

Up to 68,175,412 Shares of Common Stock

This prospectus supplement updates and supplements the prospectus dated March 28, 2022 (the "Prospectus"), which forms a part of our Registration Statement on Form S-1 (333-259448). This prospectus supplement is being filed to update and supplement the information in the Prospectus with the information contained in our Current Report on Form 8-K, filed with the Securities and Exchange Commission (the "SEC") on June 10, 2022 (the "Form 8-K"). Accordingly, we have attached the Form 8-K to this prospectus supplement.

The Prospectus and this prospectus supplement relate to the offer and sale, from time to time, by the selling securityholders named in the Prospectus, or the Selling Securityholders, or any of their pledgees, donees, assignees and successors-in-interest, or collectively, the permitted transferees, of (i) up to 18,610,000 shares of our common stock that were issued to certain investors, or collectively, the PIPE Investors, in a private placement in connection with the closing of the Business Combination (as defined in the Prospectus) and (ii) up to 49,565,412 shares of our common stock that were issued to certain former shareholders of Tango Therapeutics Sub, Inc. at the closing of the Business Combination.

This prospectus supplement should be read in conjunction with the Prospectus. This prospectus supplement updates and supplements the information in the Prospectus and is not complete without, and may not be delivered or utilized except in combination with, the Prospectus, including any amendments or supplements thereto. If there is any inconsistency between the information in the Prospectus and this prospectus supplement, you should rely on the information in this prospectus supplement.

Our common stock is listed on the Nasdaq Global Market under the symbol "TNGX". On June 8, 2022, the closing price of our common stock was \$5.90 per share.

Investing in our securities involves risks that are described in the "Risk Factors" section beginning on page 12 of the Prospectus and under similar headings in any further amendments or supplements to the Prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the securities to be issued under the Prospectus or determined if the Prospectus or this prospectus supplement is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus supplement is June 10, 2022.

UNITED STATES SECURITIES AND EXCHANGECOMMISSION

Washington, D.C. 20549

FORM 8-K

CURRENT REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGEACT OF 1934

Date of Report (Date of earliest event reported): June 8, 2022

TANGO THERAPEUTICS, INC.

(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation) **001-39485** (Commission File Number) 85-1195036 (IRS Employer Identification No.)

100 Binney St, Suite700 Cambridge, MA 02142 (Address of principal executive offices, including zip code)

Registrant's telephone number, including area code: 857-320-4900

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:

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

□ Pre-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))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, par value \$0.001 per share	TNGX	The Nasdaq Global Market

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

Emerging growth company⊠

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.

The 2022 annual meeting of stockholders (the "Annual Meeting") of Tango Therapeutics, Inc. (the "Company") was held in a virtual-only format on June 8, 2022 at 10:00 a.m., Eastern Time via live webcast. Proxies were solicited pursuant to the Company's proxy statement filed on April 26, 2022 with the Securities and Exchange Commission under Section 14(a) of the Securities Exchange Act of 1934, as amended (the "Proxy Statement"). As of April 11, 2022, the record date for the Annual Meeting, the number of shares of the Company's common stock, \$0.001 par value per share ("Common Stock"), outstanding and entitled to vote at the Annual Meeting was 87,712,630. The number of shares of Common Stock present or represented by valid proxy at the Annual Meeting was 81,740,796, representing 93.19% of the total number of shares of Common Stock entitled to vote at the Annual Meeting, thus establishing a quorum for the Annual Meeting. Shares present virtually during the Annual Meeting were considered shares of Common Stock represented in person at the Annual Meeting. Each share of Common Stock was entitled to one vote with respect to matters submitted to the Company's stockholders at the Annual Meeting.

At the Annual Meeting, the Company's stockholders were asked to vote on the following matters, which are described in detail in the Proxy Statement: (i) to elect two Class I director nominees to the Company's Board of Directors (the "Board"), each to hold office until the 2025 annual meeting of stockholders and until his or her successor is duly elected and qualified, or until his or her earlier resignation or removal ("Proposal 1"), and (ii) to ratify the selection of PricewaterhouseCoopers, LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2022 ("Proposal 2").

The voting results reported below are final.

Proposal 1 – Election of Directors

Lesley Ann Calhoun and Reid Huber were duly elected to the Company's Board as Class I directors. The results of the election were as follows:

CLASS I DIRECTOR NOMINEE	FOR	WITHHELD	BROKER NON-VOTES
Lesley Ann Calhoun	74,549,730	2,532,608	4,658,458
Reid Huber	74,547,606	2,534,732	4,658,458

Proposal 2 – Ratify the Selection of Independent Registered Public Accounting Firm

The selection of PricewaterhouseCoopers, LLP as the Company's independent registered public accounting firm for the fiscal year ending December 31, 2022 was ratified. The results of the ratification were as follows:

FOR	AGAINST	ABSTAIN
81,737,938	400	2,458

No other matters were submitted to or voted on by the Company's stockholders at the Annual Meeting.

Signature

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

TANGO THERAPEUTICS, INC.

Dated: June 10, 2022 By: <u>/s/ Douglas Barry</u> Name: Douglas Barry Title: General Counsel