

INITIAL STATEMENT OF BENEFICIAL OWNERSHIP OF SECURITIES

OMB APPROVAL

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hours per response: 0.5Filed 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>Miller Paul Francis</u> (Last) (First) (Middle) <u>C/O SYNLOGIC, INC.</u> <u>200 SIDNEY STREET, SUITE 320</u> (Street) <u>CAMBRIDGE MA</u> <u>02139</u> (City) (State) (Zip)	2. Date of Event Requiring Statement (Month/Day/Year) <u>08/28/2017</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>Chief Scientific Officer</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⁽¹⁾</u>	<u>41,676⁽²⁾</u>	<u>D</u>	
<u>Common Stock⁽¹⁾</u>	<u>33,459⁽³⁾</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)⁽¹⁾</u>	<u>(4)</u>	<u>05/15/2027</u>	<u>Common Stock</u>	<u>2,778⁽⁴⁾</u>	<u>13.53</u>	<u>D</u>	
<u>Stock Option (right to buy)⁽¹⁾</u>	<u>(5)</u>	<u>05/15/2027</u>	<u>Common Stock</u>	<u>27,413⁽⁵⁾</u>	<u>13.53</u>	<u>D</u>	

Explanation of Responses:

- Shares of capital stock of the corporation then known as Synlogic, Inc. ("Old Synlogic") were converted into shares of the Issuer pursuant to that certain Agreement and Plan of Merger and Reorganization, dated as of May 15, 2017, by and among the Issuer, Meerkat Merger Sub, Inc. and Old Synlogic (the "Merger Agreement"). Pursuant to the terms of the Merger Agreement, each share of capital stock was exchanged for 0.5532 shares of the Issuer's common stock, giving effect to a reverse split of the Issuer's common stock of 7-to-1.
- On May 15, 2017, Reporting Person was granted 75,337 shares of common stock of Old Synlogic subject to a restricted stock agreement, dated May 15, 2017, by and between Old Synlogic and the Reporting Person, under the 2017 Stock Plan (the "2017 Plan"). Pursuant to the Merger Agreement, this common stock was converted into 41,676 shares of the Issuer's common stock. One-fourth of the total number of shares subject to the restricted stock agreement vest on September 15, 2015 and the remainder vest in equal monthly installments until September 15, 2018, provided that at the relevant vesting dates the Reporting Person continues service to the Issuer and has not been terminated as defined in and as determined under the 2017 Plan.
- On May 15, 2017, Reporting Person was granted 60,482 shares of common stock of Old Synlogic subject to a restricted stock agreement, dated May 15, 2017, by and between Old Synlogic and the Reporting Person, under the 2017 Plan. Pursuant to the Merger Agreement, this common stock was converted into 33,459 shares of the Issuer's common stock. The shares vest in equal monthly installments beginning on August 6, 2016 and continuing until July 6, 2020, provided that at the relevant vesting dates the Reporting Person continues service to the Issuer and has not been terminated as defined in and as determined under the 2017 Plan.
- On May 15, 2017, Reporting Person was granted an option to purchase 5,023 shares of common stock of Old Synlogic under the 2017 Plan at an exercise price of \$7.48 per share. Pursuant to the Merger Agreement, this option was converted into an option to purchase 2,778 shares of the Issuer's common stock at a per share exercise price of \$13.53. One fourth of the total number of shares subject to the option vest on September 15, 2015 and the remainder vest in equal monthly installments until September 15, 2018, provided that at the relevant vesting dates the Reporting Person continues service to the Issuer and has not been terminated as defined in and as determined under the Plan. The option expires ten years after the date of the grant.
- On May 15, 2017, Reporting Person was granted an option to purchase 49,554 shares of common stock of Old Synlogic under the 2017 Plan at an exercise price of \$7.48 per share. Pursuant to the Merger Agreement, this option was converted into an option to purchase 27,413 shares of the Issuer's common stock at a per share exercise price of \$13.53. The shares vest in equal monthly installments beginning on June 15, 2017 and continuing until May 15, 2021, provided that at the relevant vesting dates the Reporting Person continues service to the Issuer and has not been terminated as defined in and as determined under the Plan. The option expires ten years after the date of the grant.

Remarks:

/s/ William J. Bussiere, Jr.
Attorney-in-fact08/30/2017

** 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.

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