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 14, 2025

Spruce Biosciences, Inc.

(Exact name of Registrant as Specified in Its Charter)

Delaware	**001-39594**	**81-2154263**
(State or Other Jurisdiction of Incorporation)	**(Commission File Number)**	**(IRS Employer Identification No.)**

611 Gateway Boulevard, Suite 740 **South San Francisco, California** **(Address of Principal Executive Offices)**	**94080** **(Zip Code)**

Registrant's Telephone Number, Including Area Code: 415-655-4168

Not Applicable
(Former Name or Former Address, if Changed Since Last Report)

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:

☐ 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 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 $0.0001 per share	SPRBD	OTCQB

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 ☒

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 2.02 Results of Operations and Financial Condition.

On August 14, 2025, Spruce Biosciences, Inc. (the "Company") issued a press release announcing its financial results for the second quarter ended June 30, 2025 and providing corporate updates. The full text of the press release is furnished as Exhibit 99.1 to this Current Report on Form 8-K and is incorporated herein by reference.

All of the information furnished in this Item 2.02 and Item 9.01 (including Exhibit 99.1) shall not be deemed to be "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and shall not be incorporated by reference in any filing under the Securities Act of 1933, as amended, or the Exchange Act, except as shall be expressly set forth by specific reference in such a filing.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits

Exhibit Number	Description
99.1	Press Release of Spruce Biosciences, Inc., dated August 14, 2025
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

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 thereunto duly authorized.

SPRUCE BIOSCIENCES, INC.

Date: August 14, 2025

By: /s/ Samir Gharib
Samir Gharib
President and Chief Financial Officer

Exhibit 99.1

Spruce Biosciences Reports Second Quarter 2025 Financial Results and Provides Corporate Updates

Integrated Long-Term Clinical Data of Tralesinidase Alfa Enzyme Replacement Therapy (TA-ERT) Demonstrates Profound and Durable Efficacy and Safety in Patients with Sanfilippo Syndrome Type B (MPS IIIB)

Biologics License Application Submission of TA-ERT for MPS IIIB Anticipated in First Quarter of 2026

First Patient Dosed in Phase 2 TAMARIND Trial of Tildacerfont for Major Depressive Disorder (MDD) with Topline Results Anticipated in 1H 2026

Nasdaq Capital Market Relisting Anticipated Following Compliance with Minimum Bid Price for 20 Consecutive Trading Days

South San Francisco, Calif. – August 14, 2025 – Spruce Biosciences, Inc. (OTCQB: SPRB), a late-stage biopharmaceutical company focused on developing and commercializing novel therapies for neurological disorders with significant unmet medical need, today reported financial results for the second quarter ended June 30, 2025 and provided corporate updates.

"We remain steadfast in our efforts to advance TA-ERT as a potential first-to-market treatment for children diagnosed with Sanfilippo Syndrome Type B (MPS IIIB). We have a strong sense of urgency to deliver on our commitment to patients and families suffering with MPS IIIB and remain on track to submit the biologics license application under the accelerated approval pathway in the first quarter of 2026," said Javier Szwarcberg, M.D., M.P.H., Chief Executive Officer of Spruce Biosciences. "The integrated long-term clinical data of TA-ERT reinforces its potentially transformative clinical impact and compelling value proposition. TA-ERT has the potential to be the first disease-modifying therapy to treat MPS IIIB and could provide a novel option for families impacted by this devastating condition."

Corporate Updates

- ***Integrated Long-Term Clinical Data of TA-ERT Demonstrates Profound and Durable Efficacy and Safety in Patients with MPS IIIB.*** Earlier today, Spruce announced integrated group-level efficacy data for cerebral spinal fluid heparan-sulfate non-reducing end (CSF HS-NRE), cortical grey matter volume (CGMV), and Bayley-III Cognitive Raw Score (BSID-C), the cognitive subscale of the Bayley Scales of Infant and Toddler Development - Third Edition, as well as safety data over a five-year period from clinical studies 201, 202, and 401. Data from treated patients (n=22) in the studies 201, 202, and 401 was compared with data from untreated patients with MPS IIIB in natural history studies 901 and 902.

  Integrated group-level data from clinical studies 201, 202, and 401 demonstrate that TA-ERT therapy significantly reduced to normal or near normal CSF HS-NRE levels over a five-year period. At 240 weeks, CSF HS-NRE decreased 91.5 ng/mL from baseline (95% CI: -102.10, -80.90; $p<0.0001$).

  TA-ERT was also associated with stabilized cognition. Untreated children in the natural history studies showed a decline in cognition beginning at approximately five years of age that progressively worsened over time, while cognition in the TA-ERT treated group remained stable. Using a model-based approach, the mean (95% CI) BSID-C over six to 10 years of age was significantly higher in patients treated with TA-ERT, relative to untreated, age-matched children, with differences evident at six years of age (group difference:10.67, 95% CI: 3.23, 18.11; $p=0.005$). At 10 years of age, the difference in BSID-C scores between groups increased to 34.66 (95% CI: 24.38, 44.93; $p<0.0001$).

