

**Amendment No. 1 Dated February 10, 2021
To Prospectus Supplement Dated March 18, 2020
(To the Prospectus dated August 30, 2018)**

\$50,000,000

Synlogic, Inc.

Common Stock

This Amendment No. 1 to the prospectus supplement, or this amendment, amends the information in our prospectus supplement dated March 18, 2020, or the prospectus supplement. This amendment should be read in conjunction with the prospectus supplement and the prospectus dated August 30, 2018, each of which are to be delivered with this amendment, and is qualified in its entirety by reference thereto, except to the extent that the information herein amends or supersedes the information contained in the prospectus supplement and prospectus. This amendment amends only those sections of the prospectus supplement and prospectus listed in this amendment; all other sections of the prospectus and prospectus supplement remain as is.

We filed the prospectus to register the offer and sale of shares of our common stock from time to time pursuant to the terms of a sales agreement dated October 13, 2017 that we entered into with Cowen and Company, LLC, or Cowen, as our sales agent thereunder. We may offer and sell shares of our common stock having an aggregate offering price of up to \$50,000,000 from time to time through Cowen acting as our sales agent in accordance with the terms of the sales agreement. As of the date of this prospectus supplement, we have sold 7,015,879 shares of our common stock through Cowen under the sales agreement for gross proceeds of approximately \$17.3 million.

We are no longer subject to the General Instruction I.B.6. of Form S-3 as the aggregate market value of our common stock held by non-affiliates equaled or exceeded \$75.0 million as of February 8, 2021. On February 8, 2021, the last reported sale price of our common stock was \$4.90 per share. Based on 39,333,110 shares of outstanding common stock as of February 8, 2021 of which 23,897,253 were held by non-affiliates as of such date, and a per share price of \$4.90 as of February 8, 2021, the last reported sales price of our common stock on The Nasdaq Capital Market on such date, the aggregate market value of our outstanding common stock held by non-affiliates is approximately \$117.1 million.

Our common stock is listed on The Nasdaq Capital Market under the symbol "SYBX." On February 8, 2021, the last reported sale price of our common stock on The Nasdaq Capital Market was \$4.90 per share.

Investing in our securities involves risks. You should read this amendment and the documents we incorporate herein by reference carefully before you make your investment decision. See "Risk Factors" set forth in the documents we file with the Securities and Exchange Commission that are incorporated by reference herein for more information.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the accuracy or adequacy of this prospectus supplement. Any representation to the contrary is a criminal offense.

Cowen

The date of this Amendment No. 1
to Prospectus Supplement is February 10, 2021.

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ABOUT THIS AMENDMENT TO PROSPECTUS SUPPLEMENT

The amendment to the prospectus supplement is part of a registration statement that we have filed with the Securities and Exchange Commission, or the SEC, utilizing a “shelf” registration process. Under the shelf registration process, we may offer shares of our common stock having an aggregate offering price of up to \$200,000,000. Under the prospectus dated August 30, 2018, as amended and supplemented, we may offer shares of our common stock having an aggregate offering price of up to \$50,000,000 from time to time at prices and on terms to be determined by market conditions at the time of offering. These sales, if any, will be made pursuant to the terms of a sales agreement dated October 13, 2017 that we entered into with Cowen and Company, LLC, or Cowen, as our sales agent thereunder, a copy of which is incorporated by reference into this amendment.

Before you invest, you should carefully read this amendment, the prospectus supplement, the accompanying prospectus, all information incorporated by reference herein and the additional information described under “Where You Can Find More Information” and “Incorporation of Documents by Reference”. These documents contain information you should consider when making your investment decision. To the extent that any statement that we make in this amendment, the prospectus supplement and the accompanying prospectus is inconsistent with statements made in the accompanying prospectus or in any documents incorporated by reference, the statements made in this amendment or the prospectus supplement will be deemed to modify or supersede those made in such documents incorporated by reference; however, if any statement in one of these documents is inconsistent with a statement in another document having a later date and that is incorporated by reference herein, the statement in the document having the later date modifies or supersedes the earlier statement.

You should rely only on the information contained or incorporated by reference in this amendment, the prospectus supplement, the accompanying prospectus, the documents incorporated by reference herein and any free writing prospectus we provide you. We have not, and Cowen has not, authorized anyone to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. We are not, and Cowen is not, making an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this amendment, the prospectus supplement, the accompanying prospectus, the documents incorporated by reference herein and any free writing prospectus we provide you is accurate only as of the date on those respective documents. Our business, financial condition, results of operations and prospects may have changed since those dates. You should read this amendment, the prospectus supplement, the accompanying prospectus, including the documents incorporated by reference herein, when making your investment decision. You should also read and consider the information in the documents we have referred you to in the sections of the prospectus supplement and the accompanying prospectus entitled “Where You Can Find More Information” and “Incorporation of Documents by Reference.” The distribution of this amendment, the prospectus supplement and the accompanying prospectus and the offering of the common stock in certain jurisdictions may be restricted by law. Persons outside the United States, or the U.S., who come into possession of this amendment, the prospectus supplement and the accompanying prospectus must inform themselves about, and observe any restrictions relating to, the offering of the common stock and the distribution of this amendment, the prospectus supplement and the accompanying prospectus outside the U.S. This amendment, the prospectus supplement and the accompanying prospectus does not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this amendment, the prospectus supplement and the accompanying prospectus by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference in the accompanying prospectus were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

Unless the context otherwise requires, “Synlogic,” “SYBX,” “the Company,” “we,” “us,” “our” and similar terms refer to Synlogic, Inc. and our subsidiaries.

