PROSPECTUS SUPPLEMENT NO. 2 (To Prospectus dated June 24, 2024)



Plus Therapeutics Inc. Up to 10,774,596 Shares of Common Stock

This prospectus supplement updates and supplements the prospectus, dated June 24, 2024 (as supplemented to date, the "Prospectus"), which forms a part of our registration statement on Form S-1 (No. 333-280061). 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 August 15, 2024 (the "Current Report"). Accordingly, we have attached the Form 8-K to this prospectus supplement.

The Prospectus and this prospectus supplement relate to the issuance by us of up to 10,774,596 shares of our common stock, par value \$0.001 ("Common Stock"), consisting of: (i) up to 1,439,988 shares of Common Stock; (ii) up to 2,151,544 shares of Common Stock issuable upon exercise of pre-funded warrants; (iii) up to 3,591,532 shares of common stock issuable upon exercise of Series A Common Stock warrants; and (iv) up to 3,591,532 shares of Common Stock issuable upon exercise of Series B common stock warrants, originally issued to the selling stockholders in the May 2024 PIPE Financing, as described in the Prospectus.

Our Common Stock is listed on The Nasdaq Capital Market LLC under the symbols "PSTV". On August 14, 2024, the closing price of our Common Stock was \$1.42.

We are a "smaller reporting company" for purposes of federal securities laws and are subject to reduced public company reporting requirements. Accordingly, the information in the Prospectus and this prospectus supplement may not be comparable to information provided by companies that are not smaller reporting companies.

Our business and investment in our Common Stock involve significant risks. These risks are described in the section titled "Risk Factors" beginning on page 13 of the Prospectus, and under similar headings in any amendments or supplements to the Prospectus.

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

The date of this prospectus is August 15, 2024.

UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

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 15, 2024

PLUS THERAPEUTICS, INC.

(Exact name of registrant as specified in its charter)

Delaware (State or other jurisdiction of incorporation) 001-34375 (Commission File Number) 33-0827593 (IRS Employer Identification No.)

4200 Marathon Blvd., Suite 200, Austin, Texas 78756 (Address of principal executive offices, with zip code)

(737) 255-7194 (Registrant's telephone number, including area code)

N/A

(Former name or former address, if changed since last report)

	ck the appropriate box below if the Form 8-K filing is a wing provisions (see General Instructions A.2. below)	3 3	ing obligation of the registrant under any of the		
	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)				
	Pre-commencement communications pursuant to Rul	le 14d-2(b) under the Exchange Act (17	CFR 240.14d-2(b))		
	Pre-commencement communications pursuant to Rul	le 13e-4(c) under the Exchange Act (17 G	CFR 240.13e-4(c))		
Secu	Securities registered pursuant to Section 12(b) of the Act:				
	Title of each class	Trading Symbol(s)	Name of each exchange on which registered		
	Title of each class Common Stock, par value \$0.001				
		Symbol(s) PSTV ng growth company as defined in Rule 4	on which registered The Nasdaq Capital Market		
chap	Common Stock, par value \$0.001 cate by check mark whether the registrant is an emerging	Symbol(s) PSTV ng growth company as defined in Rule 4	on which registered The Nasdaq Capital Market		

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

The 2024 Annual Meeting of Stockholders of Plus Therapeutics, Inc. (the "Company") was held on August 15, 2024 (the "Annual Meeting"). At the Annual Meeting, the Company's stockholders voted on four proposals, as described in the Company's definitive proxy statement on Schedule 14A filed with the Securities and Exchange Commission on July 10, 2024 (the "Proxy Statement").

The Company had 5,704,219 shares of common stock issued and outstanding at the close of business on June 25, 2024, the record date for eligibility to vote at the Annual Meeting. The holders of 2,484,122 shares of the Company's issued and outstanding common stock were represented in person virtually or represented by valid proxy at the Annual, constituting a quorum.

The vote results detailed below represent final results as certified by the inspector of elections.

Proposal No. 1 – Election of Directors.

The Company's stockholders elected the following persons, who were listed in the Proxy Statement, to the Board of Directors of the Company to hold office for a term expiring at the Company's Annual Meeting of Stockholders in 2025 and until each such person's successors is duly elected and qualified, or until his or her earlier death, resignation or removal:

	Votes For	Votes Withheld	Broker Non-Votes
Howard Clowes	1,175,799	107,484	1,200,839
An van Es-Johansson, M.D.	1,178,415	104,868	1,200,839
Richard J. Hawkins	1,159,421	123,862	1,200,839
Marc H. Hedrick, M.D.	1,183,165	100,118	1,200,839
Robert Lenk, Ph.D.	1,176,767	106,516	1,200,839
Greg Petersen	1,183,545	99,738	1,200,839

Proposal No. 2 – Ratification of Appointment of Independent Registered Public Accounting Firm.

The Company's stockholders ratified the appointment of BDO USA, P.C. as the Company's registered public accounting firm for the 2024 fiscal year. The votes regarding this proposal were as follows:

Votes For	Votes Against	Abstentions	Broker Non-Votes
2,434,053	44,854	5,215	0

Proposal No. 3 – Advisory Vote on the Compensation of Our Named Executive Officers.

The Company's stockholders approved, on an advisory (non-binding) basis, the compensation of the Company's named executive officers. The votes regarding this proposal were as follows:

Votes For	Votes Against	Abstentions	Broker Non-Votes
1,115,004	163,917	4,362	1,200,839

Proposal No. 4 – Amendment and Restatement of the Company's 2020 Stock Incentive Plan.

The Company's stockholders approved the fourth amendment and restatement of the Company's 2020 Stock Incentive Plan. The votes regarding this proposal were as follows:

Votes For	Votes Against	Abstentions	Broker Non-Votes
1,097,650	182,432	3,201	1,200,839

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.

Date: August 15, 2024

PLUS THERAPEUTICS, INC.

By: /s/ Marc H. Hedrick, M.D.

Marc H. Hedrick, M.D.
President and Chief Executive Officer