11         Percent of Class Represented by Amount in Row 9 <ul> <li>(1)</li> <li>(1)</li> </ul> 12         Type of Reporting Person						
(1)         10       Check if the Aggregate Amount in Row (9) Excludes Certain Shares         □         11       Percent of Class Represented by Amount in Row 9         (1)         12       Type of Reporting Person						
10       Check if the Aggregate Amount in Row (9) Excludes Certain Shares         □       □         11       Percent of Class Represented by Amount in Row 9         (1)       []         12       Type of Reporting Person	9	Aggregat	te Am	ount Beneficially Owned by Each Reporting Person		
10       Check if the Aggregate Amount in Row (9) Excludes Certain Shares         □       □         11       Percent of Class Represented by Amount in Row 9         (1)       []         12       Type of Reporting Person		(1)				
Image: Constraint of Class Represented by Amount in Row 9       (1)       12     Type of Reporting Person	10					
11     Percent of Class Represented by Amount in Row 9       (1)       12     Type of Reporting Person		2				
(1) 12 Type of Reporting Person						
12 Type of Reporting Person	11	Percent of	of Cla	ss Represented by Amount in Row 9		
12 Type of Reporting Person						
PN	12	2 Type of Reporting Person				
Y'N						
		PN				

(1) As of the close of business on December 31, 2023, (i) Bain Capital Life Sciences Fund, L.P. held 566,966 shares of Common Stock and pre-funded warrants to purchase 566,966 shares of Common Stock; (ii) Bain Capital Life Sciences Fund II, L.P. held 1,332,276 shares of Common Stock and pre-funded warrants to purchase 601,714 shares of Common Stock; (iii) BCIP Life Sciences Associates, LP held 220,298 shares of Common Stock and pre-funded warrants to purchase 131,320 shares of Common Stock; (iv) BCLS II Investco, LP held 9,270,081 shares of Common Stock, warrants to purchase 6,448,689 shares of Common Stock, Class C Warrants to purchase 2,064,561 shares of Common Stock and pre-funded warrants to purchase 7,303,890 shares of Common Stock; and (v) BCLS I Investco, LP held 3,490,188 shares of Common Stock, warrants to purchase 2,688,998 shares of Common Stock. Class C Warrants to purchase 860,888 shares of Common Stock and pre-funded warrants to purchase 1,888,599 shares of Common Stock. As a result of the Beneficial Ownership Blockers, beneficial ownership of the Reporting Persons is capped at 9.99% of the outstanding shares of Common Stock, representing 16,915,784 shares of Common Stock calculated as described herein as of December 31, 2023.

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				8 8		
1 Na	Names of Reporting Persons					
	CLS II I					
2 Cł	2 Check the Appropriate Box if a Member of a Group					
(a)	(a) $\Box$ (b) $\Box$					
	SEC Use Only					
4 Ci	4 Citizenship or Place of Organization					
De	Delaware					
		5	Sole Voting Power			
Numbe	er of		0 shares of Common Stock			
Share	es	6	Shared Voting Power			
Benefic Owned			(1)			
Eac Repor		7	Sole Dispositive Power			
Perso	on		0 shares of Common Stock			
Wit	th	8	Shared Dispositive Power			
			(1)			
9 Ag	9 Aggregate Amount Beneficially Owned by Each Reporting Person					
(1)	)					
10 Cł	heck if t	the A	ggregate Amount in Row (9) Excludes Certain Shares			
	]					
11 Pe	ercent of	f Clas	ss Represented by Amount in Row 9			
(1	)					
PN	N					

(1) As of the close of business on December 31, 2023, (i) Bain Capital Life Sciences Fund, L.P. held 566,966 shares of Common Stock and pre-funded warrants to purchase 566,966 shares of Common Stock; (ii) Bain Capital Life Sciences Fund II, L.P. held 1,332,276 shares of Common Stock and pre-funded warrants to purchase 601,714 shares of Common Stock; (iii) BCIP Life Sciences Associates, LP held 220,298 shares of Common Stock and pre-funded warrants to purchase 131,320 shares of Common Stock; (iv) BCLS II Investco, LP held 9,270,081 shares of Common Stock, warrants to purchase 6,448,689 shares of Common Stock, Class C Warrants to purchase 2,064,561 shares of Common Stock and pre-funded warrants to purchase of Common Stock; and (v) BCLS I Investco, LP held 3,490,188 shares of Common Stock, warrants to purchase 2,688,998 shares of Common Stock, Class C Warrants to purchase 860,888 shares of Common Stock and pre-funded warrants to purchase 1,888,599 shares of Common Stock. As a result of the Beneficial Ownership Blockers, beneficial ownership of the Reporting Persons is capped at 9.99% of the outstanding shares of Common Stock, representing 16,915,784 shares of Common Stock calculated as described herein as of December 31, 2023.

