Spruce Biosciences Announces Positive Pre-BLA Meetings with FDA and Confirms BLA Submission for TA-ERT on Track for Q4 2026

August 24, 2026

FDA Found Spruce's Chemistry, Manufacturing and Controls (CMC) Comparability Strategies Reasonable to Support the BLA Following Technology Transfer to Leading Global Biologics Manufacturer

Spruce and FDA Aligned on the Overall Content and Format of the Planned BLA, Including Structure of the Integrated Efficacy and Safety Summaries

Spruce Continues to Advance Its Planned Biologics License Application (BLA) on the Accelerated Approval Pathway Based on Reduction of Cerebrospinal Fluid Heparan Sulfate Non-Reducing Ends (CSF HS-NRE)

SOUTH SAN FRANCISCO, Calif.--(BUSINESS WIRE)--Aug. 24, 2026-- Spruce Biosciences, Inc. (Nasdaq: SPRB) (“Spruce”), a late-stage biopharmaceutical company focused on developing and commercializing novel therapies for neurological disorders with significant unmet medical need, today announced that it has completed two pre-BLA meetings with the U.S. Food and Drug Administration (FDA) that support the company's plan to submit a BLA for tralesinidase alfa enzyme replacement therapy (TA-ERT) for the treatment of Sanfilippo Syndrome Type B (MPS IIIB) in the fourth quarter of 2026.

“We have been very encouraged by the constructive collaboration with the FDA as we prepare to submit our BLA in the fourth quarter of 2026. Our recent engagement with the FDA gives us greater confidence and clarity on our path forward to potential approval for TA-ERT,” said Javier Szwarcberg, M.D., M.P.H., Chief Executive Officer of Spruce Biosciences. “We have made important progress on CMC, with the FDA finding our manufacturing comparability strategies reasonable following the technology transfer to our commercial-scale manufacturer. We have also aligned with the FDA on the overall content and format of our planned BLA, including the structure of the integrated efficacy and safety summaries.”

Dr. Szwarcberg continued, “We appreciate the FDA's engagement and responsiveness as we continue to advance our planned BLA on the accelerated approval pathway based on the reduction of CSF HS-NRE. Our team is moving with urgency to bring children and families affected by MPS IIIB the first potentially disease-modifying treatment for this devastating disease.”

Recent FDA Engagement – Key Highlights

- FDA found the company's drug substance and drug product analytical comparability strategies reasonable to support the BLA following technology transfer to a leading global biologics manufacturer.
- FDA aligned on the overall content and format of the planned BLA, including the structure of the integrated efficacy and safety summaries.
- Consistent with prior FDA feedback, the company continues to pursue accelerated approval based on reduction of CSF HS-NRE.
- Company and FDA previously aligned on the design of the confirmatory study and agreed that it may be initiated during BLA review.
- Spruce remains on track to submit its BLA for TA-ERT in the fourth quarter of 2026.

Substantial Operational Progress on CMC

Spruce has completed the transfer of both drug substance and drug product manufacturing to a leading global biologics manufacturer, establishing commercial-scale manufacturing capabilities to support the planned BLA submission and potential commercial launch of TA-ERT. Following the technology transfer, the company successfully completed the manufacturing of drug product registrational batches and advanced a comprehensive analytical control strategy to provide the regulatory basis for potential approvability of TA-ERT.

The company and the FDA previously aligned on the plan for submitting process performance qualification (PPQ) data, with data from the first PPQ batch included in the BLA submission and data from the second PPQ batch provided prior to midcycle of BLA review. The company successfully completed the manufacturing of the first PPQ batch in July 2026 and is on track to complete the manufacturing of the second PPQ batch in the fourth quarter of 2026. The remaining CMC activities to support the planned BLA submission are well defined and within the company's current operating plan.

Continued Alignment on Accelerated Approval Pathway

The FDA previously indicated that the integrated data from Spruce's completed clinical studies, together with natural-history data, could potentially serve as an adequate and well-controlled study to support the FDA's review of TA-ERT's effect on CSF HS-NRE, and agreed that the confirmatory study may be initiated during BLA review.

TA-ERT has been granted Breakthrough Therapy, Fast Track, Rare Pediatric Disease and Orphan Drug designations in the United States, and Orphan Drug Designation in the European Union, and may be eligible for a rare pediatric disease priority review voucher upon approval. The company also notes that the FDA's recent accelerated approval of a therapy for a related neuronopathic form of MPS, based on reduction of a cerebrospinal fluid heparan sulfate biomarker, is consistent with the FDA's openness to considering this class of biomarker as a surrogate reasonably likely to predict clinical benefit.

