TScan Therapeutics Reaches Agreement with FDA on Pivotal Study Design for TSC-101 and Announces Strategic Prioritization to Advance TSC-101 and Extend Cash Runway into H2 2027

November 3, 2025

Positive end of Phase I meeting and agreement reached with FDA on pivotal study design for TSC-101

Dosed first solid tumor patients with multiplex TCR-T therapy; paused further enrollment to prioritize heme development; reiterates planned data readout in Q1 2026

Enacted ~30% workforce reduction to focus clinical development on heme program and initiate pre-clinical development of in vivo-engineered TCR-T for solid tumors

Strategic prioritization extends cash runway into H2 2027

Conference call and webcast scheduled for Monday, November 3, 8:00 a.m. Eastern Time

WALTHAM, Mass., Nov. 03, 2025 (GLOBE NEWSWIRE) -- TScan Therapeutics, Inc. (Nasdaq: TCRX), a clinical-stage biotechnology company focused on the development of T cell receptor (TCR)-engineered T cell (TCR-T) therapies for the treatment of patients with cancer, today announced regulatory and clinical program updates, implementation of a workforce reduction of approximately 30%, and extension of its cash runway into the second half of 2027.

Following a productive End-of-Phase 1 meeting with the U.S. Food and Drug Administration (FDA), the Company has reached alignment on the registrational path forward for the TSC-101 program as a treatment for acute myeloid leukemia (AML) and myelodysplastic syndromes (MDS). The pivotal study will mirror TScan's ongoing Phase 1 study, using a biologically assigned internal control arm to support relapse-free survival as the primary endpoint. Through a strategic prioritization, the Company will advance clinical development of its heme program, pause further enrollment in its solid tumor Phase 1 trial, and focus preclinical efforts on developing in vivo-engineered TCR-Ts for solid tumors and on target discovery for autoimmunity. In connection with this strategy, the Company's workforce is being reduced by approximately 30%, or 66 employees.

"We are encouraged by the positive feedback from the FDA on our heme program and our pivotal trial design for TSC-101. In preparation for the pivotal study, we developed a commercial-ready manufacturing process that shortens the manufacturing time by five days. This results in substantially lower cost of goods and reduces the need for high levels of ex vivo T cell expansion that we believe may be associated with decreased T cell activity in patients. The strength of our long-term data, together with our improved commercial-ready manufacturing process, validates our decision to focus resources on the heme program," said Gavin MacBeath, Ph.D., Chief Executive Officer. "In our solid tumor program, we have successfully dosed our first two patients with multiplex TCR-T and plan to share data in the first quarter of 2026. With our new strategic focus on clinical execution within the heme program, we are pausing further enrollment in the PLEXI-T trial and shifting efforts to the preclinical development of an in vivo engineering platform for solid tumors."

Dr. MacBeath continued, "We have a unique opportunity to develop and potentially commercialize a compelling program for patients with heme malignancies and are well positioned to develop the first in vivo-engineered TCR-T program for patients with solid tumors. This prioritization best enables TSC-101 to be developed as quickly and efficiently as possible. Unfortunately, these strategic measures impact a number of our talented TScanners. I am deeply grateful for their commitment to TScan's mission and their dedication to the patients with serious diseases that we aim to treat and ultimately cure."

"By focusing clinical development on heme and rightsizing the organization accordingly across all functions, we expect to realize annual cost savings of approximately $45.0 million in 2026 and 2027," said Jason A. Amello, Chief Financial Officer. "This achieves our goal of preserving capital while continuing to build shareholder value. As a result of these efforts, we have extended our cash runway into the second half of 2027."

Corporate Updates

Hematologic Malignancies Program

- In October 2025, the Company met with the FDA regarding a pivotal trial design for TSC-101, which is designed to treat residual disease and prevent relapse in patients with AML or MDS undergoing allogeneic hematopoietic cell transplantation (HCT) with reduced intensity conditioning (RIC). The interaction was productive and the FDA has agreed to a study design that mirrors the current Phase 1 ALLOHA trial (NCT05473910).
- The updated pivotal trial design now includes a biologically assigned internal control arm instead of an external control arm using the CIBMTR registry. In the pivotal trial design, patients who are HLA-A*02:01-positive with an HLA-A*02-negative donor will be assigned to the investigational arm of the study, and patients who are HLA-A*02-01-negative or patients for which an HLA-mismatched donor cannot be found will be assigned to the control arm. This trial design will enable efficient enrollment and streamlined assessment of study endpoints.
- A fixed dosing regimen was introduced into the ALLOHA trial in 2025 and, in agreement with the FDA, the Company plans to dose approximately five more patients at this dose level to support the upper end of their proposed recommended dose range prior to initiating the pivotal trial. The Company now expects the pivotal trial for TSC-101 to begin in Q2 2026.