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				5 8	
1	1 Names of Reporting Persons				
	BCLS I Investco, LP				
2	Check th				
	(a) □ (b) □				
3					
4	Citizenship or Place of Organization				
	Delaware				
		5	Sole Voting Power		
Nu	mber of		0 shares of Common Stock		
SI	hares	6	Shared Voting Power		
Ow	eficially vned by		(1)		
	Each porting	7	Sole Dispositive Power		
Р	erson		0 shares of Common Stock		
	With	8	Shared Dispositive Power		
			(1)		
9	Aggrega	te Am	ount Beneficially Owned by Each Reporting Person		
	(1)				
10	10         Check if the Aggregate Amount in Row (9) Excludes Certain Shares				
		_			
11	Percent of	of Clas	ss Represented by Amount in Row 9		
	(1)				
12	Type of I	Report	ting Person		
	PN	_			

(1) As of the close of business on December 31, 2023, (i) Bain Capital Life Sciences Fund, L.P. held 566,966 shares of Common Stock and pre-funded warrants to purchase 566,966 shares of Common Stock; (ii) Bain Capital Life Sciences Fund II, L.P. held 1,332,276 shares of Common Stock and pre-funded warrants to purchase 601,714 shares of Common Stock; (iii) BCIP Life Sciences Associates, LP held 220,298 shares of Common Stock and pre-funded warrants to purchase 131,320 shares of Common Stock; (iv) BCLS II Investco, LP held 9,270,081 shares of Common Stock, warrants to purchase 6,448,689 shares of Common Stock, Class C Warrants to purchase 2,064,561 shares of Common Stock and pre-funded warrants to purchase 7,303,890 shares of Common Stock; and (v) BCLS I Investco, LP held 3,490,188 shares of Common Stock, warrants to purchase 2,688,998 shares of Common Stock. Class C Warrants to purchase 860,888 shares of Common Stock and pre-funded warrants to purchase of Common Stock. As a result of the Beneficial Ownership Blockers, beneficial ownership of the Reporting Persons is capped at 9.99% of the outstanding shares of Common Stock, representing 16,915,784 shares of Common Stock calculated as described herein as of December 31, 2023.

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### Item 1(a) Name of Issuer

The name of the issuer to which this filing on Schedule 13G relates is X4 Pharmaceuticals, Inc. (the "Issuer").

### Item 1(b) Address of Issuer's Principal Executive Offices

The principal executive offices of the Issuer are located at 61 North Beacon Street, 4th Floor, Boston, Massachusetts 02134.

### Item 2(a) Name of Person Filing

This Schedule 13G is being filed jointly by Bain Capital Life Sciences Fund, L.P., a Cayman Islands exempted limited partnership ("BCLS Fund I"), Bain Capital Life Sciences Fund II, L.P., a Cayman Islands exempted limited partnership ("BCLS Fund II"), BCIP Life Sciences Associates, LP, a Delaware limited partnership ("BCIPLS"), BCLS II Investco, LP, a Delaware limited partnership ("BCLS II Investco"), and BCLS I Investco, LP, a Delaware limited partnership ("BCLS I Investco" and, together with BCLS Fund I, BCLS Fund II, BCIPLS and BCLS II Investco, the "Reporting Persons").

Bain Capital Life Sciences Investors, LLC, a Delaware limited liability company ("BCLSI"), is (i) the general partner of Bain Capital Life Sciences Partners, LP, a Cayman Islands exempted limited partnership ("BCLSP"), which is the general partner of BCLS Fund I and (ii) the manager of Bain Capital Life Sciences Investors II, LLC, a Cayman Islands limited liability company ("BCLSI II"), which is the general partner of BCLS Fund I.

Boylston Coinvestors, LLC, a Delaware limited liability company ("Boylston"), is the general partner of BCIPLS. BCLSI governs the investment strategy and decision-making process with respect to investments held by BCIPLS.

BCLS II Investco (GP), LLC, a Delaware limited liability company ("BCLS II Investco GP"), whose manager is BCLS Fund II, is the general partner of BCLS II Investco.

BCLS I Investco GP, LLC, a Delaware limited liability company ("BCLS I Investco GP" and, together with the Reporting Persons, BCLSI, BCLSP, BCLSI II, Boylston and BCLS II Investco GP, the "Bain Capital Life Sciences Entities"), whose manager is BCLS Fund I, is the general partner of BCLS I Investco.

