
UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

SCHEDULE 13G
Under the Securities Exchange Act of 1934
(Amendment No.)*

Lyell Immunopharma, Inc.

(Name of Issuer)

Common Stock par value \$0.0001 per share

(Title of Class of Securities)

55083R 104

(CUSIP Number)

December 31, 2021

(Date of Event Which Requires Filing of This Statement)

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

- Rule 13d-1(b)
 Rule 13d-1(c)
 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 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 ("Act") or otherwise subject to the liabilities of that section of the Act, but shall be subject to all other provisions of the Act (however, see the Notes).

1	NAMES OF REPORTING PERSON(S) ARCH Venture Fund IX, L.P.	
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
3	SEC USE ONLY	
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware	
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0
	6	SHARED VOTING POWER 36,412,716
	7	SOLE DISPOSITIVE POWER 0
	8	SHARED DISPOSITIVE POWER 36,412,716
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 36,412,716	
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>	
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 15.1%	
12	TYPE OF REPORTING PERSON PN	

1	NAMES OF REPORTING PERSON(S) ARCH Venture Fund IX Overage, L.P.		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/>		
3	SEC USE ONLY		
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0	
	6	SHARED VOTING POWER 36,412,716	
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11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 15.1%		
12	TYPE OF REPORTING PERSON PN		

1	NAMES OF REPORTING PERSON(S) ARCH Venture Partners IX, L.P.		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/>		
3	SEC USE ONLY		
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0	
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11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 15.1%		
12	TYPE OF REPORTING PERSON PN		

1	NAMES OF REPORTING PERSON(S) ARCH Venture Partners IX Overage, L.P.		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/>		
3	SEC USE ONLY		
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0	
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9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 36,412,716		
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>		
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 15.1%		
12	TYPE OF REPORTING PERSON PN		

1	NAMES OF REPORTING PERSON(S) ARCH Venture Partners IX, LLC		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/>		
3	SEC USE ONLY		
4	CITIZENSHIP OR PLACE OF ORGANIZATION Delaware		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0	
	6	SHARED VOTING POWER 36,412,716	
	7	SOLE DISPOSITIVE POWER 0	
	8	SHARED DISPOSITIVE POWER 36,412,716	
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10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>		
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 15.1%		
12	TYPE OF REPORTING PERSON 00		

1	NAMES OF REPORTING PERSON(S) Keith Crandell		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/>		
3	SEC USE ONLY		
4	CITIZENSHIP OR PLACE OF ORGANIZATION United States of America		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0	
	6	SHARED VOTING POWER 36,412,716	
	7	SOLE DISPOSITIVE POWER 0	
	8	SHARED DISPOSITIVE POWER 36,412,716	
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 36,412,716		
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>		
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 15.1%		
12	TYPE OF REPORTING PERSON IN		

1	NAMES OF REPORTING PERSON(S) Clinton Bybee		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/>		
3	SEC USE ONLY		
4	CITIZENSHIP OR PLACE OF ORGANIZATION United States of America		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0	
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10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>		
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 15.1%		
12	TYPE OF REPORTING PERSON IN		

1	NAMES OF REPORTING PERSON(S) Robert Nelsen		
2	CHECK THE APPROPRIATE BOX IF A MEMBER OF A GROUP (a) <input type="checkbox"/> (b) <input type="checkbox"/>		
3	SEC USE ONLY		
4	CITIZENSHIP OR PLACE OF ORGANIZATION United States of America		
NUMBER OF SHARES BENEFICIALLY OWNED BY EACH REPORTING PERSON WITH	5	SOLE VOTING POWER 0	
	6	SHARED VOTING POWER 36,412,716	
	7	SOLE DISPOSITIVE POWER 0	
	8	SHARED DISPOSITIVE POWER 36,412,716	
9	AGGREGATE AMOUNT BENEFICIALLY OWNED BY EACH REPORTING PERSON 36,412,716		
10	CHECK BOX IF THE AGGREGATE AMOUNT IN ROW (9) EXCLUDES CERTAIN SHARES <input type="checkbox"/>		
11	PERCENT OF CLASS REPRESENTED BY AMOUNT IN ROW (9) 15.1%		
12	TYPE OF REPORTING PERSON IN		

Item 1(a). Name of Issuer:

Lyell Immunopharma, Inc. (the "Issuer").

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

201 Haskins Way, South San Francisco, CA 94080

Item 2(a). Name of Person Filing:

ARCH Venture Fund IX, L.P. ("AVF IX"); ARCH Venture Partners IX, L.P. ("AVP IX LP"); ARCH Venture Partners IX, LLC ("AVP IX LLC"); ARCH Venture Fund IX Overage, L.P. ("AVF IX Overage"); ARCH Venture Partners IX Overage, L.P. ("AVP IX Overage GP") (collectively, the "Reporting Entities" and individually, each a "Reporting Entity"); and Keith Crandell ("Crandell"), Robert Nelsen ("Nelsen") and Clinton Bybee ("Bybee") (collectively, the "Managing Directors" and individually, each a "Managing Director"). The Reporting Entities and the Managing Directors collectively are referred to as the "Reporting Persons".

Item 2(b). Address of Principal Business Office or, if none, Residence:

8755 W. Higgins Avenue, Suite 1025, Chicago, IL 60631

Item 2(c). Citizenship:

Each of AVF IX, AVF IX LP, AVF IX Overage and AVP IX Overage GP, are limited partnerships organized under the laws of the State of Delaware. AVP IX LLC is a limited liability company organized under the laws of the State of Delaware. Each Managing Director is a US citizen.

