Prospectus Supplement No. 2 (to Prospectus dated May 6, 2022)



Up to 13,934,427 Shares of Common Stock

This prospectus supplement updates and supplements the prospectus dated May 6, 2022 (the "Prospectus"), which forms a part of our Registration Statement on Form S-1 (333-264544). 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 on June 3, 2022 (the "Current Report on Form 8-K"). Accordingly, we have attached the Current Report on 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 stockholders named in the Prospectus, or the Selling Stockholders, or any of their pledgees, donees, assignees and successors-in-interest, or collectively, the permitted transferees, of up to 13,934,427 shares of our common stock that were issued to certain investors in a private placement.

This prospectus supplement should be read in conjunction with the Prospectus. This prospectus supplement updates and supplements the information in the Prospectus. 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 Capital Market under the symbol "TSVT". On June 2, 2022, the closing price of our common stock was \$11.40 per share.

We are an "emerging growth company" as that term is defined under the federal securities laws and, as such, are subject to certain reduced public company reporting requirements.

Investing in our securities involves risks that are described in the "Risk Factors" section beginning on page 6 of the Prospectus.

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

The date of this prospectus supplement is June 3, 2022.

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): June 2, 2022

2seventy bio, Inc.

	(Exact name of Registrant as Specified in Its Charter)			
Delaware	001-40791	86-3658454		
(State or other jurisdiction of incorporation)	(Commission File Number)	(IRS Employer Identification No.)		
60 Binney Street,		02142		
Cambridge, MA (Address of principal executive offices)		(Zip Code)		
	Registrant's telephone number, including area code: (339) 499-	9300		
	Not Applicable (Former name or former address, if changed since last report)			
Check the appropriate box below if the Fo	orm 8-K filing is intended to simultaneously satisfy the filing obligations A.2. below):	ation of the registrant under any of the		
☐ Written communications pursuant t	o 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)				
☐ Pre-commencement communication	ns pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.	14d-2(b))		
☐ Pre-commencement communication	ns pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.	13e-4(c))		
Securities registered pursuant to Section 3	12(b) of the Act:			

Title of each class	Trading Symbol(s)	Name of each exchange on which registered	
Common Stock, \$0.0001 par value per share	TSVT	The NASDAQ Stock Market LLC	

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

Emerging growth company X

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. \Box

Item 5.02. Departure of Directors or Principal Officers; Election of Directors; Appointment of Principal Officers; Compensatory Arrangements of Certain Officers.

On June 2, 2022, William Sellers, M.D. informed 2seventy bio, Inc. (the "Company") of his intention to resign as a member of the Company's Board of Directors (the "Board"), effective June 3, 2022. Dr. Sellers's decision to resign from the Board did not result from any disagreement with the Company on any matter relating to its operations, policies, or practices. Following his resignation from the Board, Dr. Sellers will begin serving as a scientific and technical consultant to the Company.

SIGNATURES

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.

2seventy bio, Inc.

Dated: June 3, 2022 By: /s/ Nick Leschly

Name: Nick Leschly

Title: Chief Executive Officer