As a result, BCLSI may be deemed to share voting and dispositive power with respect to the securities held by the Reporting Persons.

The Reporting Persons have entered into a Joint Filing Agreement, dated February 13, 2024, pursuant to which the Reporting Persons have agreed to file this Schedule 13G jointly in accordance with the provisions of Rule 13d-1(k)(1) promulgated under the Act.

### Item 2(b) Address of Principal Business Office or, if None, Residence

The principal business address for each of the Bain Capital Life Sciences Entities is 200 Clarendon Street, Boston, Massachusetts 02116.

#### Item 2(c) Citizenship

BCLS Fund I, BCLS Fund II, BCLSP and BCLSI II are each organized under the laws of the Cayman Islands. BCIPLS, BCLS II Investco, BCLS I Investco, BCLSI, Boylston, BCLS II Investco GP and BCLS I Investco GP are each organized under the laws of the State of Delaware.

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### Item 2(d) Title of Class of Securities

The class of securities of the Issuer to which this Schedule 13G relates is Common Stock, \$0.001 par value per share ("Common Stock").

### Item 2(e) CUSIP Number

The CUSIP number of the Common Stock is 98420X103.

#### Item 3 If this statement is filed pursuant to §§ 240.13d-1(b), or 240.13d-2(b) or (c), check whether the person filing is a

(a)  $\square$  Broker or dealer registered under section 15 of the Act (15 U.S.C. 780);

- (b)  $\square$  Bank as defined in section 3(a)(6) of the Act (15 U.S.C. 78c);
- (c)  $\Box$  Insurance company as defined in section 3(a)(19) of the Act (15 U.S.C. 78c);
- (d) Investment company registered under Section 8 of the Investment Company Act of 1940 (15 U.S.C. 80a-8);
- (e)  $\Box$  An investment adviser in accordance with § 240.13d-1(b)(1)(ii)(E);
- (f)  $\Box$  An employee benefit plan or endowment fund in accordance with § 240.13d-1(b)(1)(ii)(F);
- (g)  $\Box$  A parent holding company or control person in accordance with § 240.13d-1(b)(1)(ii)(G);
- (h)  $\Box$  A savings association as defined in Section 3(b) of the Federal Deposit Insurance Act (12 U.S.C. 1813);
- (i) A church plan that is excluded from the definition of an investment company under section 3(c)(14) of the Investment Company Act (15 U.S.C. 80a-3);
- (j)  $\Box$  A non-U.S. institution in accordance with § 240.13d-1(b)(1)(ii)(J);
- (k)  $\Box$  Group, in accordance with § 240.13d-1(b)(1)(ii)(K).

If filing as a non-U.S. institution in accordance with § 240.13d-1(b)(1)(ii)(J), please specify the type of institution:

### Item 4 Ownership

### (a) Amount beneficially owned:

As of the close of business on December 31, 2023, (i) BCLS Fund I held 566,966 shares of Common Stock and pre-funded warrants to purchase 566,966 shares of Common Stock; (ii) BCLS Fund II held 1,332,276 shares of Common Stock and pre-funded warrants to purchase 601,714 shares of Common Stock; (iii) BCIPLS held 220,298 shares of Common Stock and pre-funded warrants to purchase 131,320 shares of Common Stock; (iv) BCLS II Investeco held 9,270,081 shares of Common Stock, warrants to purchase 6,448,689 shares of Common Stock, Class C Warrants to purchase 2,064,561 shares of Common Stock and pre-funded warrants to purchase 7,303,890 shares of Common Stock; and (v) BCLS I Investeco held 3,490,188 shares of Common Stock, warrants to purchase 2,688,998 shares of Common Stock, Class C Warrants to purchase 1,888,599 shares of Common Stock.

The Reporting Persons are (i) prohibited from exercising warrants to purchase Common Stock or pre-funded warrants to purchase Common Stock if, as a result of such exercise, the Reporting Persons would beneficially own more than 9.99% of the total number of shares of Common Stock then issued and outstanding immediately after giving effect to the exercise and (ii) prohibited from exercising Class C Warrants to purchase Common Stock if, as a result of such exercise, the Reporting Persons would beneficially own more than 4.99% of the total number of shares of Common Stock then issued and outstanding immediately after giving effect to the exercise (collectively, the "Beneficial Ownership Blockers"). Accordingly, pursuant to Rule 13d-3 of the Act and the relationships described herein, the Reporting Persons may be deemed to collectively beneficially own 9.99% of the outstanding shares of Common Stock, representing 16,915,784 shares of Common Stock as of December 31, 2023.