Item 2(d). Title of Class of Securities:

Common stock, par value \$0.0001 per share.

Item 2(e). CUSIP Number:

55083R 104

Item 3. If this statement is filed pursuant to Rule 13d-1(b), or 13d-2(b) or (c), Check Whether the Person Filing is a:

Not applicable.

Item 4. Ownership:

(a) Amount beneficially owned:

AVF IX is the record owner of 18,206,358 shares of Common Stock (the "AVF IX Shares") as of December 31, 2021. AVP IX LP, as the sole general partner of ARCH Venture Fund IX, may be deemed to beneficially own the AVF IX Shares. AVF IX Overage is the record owner of 18,206,358 shares of Common Stock (the "AVF IX Overage Shares"; combined with AVF IX Shares, the "Record Shares") as of December 31, 2021. AVF IX Overage GP, as the sole general partner of AVF IX Overage, may be deemed to beneficially own the AVF IX Overage Shares. AVP IX LLC, as the sole general partner of AVP IX LP and AVF IX Overage LP, may be deemed to beneficially own the Record Shares. As managing directors of AVP IX LLC, each Managing Director may also be deemed to share the power to direct the disposition and vote of the Record Shares.

(b) Percent of class:

See line 11 of the cover sheets. The percentages set forth on the cover sheet for each Reporting Person is based upon 240,471,497 shares of common stock outstanding as of November 5, 2021 as reported on the Issuer's Form 10-Q as filed with the Securities and Exchange Commission on November 12, 2021.

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

(i) Sole power to vote or to direct the vote:

See line 5 of the cover sheets.

(ii) Shared power to vote or to direct the vote:

See line 6 of the cover sheets.

(iii) Sole power to dispose or to direct the disposition:

See line 7 of the cover sheets.

(iv) Shared power to dispose or to direct the disposition:

See line 8 of the cover sheets.

Each Reporting Person disclaims beneficial ownership of such shares of Common Stock except for the shares, if any, such Reporting Person holds of record.

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.

Not applicable.

Item 8. Identification and Classification of Members of the Group.

Not applicable.

Item 9. Notice of Dissolution of Group.

Not applicable.

Item 10. Certifications.

Not applicable.

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: February 14, 2022

ARCH VENTURE FUND IX, L.P.

By: ARCH Venture Partners IX, L.P.
its General Partner

By: ARCH Venture Partners IX, LLC
its General Partner

By: _____
*
Keith Crandell
Managing Director

ARCH VENTURE PARTNERS IX, L.P.

By: ARCH Venture Partners IX, LLC
its General Partner

By: _____
*
Keith Crandell
Managing Director

ARCH VENTURE PARTNERS IX, LLC

By: _____
*
Keith Crandell
Managing Director

ARCH VENTURE FUND IX OVERAGE, L.P.

By: ARCH Venture Partners IX Overage, L.P.
its General Partner

By: ARCH Venture Partners IX, LLC
its General Partner

By: _____
*
Keith Crandell
Managing Director

ARCH VENTURE PARTNERS IX OVERAGE, L.P.

By: ARCH Venture Partners IX, LLC
its General Partner

By: _____
*
Keith Crandell
Managing Director

*
Keith Crandell

*
Robert Nelsen

*
Clinton Bybee

* By: /s/ Mark McDonnell
Mark McDonnell as
Attorney-in-Fact

* This Schedule 13G was executed by Mark McDonnell pursuant to a Power of Attorney filed as Exhibit 24 to the Form 3 relating to the beneficial ownership of shares of Gossamer Bio, Inc. by the Reporting Persons filed with the Securities Exchange Commission on February 7, 2019 and incorporated herein in its entirety by reference.

AGREEMENT

Pursuant to Rule 13d-1-(k)(1) under the Securities Exchange Act of 1934, the undersigned hereby agree that only one statement containing the information required by Schedule 13G need be filed with respect to the ownership by each of the undersigned of shares of stock of Lyell Immunopharma, Inc.

This Agreement may be executed in any number of counterparts, each of which shall be deemed an original.

Dated: February 14, 2022

ARCH VENTURE FUND IX, L.P.

By: ARCH Venture Partners IX, L.P.
its General Partner

By: ARCH Venture Partners IX, LLC
its General Partner

By: _____
*
Keith Crandell
Managing Director

ARCH VENTURE PARTNERS IX, L.P.

By: ARCH Venture Partners IX, LLC
its General Partner

By: _____
*
Keith Crandell
Managing Director

ARCH VENTURE PARTNERS IX, LLC

By: _____
*
Keith Crandell
Managing Director

ARCH VENTURE FUND IX OVERAGE, L.P.

By: ARCH Venture Partners IX Overage, L.P.
its General Partner

By: ARCH Venture Partners IX, LLC
its General Partner

By: _____
*
Keith Crandell
Managing Director

ARCH VENTURE PARTNERS IX OVERAGE, L.P.

By: ARCH Venture Partners IX, LLC
its General Partner

By: _____
*
Keith Crandell
Managing Director

*
Keith Crandell

*
Robert Nelsen

*
Clinton Bybee

* By: /s/ Mark McDonnell
Mark McDonnell as
Attorney-in-Fact

* This Agreement was executed by Mark McDonnell pursuant to a Power of Attorney filed as Exhibit 24 to the Form 3 relating to the beneficial ownership of shares of Gossamer Bio, Inc. by the Reporting Persons filed with the Securities Exchange Commission on February 7, 2019 and incorporated herein in its entirety by reference.