DILUTION

If you invest in our common stock, your interest will be diluted to the extent of the difference between the price per share of our common stock you pay in this offering and the as adjusted net tangible book value per share of our common stock immediately after this offering.

As of September 30, 2020, our net tangible book value was \$120.5 million, or \$3.48 per share of common stock. Net tangible book value per share represents the amount of our total tangible assets less total liabilities, divided by 34,672,052, the number of shares of common stock outstanding as of September 30, 2020.

The pro forma net tangible book value of our common stock as of September 30, 2020 was approximately \$132.1 million, or approximately \$3.35 per share of common stock. Pro forma net tangible book value per share represents total tangible assets, less our total liabilities, divided by the total number of shares outstanding as of September 30, 2020, after giving effect to the sale of 4,703,186 shares of common stock pursuant to the Sales Agreement subsequent to September 30, 2020.

After giving effect to the sale of our common stock in the aggregate amount of \$32,737,865, which is the amount under the ATM facility that remains unsold as of the date hereof, at an assumed offering price of \$4.90 per share, the last reported sale price of our common stock on The Nasdaq Capital Market on February 8, 2021, and after deducting commissions and estimated offering expenses payable by us, our pro forma as adjusted net tangible book value as of September 30, 2020 would have been \$163.8 million, or \$3.56 per share of common stock. This amount represents an immediate increase in pro forma as adjusted net tangible book value of \$0.21 per share to our existing stockholders and an immediate dilution of approximately \$1.34 per share to new investors in this offering.

The following table illustrates this calculation on a per share basis. The as pro forma as adjusted information is illustrative only and will adjust based on the actual price to the public, the actual number of shares sold and other terms of the offering determined at the time shares of our common stock are sold pursuant to this prospectus. The shares sold in this offering, if any, will be sold from time to time at various prices.

Assumed offering price per share		\$4.90
Net tangible book value per share as of September 30, 2020	\$ 3.48	
Decrease in net tangible book value per share attributable to pro forma adjustments	(\$0.13)	
Pro forma net tangible book value as of September 30, 2020		\$3.35
Increase in net tangible book value per share attributable to this offering	\$ 0.21	
Pro Forma as adjusted net tangible book value per share as of September 30, 2020 after giving effect to this offering		\$3.56
Dilution per share to new investors participating in this offering		\$1.34

A \$1.00 increase in the assumed offering price of \$4.90 per share, which was the last reported sale price of our common stock on The Nasdaq Capital Market on February 8, 2021, would increase dilution per share to purchasers by approximately \$0.91, after deducting commissions and estimated offering expenses payable by us. A \$1.00 decrease in the assumed offering price of \$4.90 per share would decrease dilution per share to purchasers by approximately \$0.87, after deducting commissions and estimated offering expenses payable by us. The number of shares of our common stock to be outstanding immediately after this offering is 46,056,435 which is based on: (i) 34,672,052 shares of our common stock outstanding as of September 30, 2020, (ii) 4,703,186 shares of common stock sold pursuant to the Sales Agreement subsequent to September 30, 2020, and (iii) 6,681,197 shares of our common stock sold at an assumed offering price of \$4.90 per share, the last reported sale

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price of our common stock on The Nasdaq Capital Market on February 8, 2021, for gross proceeds of \$32,737,865. The number of shares outstanding excludes:

- 3,399,954 shares of common stock issuable upon exercise of outstanding options as of September 30, 2020, at a weighted average exercise price of \$6.05 per share, of which 1,267,259 shares were vested as of such date;
- 558,855 shares of common stock reserved for future issuance under the 2015 Equity Incentive Award Plan as of September 30, 2020;
- 569,897 shares of common stock reserved for future issuance under the 2017 Stock Incentive Plan as of September 30, 2020;
- 345,662 shares of common stock reserved for future issuance under the 2015 Employee Stock Purchase Plan as of September 30, 2020; and
- 2,548,117 shares of common stock issuable upon the exercise of pre-funded warrants held by Ginkgo Bioworks, Inc. exercisable at a price of \$9.00 per share, with \$8.99 of such exercise price previously paid as of September 30, 2020.

To the extent that outstanding options are exercised, you will experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that additional capital is raised through the sale of equity or convertible debt securities, the issuance of these securities may result in further dilution to our stockholders.