The calculation of beneficial ownership of the Reporting Persons is based on (i) 167,291,209 shares of Common Stock issued and outstanding as of November 7, 2023, as reported by the Issuer in its Quarterly Report on Form 10-Q filed with the Securities and Exchange Commission on November 9, 2023 and (ii) 2,035,975 shares of Common Stock issuable upon the exercise of warrants and pre-funded warrants held by the Reporting Persons, which reflects the Beneficial Ownership Blockers.

### (b) Percent of class:

See Item 4(a) hereof.

### (c) Number of shares as to which the person has:

- (i) Sole power to vote or to direct the vote:
- 0 shares of Common Stock
- (ii) Shared power to vote or to direct the vote:
- See Item 4(a) hereof
- (iii) Sole power to dispose or to direct the disposition of:
- 0 shares of Common Stock
- (iv) Shared power to dispose or to direct the disposition of:
- See Item 4(a) hereof

## Item 5 Ownership of Five Percent or Less of a Class

Not applicable.

## Item 6 Ownership of More Than Five Percent on Behalf of Another Person

Not applicable.

Item 7 Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on By the Parent Holding Company or Control Person

Not applicable.

# Item 8 Identification and Classification of Members of the Group

Not applicable.

## Item 9 Notice of Dissolution of Group

Not applicable.

### Page 9 of 12 Pages

### Item 10 Certifications

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the Issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect, other than activities solely in connection with a nomination under § 240.14a-11.

# 13G

### SIGNATURES

After reasonable inquiry and to the best of its knowledge and belief, the undersigned certifies that the information in this statement is true, complete and correct.

Dated: February 13, 2024

### Bain Capital Life Sciences Fund, L.P.

- By: Bain Capital Life Sciences Partners, LP, its general partner
- By: Bain Capital Life Sciences Investors, LLC, its general partner
- By: /s/ Andrew Hack Name: Andrew Hack Title: Partner

#### Bain Capital Life Sciences Fund II, L.P.

- By: Bain Capital Life Sciences Investors II, LLC, its general partner
- By: Bain Capital Life Sciences Investors, LLC, its manager
- By: /s/ Andrew Hack Name: Andrew Hack Title: Partner

### **BCIP Life Sciences Associates, LP**

- By: Boylston Coinvestors, LLC, its general partner
- By: /s/ Andrew Hack Name: Andrew Hack Title: Authorized Signatory

### BCLS II Investco, LP

- By: BCLS II Investco (GP), LLC, its general partner
- By: Bain Capital Life Sciences Fund II, L.P., its manager
- By: Bain Capital Life Sciences Investors II, LLC, its general partner
- By: Bain Capital Life Sciences Investors, LLC, its manager
- By: /s/ Andrew Hack Name: Andrew Hack Title: Partner

### BCLS I Investco, LP

- By: BCLS I Investco GP, LLC, its general partner
- By: Bain Capital Life Sciences Fund, L.P., its manager
- By: Bain Capital Life Sciences Partners, LP, its general partner
- By: Bain Capital Life Sciences Investors, LLC, its general partner
- By: /s/ Andrew Hack Name: Andrew Hack Title: Partner

### AGREEMENT REGARDING THE JOINT FILING OF SCHEDULE 13G

The undersigned hereby agree as follows:

- i. Each of them is individually eligible to use the Schedule 13G to which this Exhibit is attached, and such Schedule 13G is filed on behalf of each of them; and
- ii. Each of them is responsible for the timely filing of such Schedule 13G 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.

Dated: February 13, 2024

### Bain Capital Life Sciences Fund, L.P.

- By: Bain Capital Life Sciences Partners, LP, its general partner
- By: Bain Capital Life Sciences Investors, LLC, its general partner
- By: /s/ Andrew Hack

Name: Andrew Hack Title: Partner

### Bain Capital Life Sciences Fund II, L.P.

- By: Bain Capital Life Sciences Investors II, LLC, its general partner
- By: Bain Capital Life Sciences Investors, LLC, its manager
- By: /s/ Andrew Hack Name: Andrew Hack Title: Partner

#### **BCIP Life Sciences Associates, LP**

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- By: Bain Capital Life Sciences Investors II, LLC, its general partner

- By: Bain Capital Life Sciences Investors, LLC, its manager
- By: <u>/s/ Andrew Hack</u> Name: Andrew Hack Title: Partner

### BCLS I Investco, LP

- By: BCLS I Investco GP, LLC, its general partner
- By: Bain Capital Life Sciences Fund, L.P., its manager
- By: Bain Capital Life Sciences Partners, LP, its general partner
- By: Bain Capital Life Sciences Investors, LLC, its general partner

By: /s/ Andrew Hack Name: Andrew Hack Title: Partner