UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 8-K

CURRENT REPORT Pursuant to Section 13 or 15(d) of the Securities Exchange Act of 1934

Date of Report (Date of earliest event reported): August 24, 2017

Mirna Therapeutics, Inc.

(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation) 001-37566 (Commission File Number) 26-1824804 (IRS Employer Identification Number)

11801 Domain Blvd. Austin, TX 78758 (Address of principal executive offices, including Zip Code)

Registrant's telephone number, including area code: (512) 901-0950

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions (see General Instructions A.2. below):

□ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

□ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

Dere-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company \square

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Item 5.07 Submission of Matters to a Vote of Security Holders.

At the Annual Meeting of Stockholders of Mirna Therapeutics, Inc. (the "Company") held on August 24, 2017 (the "Annual Meeting"), the stockholders of the Company voted as set forth below on the following proposals, each of which is described in detail in the Company's definitive proxy statement filed with the Securities and Exchange Commission on July 13, 2017.

At the Annual Meeting, 20,409,449 shares of common stock, or approximately 97.85% of the outstanding common stock entitled to vote, were represented by proxy or in person.

The final voting results for each matter submitted to a vote of the Company's stockholders are as follows:

Proposal 1. Approval of the Merger Agreement and the Transactions Contemplated Thereby.

The approval of the Merger Agreement and the transactions contemplated thereby, including the merger and the issuance of the Company's common stock pursuant to the Merger Agreement.

For	Against	Abstain	Broker Non-Votes
18,499,895	1,034,993	11	874,550

Proposal 2. Approval of Reverse Stock Split.

The approval of an amendment to the amended and restated certificate of incorporation of the Company to effect a reverse stock split of the Company's common stock at a ratio of one new share for every five to nine shares outstanding.

For	Against	Abstain
19,235,632	1,173,328	489

Proposal 3. Approval of the Company Name Change to Synlogic, Inc.

The approval of an amendment to the amended and restated certificate of incorporation of the Company to change the name of the Company from "Mirna Therapeutics, Inc." to "Synlogic, Inc."

For	Against	Abstain
19,336,535	1,023,893	49,021

Proposal 4. Election of Directors.

The election of two directors to hold office until the 2020 annual meeting of stockholders or until their respective successor is elected and qualified.

Nominee	For	Withheld	Broker Non-Votes
Lawrence M. Alleva	18,429,181	1,105,718	874,550
Michael Powell, Ph.D.	18,453,083	1,081,816	874,550

Proposal 5. Ratification of Selection of Independent Registered Public Accounting Firm.

The ratification of the selection by the audit committee of the board of directors of the Company of Ernst & Young LLP as the independent registered public accounting firm of the Company for the fiscal year ending December 31, 2017.

For	Against	Abstain
20,358,258	768	50,423

As a routine proposal under applicable rules, no broker non-votes were recorded in connection with this proposal.

Proposal 6. Approval of the Possible Adjournment of the Annual Meeting.

The approval of an adjournment of the Annual Meeting, if necessary, to solicit additional proxies if there were insufficient votes at the time of the Annual Meeting to approve (i) the Merger Agreement, and the transactions contemplated thereby, including the merger and the issuance of the Company's common stock pursuant to the Merger Agreement, or (ii) the amendment to the amended and restated certificate of incorporation of the Company to effect a reverse stock split of the Company's common stock, at a ratio of one new share for every five to nine shares outstanding.

For	Against	Abstain
19,246,319	1,161,707	1,423

However, as the Merger Agreement and amendment to the amended and restated certificate of incorporation of the Company to effect a reverse stock split were approved, such adjournment was deemed unnecessary.

Item 8.01 Other Events.

On August, 25, 2017, the Company issued a press release announcing voting results relating to the Annual Meeting. A copy of the press release is attached hereto as Exhibit 99.1 and incorporated by reference herein.

Item 9.01 Financial Statements and Exhibits.

Reference is made to the Exhibit Index included with this Current Report on Form 8-K.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

MIRNA THERAPEUTICS, INC.

Date: August 25, 2017

By: /s/ Alan Fuhrman

Name: Alan Fuhrman Title: Chief Financial Officer

EXHIBIT INDEX

Exhibit
NumberDescription99.1Press Release dated August 25, 2017



Mirna Therapeutics Announces Results of Annual Meeting of Stockholders

Austin, Texas, August 25, 2017 – Mirna Therapeutics, Inc. (Mirna) (NASDAQ: MIRN) announced today that, based upon the final vote count certified by the independent inspector of elections for the annual meeting of stockholders held August 24, 2017, its stockholders approved all of the merger-related proposals, including: (i) the Agreement and Plan of Merger and Reorganization, dated as of May 15, 2017, by and among Mirna, Meerkat Merger Sub, Inc. and Synlogic, Inc. (Synlogic), and the transactions contemplated thereby, including the merger and the issuance of Mirna's common stock to Synlogic's stockholders pursuant to the Agreement and Plan of Merger and Reorganization, (ii) an amendment to the amended and restated certificate of incorporation of Mirna to effect a reverse stock split of Mirna's common stock, at a ratio of one new share for every five to nine shares outstanding and (iii) an amendment to the amended and restated certificate of incorporation of Mirna to change the corporate name of Mirna from "Mirna Therapeutics, Inc." to "Synlogic, Inc." As a result of the stockholders' approval of the reverse stock split, the Board of Directors of Mirna approved a reverse stock split of Mirna's common stock at a ratio of one new share for every five to 5:00 p.m. EST on August 25, 2017. Subject to the satisfaction of customary closing conditions, the closing of the merger with Synlogic is expected to occur on August 28, 2017. The consolidated common shares for the combined company, which will be renamed Synlogic, Inc., are expected to commence trading on The NASDAQ Capital Market under the symbol "SYBX" on August 28, 2017.