About Sanfilippo Syndrome Type B (MPS IIIB)

Sanfilippo Syndrome Type B (MPS IIIB) is an ultra-rare, serious, and fatal genetic disease characterized by deficiency in alpha-N-acetylglucosaminidase (NAGLU), an enzyme required for the catabolism of heparan sulfate in lysosomes. It is estimated that MPS IIIB affects fewer than one in 200,000 people in the United States. The accumulation of toxic levels of cerebral spinal fluid heparan sulfate in the brain is the underlying pathophysiology of MPS IIIB. Although signs and symptoms of MPS IIIB can vary amongst affected individuals, progressive neurodegeneration typically follows a predictable path to brain atrophy, cognitive and developmental impairment, hyperactivity with aggressive and destructive behavior, delayed speech, hearing loss, and motor skill deficits. Somatic manifestations include coarse facial features, hepatosplenomegaly, and gastrointestinal symptoms. The final stage of MPS IIIB is typically marked by severe dementia, loss of motor function, and seizure activity, with patients largely bed-ridden and requiring constant care, requiring feeding tubes for hydration and nutrition, and ultimately leading to death. The estimated life expectancy of individuals with MPS IIIB ranges from 15 to 19 years of age. Currently, there are no FDA-approved therapies for MPS IIIB, and management of the disease consists of limited palliative care to improve quality of life.

About Tralesinidase Alfa Enzyme Replacement Therapy (TA-ERT)

TA-ERT is a fusion protein comprised of recombinant human NAGLU (rhNAGLU). TA-ERT is intended as an enzyme replacement therapy for the treatment of patients with MPS IIIB who lack rhNAGLU enzyme activity. TA-ERT is anticipated to restore rhNAGLU enzyme activity in the central nervous system following intracerebroventricular injection. rhNAGLU typically lacks the mannose-6 phosphate (M6P) residues that are essential for efficient cellular uptake via the M6P receptor pathway. As a result, the naked enzyme is poorly absorbed by cells, including neurons. To address this challenge, TA-ERT is fused to an insulin-like growth factor 2 peptide, which binds to the cation-independent M6P receptors on cell surfaces. This fusion enables the enzyme to be internalized and delivered to the lysosome, thereby enhancing its therapeutic potential for treating MPS IIIB. By restoring NAGLU enzymatic activity and promoting clearance of lysosomal heparan sulfate and heparan sulfate non-reducing end in the brain, TA-ERT therapy is expected to preserve neuronal cell health and potentially halt or slow the neurological decline and improve clinical outcomes in affected patients. TA-ERT has been evaluated in three clinical studies in participants with MPS IIIB: the interventional study 201 and extension studies 202 and 401. TA-ERT has been administered to 22 individuals diagnosed with MPS IIIB, and was generally well tolerated across six years of integrated safety data.

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. Spruce's lead product candidate, TA-ERT, is in late-stage development for the treatment of MPS IIIB, a devastating pediatric neurodegenerative disorder for which there are no FDA-approved therapies. TA-ERT has received Breakthrough Therapy Designation, Rare Pediatric Disease Designation, Fast Track Designation and Orphan Drug Designation from the FDA, as well as Orphan Drug Designation in the European Union. 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 fulfillment of Spruce's strategic business objectives, the planned BLA submission for TA-ERT, the reasonableness and adequacy of the CMC comparability strategies and manufacturing readiness to support the BLA, the overall content and format of the planned BLA, the pursuit of the accelerated approval pathway based on reduction of CSF HS-NRE, the design and expected initiation of the confirmatory study, the potential of TA-ERT to improve clinical outcomes in patients with MPS IIIB, potential regulatory approval, potential commercial launch of TA-ERT, and TA-ERT's potential to be the first disease-modifying treatment option for MPS IIIB. 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 "plan," "will," "believe," "could," "expect," "on track," "potential" 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.

View source version on businesswire.com: https://www.businesswire.com/news/home/20260824589114/en/

Media
Heidi Chokeir
Inizio Evoke Comms
Heidi.Chokeir@inizioevoke.com
media@sprucebio.com

Investors
Monique Kosse
Gilmartin Group
Monique@GilmartinIR.com
investors@sprucebio.com

Source: Spruce Biosciences, Inc.