aTyr Pharma Presents Preclinical Data for NRP2-Targeting Antibody ATYR2810 at the Connective Tissue Oncology Society (CTOS) 2026 Annual Meeting

November 19, 2026

ATYR2810 substantially inhibits tumor growth and metastasis of osteosarcoma to the lungs, the main driver of poor outcomes, in preclinical studies.

Anti-tumor benefits continued after treatment with ATYR2810 ended, without evidence of overt toxicity, supporting the potential of ATYR2810 in an aggressive cancer.

SAN DIEGO, Nov. 19, 2026 (GLOBE NEWSWIRE) -- aTyr Pharma, Inc. (Nasdaq: ATYR) ("aTyr" or the "Company"), a clinical stage biotechnology company engaged in the discovery and development of first-in-class medicines from its proprietary tRNA synthetase platform, today announced a poster presentation featuring preclinical data for ATYR2810, a monoclonal antibody targeting neuropilin-2 (NRP2), at the Connective Tissue Oncology Society (CTOS) 2026 Annual Meeting, which is being held November 18 – 21, 2026, in Seoul, South Korea.

"Osteosarcoma remains a significant unmet medical need with standard therapy that has not meaningfully improved survival in decades and patients facing very poor outcomes, particularly once the disease spreads to the lungs. The differentiated approach of ATYR2810 in targeting NRP2 positions it as a highly promising therapeutic candidate, as the potential to reduce metastases and sustain anti-tumor effects after treatment ends, without evidence of overt toxicity, could meaningfully improve outcomes for patients and families facing this devastating disease," said Sanjay S. Shukla, M.D., M.S., President and Chief Executive Officer of aTyr.

"ATYR2810 has shown anti-tumor effects in multiple preclinical models of aggressive cancers where NRP2 is implicated, and NRP2 has been shown to play a role in osteosarcoma angiogenesis and metastasis, which is in large part driven by an immunosuppressive tumor microenvironment," said Leslie A. Nangle, Ph.D., Vice President, Research at aTyr. "This latest research further supports that ATYR2810 can reprogram tumor-associated macrophages and that by targeting NRP2, ATYR2810 monotherapy can lead to substantial inhibition of tumor growth in osteosarcoma preclinical models, including human patient-derived orthotopic models and an aggressive syngeneic mouse model, as well as outstanding effects on tumor recurrence after removal of drug at day 25, with effects lasting out to 45 days. Furthermore, a reduction in lung metastases, a devastating complication of osteosarcoma, was also observed. We believe these findings provide a strong rationale for translating NRP2 inhibition into clinical studies."

Details of the poster presentation appear below. The poster is available on the aTyr website.

Title: Neuropilin-2 as a Therapeutic Target in Osteosarcoma: Spatial Transcriptomics and In Vivo Testing of a Clinic-Ready Anti-Neuropilin-2 Antibody
Session: Basic Science: Translational & Preclinical Research
Poster Number: 74
Date and Time: Thursday, November 19, 2026 from 5:30PM – 6:30PM KST
Location: Hall D, 3F, Coex Convention Center, Seoul, South Korea

The poster presents preclinical research evaluating the use of ATYR2810 in clinically relevant models of osteosarcoma, including primary tumors and lung metastases, utilizing spatial transcriptomics and in vivo testing. Treatment with ATYR2810 in mice was associated with reduced tumor growth and metastasis without evidence of overt toxicity. Furthermore, NRP2 was expressed on malignant osteosarcoma cells and macrophages, suggesting a potential mechanism driving disease progression.

Pediatric osteosarcoma is the most common type of primary malignant bone cancer in children and adolescents, with approximately 1,000 new cases diagnosed every year in the U.S. While osteosarcoma is a bone cancer, it can spread to other organs and tissues in the body, most commonly starting with the lungs. The current standard of care typically includes a combination of chemotherapy and surgery, including limb-sparing surgery. Limb amputation is required in approximately 10% of cases. About 40% of those treated for osteosarcoma will experience a relapse or recurrence. Research that explores the underlying causes and mechanism of metastatic disease may lead to new treatments that can address and manage recurrence, which are greatly needed.

