

**UNITED STATES SECURITIES AND EXCHANGE
COMMISSION**

Washington, D.C. 20549

**INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF
SECURITIES**

OMB APPROVAL

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Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934
or Section 30(h) of the Investment Company Act of 1940

1. Name and Address of Reporting Person* <u>Dooley Mary Beth</u> (Last) (First) (Middle) <u>C/O SYNLOGIC, INC.</u> <u>301 BINNEY STREET, SUITE 402</u> (Street) <u>CAMBRIDGE MA 02142</u> (City) (State) (Zip)	2. Date of Event Requiring Statement (Month/Day/Year) <u>03/18/2024</u>	3. Issuer Name and Ticker or Trading Symbol <u>SYNLOGIC, INC. [SYBX]</u>	
		4. Relationship of Reporting Person(s) to Issuer (Check all applicable) Director 10% Owner <input checked="" type="checkbox"/> Officer (give title below) Other (specify below) <u>Head of Finance</u>	5. If Amendment, Date of Original Filed (Month/Day/Year) 6. Individual or Joint/Group Filing (Check Applicable Line) <input checked="" type="checkbox"/> Form filed by One Reporting Person Form filed by More than One Reporting Person

Table I - Non-Derivative Securities Beneficially Owned

1. Title of Security (Instr. 4)	2. Amount of Securities Beneficially Owned (Instr. 4)	3. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	4. Nature of Indirect Beneficial Ownership (Instr. 5)
<u>Common Stock</u>	<u>15,419⁽¹⁾</u>	<u>D</u>	

**Table II - Derivative Securities Beneficially Owned
(e.g., puts, calls, warrants, options, convertible securities)**

1. Title of Derivative Security (Instr. 4)	2. Date Exercisable and Expiration Date (Month/Day/Year)		3. Title and Amount of Securities Underlying Derivative Security (Instr. 4)		4. Conversion or Exercise Price of Derivative Security	5. Ownership Form: Direct (D) or Indirect (I) (Instr. 5)	6. Nature of Indirect Beneficial Ownership (Instr. 5)
	Date Exercisable	Expiration Date	Title	Amount or Number of Shares			
<u>Stock Option (right to buy)</u>	<u>(2)</u>	<u>06/29/2028</u>	<u>Common Stock</u>	<u>333</u>	<u>1.85</u>	<u>D</u>	
<u>Stock Option (right to buy)</u>	<u>(2)</u>	<u>11/30/2028</u>	<u>Common Stock</u>	<u>200</u>	<u>1.85</u>	<u>D</u>	
<u>Stock Option (right to buy)</u>	<u>(2)</u>	<u>03/05/2029</u>	<u>Common Stock</u>	<u>466</u>	<u>1.85</u>	<u>D</u>	
<u>Stock Option (right to buy)</u>	<u>(3)</u>	<u>03/10/2030</u>	<u>Common Stock</u>	<u>625</u>	<u>1.85</u>	<u>D</u>	
<u>Stock Option (right to buy)</u>	<u>(2)</u>	<u>03/10/2030</u>	<u>Common Stock</u>	<u>500</u>	<u>1.85</u>	<u>D</u>	
<u>Stock Option (right to buy)</u>	<u>(4)</u>	<u>03/10/2031</u>	<u>Common Stock</u>	<u>2,083</u>	<u>1.85</u>	<u>D</u>	
<u>Stock Option (right to buy)</u>	<u>(5)</u>	<u>02/04/2032</u>	<u>Common Stock</u>	<u>3,255</u>	<u>1.85</u>	<u>D</u>	
<u>Stock Option (right to buy)</u>	<u>(6)</u>	<u>09/30/2032</u>	<u>Common Stock</u>	<u>3,916</u>	<u>1.85</u>	<u>D</u>	
<u>Stock Option (right to buy)</u>	<u>(7)</u>	<u>03/16/2033</u>	<u>Common Stock</u>	<u>3,612</u>	<u>1.85</u>	<u>D</u>	

Explanation of Responses:

- Includes 14,485 restricted stock awards subject to time-based vesting.
- The shares subject to this option are fully vested as of the date hereof.
- The shares subject to this option vest in approximately equal monthly installments through April 1, 2024.
- The shares subject to this option vest in approximately equal monthly installments through April 1, 2025.
- The shares subject to this option vest in approximately equal monthly installments through February 4, 2026.
- The shares subject to this option vest in approximately equal monthly installments through September 16, 2026.
- The shares subject to this option vest in approximately equal monthly installments through April 1, 2027.