  TA-ERT therapy was also associated with stabilization of CGMV, relative to the decline in CGMV observed in untreated children due to the progressive neurodegenerative nature of MPS IIIB. While CGMV should increase with age in children up to five years of age, there was an average loss of ~32 mL over 48 weeks in untreated children with MPS IIIB observed in study 901. Consistent with TA-ERT's mechanism of action, decreases in CGMV were observed during the initial 24 weeks of TA-ERT treatment, likely reflecting intracellular clearance of cerebral spinal fluid heparan sulfate (CSF HS) and CSF HS-NRE. CGMV stabilized from weeks 48 to 240 with TA-ERT treatment.

  TA-ERT therapy exposure for up to 7.3 years has demonstrated an adequate safety profile in a serious and fatal disease for which no treatment is currently available.

- ***First Patient Dosed in Phase 2 TAMARIND Trial of Tildacerfont for MDD with Topline Results Anticipated in 1H 2026.*** In 2024, Spruce entered into a license, development, and option agreement (the "HMNC Agreement") with

HMNC Holding GmbH (HMNC). Under the terms of the HMNC Agreement, HMNC will fund and conduct a Phase 2 proof-of-concept study of tildacerfont, a potent and highly selective, oral, small-molecule antagonist of the CRF1 receptor, in patients with MDD who will be screened using Cortibon, HMNC's proprietary genetic test. HMNC has initiated the Phase 2 TAMARIND study, which will explore the efficacy of 400mg twice-daily tildacerfont versus placebo in improving depressive symptoms in MDD patients. TAMARIND targets a biologically distinct subtype of MDD patients linked to hypothalamic-pituitary-adrenal (HPA) axis dysregulation. Tildacerfont has the potential to address hyperactive brain corticotropin-releasing factor neurotransmission and aberrant functioning of the HPA axis in patients with MDD by blocking the CRF1 receptor. Additionally, by utilizing genetic markers, HMNC's companion diagnostic aims to identify MDD patients who are more likely to respond to CRF1 receptor antagonism. Topline results from TAMARIND are anticipated in the first half of 2026.

- ***Nasdaq Capital Market Relisting Anticipated Following Compliance with Minimum Bid Price for 20 Consecutive Trading Days.*** The company implemented a 1-for-75 reverse stock split of its issued and outstanding shares of common stock ("Reverse Stock Split"). The Reverse Stock Split was intended to bring the company into compliance with the minimum bid price requirement for continued listing on the Nasdaq Capital Market. The company's common stock began trading on a split-adjusted basis on the OTCQB on August 7, 2025. The company's common stock will resume trading on the Nasdaq Capital Market so long as the company remains in compliance with the minimum bid price requirement under Nasdaq Listing Rule 5450(a)(1) for 20 consecutive trading days.

Second Quarter 2025 Financial Results

- **Cash and Cash Equivalents:** Cash and cash equivalents as of June 30, 2025 were $16.4 million. Cash and cash equivalents are expected to allow the company to fund its current operating plan through the end of 2025.
- **Research and Development (R&D) Expenses:** R&D expenses for the three and six months ended June 30, 2025 were $(0.4) million and $10.4 million, respectively, compared to $8.1 million and $18.4 million for the same periods in 2024. R&D expenses for the three months ended June 30, 2025 include a reduction in recorded liabilities of $3.3 million and increase in receivables of $0.7 million associated with the acquisition of TA-ERT. R&D expenses for the six months ended June 30, 2025 also include a reduction in recorded liabilities of $3.4 million and increase in receivables of $0.7 million associated with the acquisition of TA-ERT, offset by $5.7 million in costs related to the acquisition of SPR202, an anti-corticotrophin releasing hormone monoclonal antibody for the treatment of congenital adrenal hyperplasia.
- **General and Administrative (G&A) Expenses:** G&A expenses for the three and six months ended June 30, 2025 were $3.1 million and $6.8 million, respectively, compared to $3.6 million and $7.9 million for the same periods in 2024, primarily driven by a decrease in stock-based compensation expense.
- **Total Operating Expenses:** Total operating expenses for the three and six months ended June 30, 2025 were $2.7 million and $17.2 million, respectively, compared to $11.6 million and $26.3 million for the same periods in 2024. Operating expenses include non-cash stock-based compensation expenses of $(0.1) million and $0.5 million for the three and six months ended June 30, 2025, respectively, compared to $1.7 million and $3.2 million for the same periods in 2024.
- **Net Loss:** Net loss for the three and six months ended June 30, 2025 was $2.1 million and $16.1 million, respectively, compared to $9.2 million and $20.8 million for the same periods in 2024.