About ATYR2810

ATYR2810 is a fully humanized monoclonal antibody that is designed to specifically and functionally block the neuropilin-2 (NRP2) receptor. NRP2 is a cell surface receptor that is highly expressed in many tumors and is strongly implicated in more aggressive cancer progression, drug resistance development and metastatic spread. Recent data has demonstrated that the expression of NRP2 is also associated with the development of an immunosuppressive tumor microenvironment in a variety of tumors that do not respond to classical checkpoint inhibitors. Increased NRP2 expression is associated with worse outcomes in many cancers, including osteosarcoma, triple negative breast cancer, prostate cancer and pancreatic cancer. ATYR2810 is in preclinical development for the treatment of aggressive cancers where NRP2 is implicated, having successfully completed GLP toxicology testing in non-human primates and cGMP manufacturing.

About aTyr

aTyr is a clinical stage biotechnology company leveraging evolutionary intelligence to translate tRNA synthetase biology into new therapies for fibrosis and inflammation. tRNA synthetases are ancient, essential proteins that have evolved novel domains that regulate diverse pathways extracellularly in humans. aTyr's discovery platform is focused on unlocking hidden therapeutic intervention points by uncovering signaling pathways driven by its proprietary library of domains derived from all 20 tRNA synthetases. aTyr's lead therapeutic candidate is efzofitimod, a novel biologic immunomodulator in clinical development for the treatment of interstitial lung disease, a group of immune-mediated disorders that can cause inflammation and progressive fibrosis, or scarring, of the lungs. For more information, please visit www.atyrpharma.com.

Forward-Looking Statements

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements are usually identified by the use of words such as "anticipate," “believes,” “can,” “could,” “designed,” “expects,” “intends,” “may,” “plans,” “potential,” “suggest,” “upcoming,” “will,” and variations of such words or similar expressions. We intend these forward-looking statements to be covered by such safe harbor provisions for forward-looking statements and are making this statement for purposes of complying with those safe harbor provisions. These forward-looking statements include, among others, statements regarding the potential therapeutic benefits and applications of ATYR2810; timelines, plans and expected results with respect to certain research and development activities; the anticipated completion of remaining IND-enabling activities and the potential advancement of ATYR2810 into clinical studies in pediatric osteosarcoma; the anticipated benefits of targeting NRP2; the potential for research that explores the underlying causes and mechanism of metastatic disease to lead to new treatments and address and manage recurrence; the estimated prevalence of patients with pediatric osteosarcoma; and certain development goals. These forward-looking statements also reflect our current views about our plans, intentions, expectations, strategies and prospects, which are based on the information currently available to us and on assumptions we have made. Although we believe that our plans, intentions, expectations, strategies and prospects, as reflected in or suggested by these forward-looking statements, are reasonable, we can give no assurance that the plans, intentions, expectations, strategies or prospects will be attained or achieved. All forward-looking statements are based on estimates and assumptions by our management that, although we believe to be reasonable, are inherently uncertain. Furthermore, actual results may differ materially from those described in these forward-looking statements and will be affected by a variety of risks and factors that are beyond our control including, without limitation, uncertainty regarding geopolitical and macroeconomic events, risks associated with the discovery, development and regulation of our product candidates, the risks inherent in studies of potential medical therapies, including the failure of future studies to generate the same or similar data as prior studies, the potential that estimated prevalences are materially inaccurate, the risk that we or future partners may cease or delay preclinical or clinical development activities for any of our existing or future product candidates for a variety of reasons (including difficulties or delays in patient enrollment in planned clinical trials), the possibility that future collaborations could be terminated early, and the risk that we may not be able to raise the additional funding required for our business and product development plans, as well as those risks set forth in our most recent Annual Report on Form 10-K, Quarterly Reports on Form 10-Q and in our other SEC filings. Except as required by law, we assume no obligation to update publicly any forward-looking statements, whether as a result of new information, future events or otherwise.

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