Remarks:

Exhibit 24.1 - Power of Attorney

/s/ Mary Beth Dooley

03/21/2024

** Signature of Reporting Person

Date

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

* If the form is filed by more than one reporting person, see Instruction 5 (b)(v).

** Intentional misstatements or omissions of facts constitute Federal Criminal Violations See 18 U.S.C. 1001 and 15 U.S.C. 78ff(a).

Note: File three copies of this Form, one of which must be manually signed. If space is insufficient, see Instruction 6 for procedure.

Persons who respond to the collection of information contained in this form are not required to respond unless the form displays a currently valid OMB Number.

POWER OF ATTORNEY

Know all by these present, that the undersigned hereby constitutes and appoints each of Daniel Bagliebter, Nishant Dharia, Daniel Lerner, Robyn Frattali, Elizabeth Barber, Brian Parks, and Erber Hernandez of Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., signing singly, with full power of substitution, the undersigned's true and lawful attorney-in-fact to:

- (1) execute and deliver for and on behalf of the undersigned, forms and authentication documents for EDGAR Filing Access;
- (2) do and perform any and all acts for and on behalf of the undersigned which may be necessary or desirable to complete and execute any such forms and authentication documents;
- (3) execute and deliver for and on behalf of the undersigned, in the undersigned's capacity as an officer, director and/or 10% shareholder of Synlogic, Inc. (the "Company"), Forms 3, 4 and 5 in accordance with Section 16(a) of the Securities Exchange Act of 1934 and the rules thereunder;
- (4) do and perform any and all acts for and on behalf of the undersigned which may be necessary or desirable to complete and execute any such Form 3, 4 or 5 and timely file such form with the United States Securities and Exchange Commission and any stock exchange, self-regulatory or similar authority; and
- (5) take any other action of any type whatsoever in connection with the foregoing which, in the opinion of such attorney-in-fact, may be of benefit to, in the best interests of, or legally required by the undersigned, it being understood that the documents executed by such attorney-in-fact on behalf of the undersigned pursuant to this Power of Attorney shall be in such form and shall contain such terms and conditions as such attorney-in-fact may approve in such attorney-in-fact's discretion.

The undersigned hereby grants to each such attorney-in-fact full power and authority to do and perform any and every act and thing whatsoever requisite, necessary, or proper to be done in the exercise of any of the rights and powers herein granted, as fully to all intents and purposes as the undersigned might or could do if personally present, with full power of substitution or revocation, hereby ratifying and confirming all that such attorney-in-fact, or such attorney-in-fact's substitute or substitutes, shall lawfully do or cause to be done by virtue of this power of attorney and the rights and powers herein granted. The undersigned acknowledges that the foregoing attorneys-in-fact, in serving in such capacity at the request of the undersigned, are not assuming, nor is the Company assuming, (i) any of the undersigned's responsibilities to comply with the requirements of the Exchange Act or any liability for the undersigned's failure to comply with such requirements or (ii) any obligation or liability that the undersigned incurs for profit disgorgement under Section 16(b) of the Securities Exchange Act of 1934, as amended.

This Power of Attorney shall remain in full force and effect until the undersigned is no longer required to file Forms 3, 4 and 5 with respect to the undersigned's holdings of and transactions in securities issued by the Company, unless earlier revoked by the undersigned in a signed writing delivered to the foregoing attorneys-in-fact.

This Power of Attorney does not revoke any other power of attorney that the undersigned has previously granted.

IN WITNESS WHEREOF, the undersigned has caused this Power of Attorney to be executed as of March 21, 2024.

By: /s/ Mary Beth Dooley

Name: Mary Beth Dooley