About Spruce Biosciences

Spruce Biosciences is a late-stage biopharmaceutical company focused on developing and commercializing novel therapies for neurological disorders with significant unmet medical need. To learn more, visit www.sprucebio.com and follow us on X, LinkedIn, Facebook and YouTube.

Forward-Looking Statements

Statements contained in this press release regarding matters that are not historical facts are “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. Such forward-looking statements include statements regarding, among other things, the ability to seek accelerated approval of TA-ERT for MPS IIIB based on existing clinical data; the timing and likelihood of regulatory filings and approvals for TA-ERT, including the anticipated biologics license application submission of TA-ERT for MPS IIIB in the first quarter of 2026; the potentially transformative clinical impact and compelling value proposition for TA-ERT; TA-ERT’s potential to be the first disease-modifying therapy to treat MPS IIIB as a novel treatment option; Spruce’s expectation that topline results from the TAMARIND study will be available in the first half of 2026; and the resumption of trading on the Nasdaq Capital Market. Because such statements are subject to risks and uncertainties, actual results may differ materially from those expressed or implied by such forward-looking statements. Words such as “anticipate”, “will”, “potential”, “intend”, “expect” and similar expressions are intended to identify forward-looking statements. These forward-looking statements are based upon Spruce’s current expectations and involve assumptions that may never materialize or may prove to be incorrect. Actual results could differ materially from those anticipated in such forward-looking statements as a result of various risks and uncertainties, which include, without limitation, risks and uncertainties associated with Spruce’s business in general, the impact of geopolitical and macroeconomic events, and the other risks described in Spruce’s filings with the U.S. Securities and Exchange Commission. All forward-looking statements contained in this press release speak only as of the date on which they were made and are based on management’s assumptions and estimates as of such date. Spruce undertakes no obligation to update such statements to reflect events that occur or circumstances that exist after the date on which they were made, except as required by law.

SPRUCE BIOSCIENCES, INC.
CONDENSED BALANCE SHEETS
(unaudited)
(in thousands, except share and per share amounts)

	June 30, 2025	December 31, 2024
ASSETS		
Current assets:		
Cash and cash equivalents	$ 16,387	$ 38,753
Prepaid expenses	1,868	3,177
Other current assets	2,698	2,276
Total current assets	20,953	44,206
Right-of-use assets	803	934
Other assets	64	69
Total assets	$ 21,820	$ 45,209
LIABILITIES, REDEEMABLE PREFERRED STOCK, AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	$ 807	$ 1,295
Accrued expenses and other current liabilities	6,310	12,329
Term loan, current portion	943	1,622
Total current liabilities	8,060	15,246
Lease liabilities, net of current portion	580	736
Term loan, net of current portion	—	124
Other liabilities	—	282
Total liabilities	8,640	16,388
Commitments and contingencies		
Series A redeemable preferred stock, $0.0001 par value; 1 share authorized, issued and outstanding as of June 30, 2025; no shares authorized, issued or outstanding as of December 31, 2024	—	—
Stockholders' equity:		
Preferred stock, $0.0001 par value; 10,000,000 shares authorized and no shares issued or outstanding as of June 30, 2025 and December 31, 2024	—	—
Common stock, $0.0001 par value; 200,000,000 shares authorized as of June 30, 2025 and December 31, 2024; 563,042 shares issued and outstanding as of June 30, 2025 and December 31, 2024	—	—
Additional paid-in capital	279,556	279,089
Accumulated deficit	(266,376)	(250,268)
Total stockholders' equity	13,180	28,821
Total liabilities, redeemable preferred stock, and stockholders' equity	$ 21,820	$ 45,209

SPRUCE BIOSCIENCES, INC.
CONDENSED STATEMENTS OF OPERATIONS AND COMPREHENSIVE LOSS
(unaudited)
(in thousands, except share and per share amounts)

	Three Months Ended June 30,		Six Months Ended June 30,	
	2025	2024	2025	2024
Collaboration revenue	$ —	$ 1,610	$ —	$ 3,612
Operating expenses:				
Research and development	(430)	8,090	10,407	18,407
General and administrative	3,122	3,556	6,777	7,874
Total operating expenses	2,692	11,646	17,184	26,281
Loss from operations	(2,692)	(10,036)	(17,184)	(22,669)
Interest expense	(29)	(83)	(65)	(180)
Interest and other income, net	654	938	1,141	2,043
Net loss and comprehensive loss	(2,067)	(9,181)	(16,108)	(20,806)
Net loss per share, basic and diluted	$ (3.50)	$ (16.73)	$ (27.36)	$ (37.94)
Weighted-average shares of common stock outstanding, basic and diluted	591,137	548,789	588,653	548,344

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