"We are pleased to have received such strong support for this transaction from our stockholders, with approximately 94.7% of the stockholder votes cast at the meeting approving the merger," stated Paul Lammers, M.D., M.Sc., Mirna's President and Chief Executive Officer.

In addition to the merger related proposals, Mirna's stockholders also (i) approved the election of Lawrence M. Alleva and Michael Powell, Ph.D., to Mirna's Board of Directors for three year terms set to expire no later than in 2020 and (ii) ratified the selection, by the Audit Committee of Mirna's Board of Directors, of Ernst & Young LLP as the independent registered public accounting firm of the Mirna for its fiscal year ending December 31, 2017.

About Mirna

Mirna is a biopharmaceutical company that has focused on the development of microRNA-based oncology therapeutics. Mirna's first product candidate, MRX34, the first microRNA mimic to enter clinical development in oncology, was studied as a single agent in a multicenter Phase 1 clinical trial. In September 2016, Mirna voluntarily halted enrollment and dosing in the clinical study following multiple immune-related serious adverse events (SAEs) observed in patients dosed with MRX34 over the course of the trial. Subsequently, the U.S. Food and Drug Administration (FDA) notified the Company that the Investigational New Drug (IND) Application for MRX34 was placed on full clinical hold. The Company has since closed the IND and focused on evaluating strategic alternatives, including the possibility of a merger or sale of the Company.

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About Synlogic[™]

Synlogic is pioneering the development of a novel class of living treatments, Synthetic BioticTM medicines, based on its proprietary drug development platform. Synlogic's initial pipeline includes Synthetic Biotic medicines for the treatment of rare genetic diseases, such as Urea Cycle Disorder (UCD) and Phenylketonuria (PKU). In addition, the company is leveraging the broad potential of its platform to create Synthetic Biotic medicines for the treatment of more common diseases, including liver disease, inflammatory and immune disorders, and cancer. Synlogic is collaborating with AbbVie to develop Synthetic Biotic-based treatments for inflammatory bowel disease (IBD). For more information, please visit <u>synlogictx.com</u>.

About Synthetic Biotic Medicines:

Synlogic's innovative new class of Synthetic Biotic medicines leverages the tools and principles of synthetic biology to genetically reengineer beneficial, probiotic microbes to perform critical functions missing or damaged due to disease. The company's two lead programs target a group of rare metabolic diseases – inborn errors of metabolism (IEM). Patients with these diseases are born with a faulty gene, inhibiting the body's ability to breakdown commonly occurring by-products of digestion that then accumulate to toxic levels and cause serious health consequences. When delivered orally, these medicines can act from the gut to compensate for the dysfunctional metabolic pathway and have a systemic effect. Synthetic Biotic medicines are designed to clear toxic metabolites associated with specific metabolic diseases and promise to significantly improve the quality of life for affected patients.

Forward-Looking Statements

This press release contains "forward-looking statements" that involve substantial risks and uncertainties for purposes of the safe harbor provided by the Private Securities Litigation Reform Act of 1995. All statements, other than statements of historical facts, included in this press release regarding strategy, future operations, future financial position, future revenue, projected expenses, prospects, plans and objectives of management are forward-looking statements. In addition, when or if used in this press release, the words "may," "could," "should," "anticipate," "believe," "estimate," "expect," "intend," "plan," "predict" and similar expressions and their variants, as they relate to Mirna, Synlogic or the management of either company, before or after the aforementioned merger, may identify forward-looking statements. Examples of forward-looking statements, include, but are not limited to, statements relating to the timing and completion of the proposed merger; Mirna's continued listing on the NASDAQ Global Market until closing of the proposed merger; the combined company's listing on the NASDAQ Global Market after closing of the proposed merger; expectations regarding the capitalization, resources and ownership structure of the combined company; the approach Synlogic is taking to discover and develop novel therapeutics using synthetic biology; the adequacy of the combined company's capital to support its future operations and its ability to successfully initiate and complete clinical trials; the nature, strategy

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and focus of the combined company; the difficulty in predicting the time and cost of development of Synlogic's product candidates; the executive and board structure of the combined company; and expectations regarding voting by Mirna's and Synlogic's stockholders. Actual results could differ materially from those contained in any forward-looking statement as a result of various factors, including, without limitation: the risk that the conditions to the closing of the transaction are not satisfied, including the failure to timely or at all obtain stockholder approval for the transaction; uncertainties as to the timing of the consummation of the transaction and the ability of each of Mirna and Synlogic to consummate the transaction; risks related to Mirna's ability to correctly estimate its operating expenses and its expenses associated with the transaction; the ability of Mirna or Synlogic to protect their respective intellectual property rights; unexpected costs, charges or expenses resulting from the transaction; potential adverse reactions or changes to business relationships resulting from the announcement or completion of the transaction; and legislative, regulatory, political and economic developments. The foregoing review of important factors that could cause actual events to differ from expectations should not be construed as exhaustive and should be read in conjunction with statements that are included herein and elsewhere, including the risk factors included in Mirna's Quarterly Report on Form 10-Q filed with the SEC on May 9, 2017 and Mirna's most recent Registration Statement on Form S-4 filed with the SEC. Mirna can give no assurance that the conditions to the transaction will be satisfied. Except as required by applicable law, Mirna undertakes no obligation to revise or update any forward-looking statement, or to make any other forward-looking statements, whether as a result of new information, future events or otherwise.

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