- The Company recently observed instances of relapse or prolonged incomplete chimerism using a high sensitivity assay in TSC-101 patients who were enrolled in the Phase 1 study in 2025. These cases appear to be associated with products that had higher levels of T cell expansion in the manufacturing process. The Company has now implemented an improved, commercial-ready manufacturing process that is shorter (12 days vs. 17 days) and requires less T cell expansion. An initial technology transfer of this process to an external contract development and manufacturing organization has been completed. The commercial-ready process will be used to dose the additional patients requested by the FDA in the ongoing Phase 1 and registrational studies.

- Data from the ALLOHA Phase 1 trial, including two-year relapse data on initial patients treated with TSC-101, will be presented at the 67th American Society of Hematology (ASH) Annual Meeting and Exposition.

  Title: TSC-101 eliminates recipient hematopoietic cells and demonstrates potential for improved relapse-free survival in patients with AML, ALL, or MDS undergoing allogeneic HCT: Updated results from the Phase 1 (ALLOHA) trial.
  Publication Number: 2391
  Presentation Date and Time: December 6, 2025, 5:30 PM-7:30 PM ET

- The Company plans to expand HLA coverage of the heme program with two additional investigational new drug (IND) applications. IND applications are scheduled to be filed in Q4 2025 with the goal of initiating Phase 1 development in H2 2026 subject to additional funding. The Phase 1 study will be conducted using the new and shorter manufacturing process.

Solid Tumor Program

- In October 2025, the first two patients were dosed with multiplex TCR-T therapy candidates in the PLEXI-T solid tumor trial. In addition, seven patients have been treated to date with singleplex TCR-T at dose level 3 or higher.

- The Company is pausing further enrollment on the study and proceeding with preclinical development of in vivo engineering to treat solid tumors. The Company has recently partnered with a third party specializing in the development of a lentiviral-based platform for in vivo engineering of T cells. The Company believes that this approach represents a promising and cost-efficient way to deliver off-the-shelf, multiplexed TCR-T for solid tumors.

- The Company expects to share initial safety and efficacy data from the PLEXI-T trial in Q1 2026.

Autoimmunity

- In October 2025, the Company presented initial data from their autoimmunity programs at the American College of Rheumatology Conference 2025, held in Chicago, IL.

- The Company continues to identify novel targets in prioritized autoimmune diseases such as ankylosing spondylitis, systemic sclerosis, ulcerative colitis, and birdshot uveitis. In addition, the Company is continuing to discover targets for Crohn's disease in partnership with Amgen.

Strategic Prioritization

- The strategic prioritization is expected to produce annual cost savings of $45.0 million in 2026 and 2027, and will impact approximately 30% of the Company's workforce, or 66 employees. The Company expects to record a one-time charge of up to approximately $2.3 million in the fourth quarter of 2025 for severance-related benefits and other costs.

- The Company's cash runway is now extended into the second half of 2027.

Upcoming Anticipated Milestones

- Plans to present updated clinical data on Phase 1 ALLOHA trial at ASH on December 6, 2025, in Orlando, Florida.

- Plans to submit INDs for two additional TCR-T product candidates to expand HLA coverage of the heme program in Q4 2025.

- Plans to launch pivotal trial for TSC-101 for patients with AML and MDS in Q2 2026.

Conference Call and Webcast

The Company will host a conference call and webcast today, Monday, November 3, 2025, at 8:00 a.m. EST, to discuss these updates. The live event and accompanying slides can be accessed by visiting https://tscan-update-call.open-exchange.net/, or via the Events and Presentations section of TScan's website at https://ir.tscan.com/news-events/events-and-presentations. A replay of the webcast will be available for a limited time following the event.

About TScan Therapeutics, Inc.

TScan is a clinical-stage biotechnology company focused on the development of T cell receptor (TCR)-engineered T cell (TCR-T) therapies for the treatment of patients with cancer. The Company's lead TCR-T therapy candidate is in development for the treatment of patients with hematologic malignancies to prevent relapse following allogeneic hematopoietic cell transplantation (the ALLOHA ™ Phase 1 heme trial). The Company has developed multiple TCR-T therapy candidates for solid tumors and is currently developing methods for in vivo engineering using these candidates. The Company is also applying their TargetScan platform to discover novel targets in various T cell-mediated autoimmune diseases.

Forward-Looking Statements

This release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, including, but not limited to, express or implied statements regarding the Company's plans, progress, expectations, and timing relating to the Company's hematologic malignancies program, including updated manufacturing process resulting in shortened manufacturing times, lower cost of goods, improved chimerism or relapse, and commercial-ready process, clinical updates of the ALLOHA Phase 1 heme trial, presentation of data, dosing of patients, filing of an new IND applications and initiation of Phase 1 development, and clinical trial design and initiation of a pivotal trial for TSC-101; the Company's plans, progress, expectations, and timing relating to the Company's solid tumor program, including clinical updates of the PLEXI-T Phase 1 solid tumor trial, development of in vivo manufacturing, and presentation of data; the Company's plans, progress, expectations, and timing relating to the Company's autoimmunity programs, including identification of novel targets; the progress of the hematologic malignancies, solid tumor, and autoimmunity programs being indicative or predictive of the success of each program; the Company's current and future research and development plans or expectations; the structure, timing and success of the Company's planned preclinical development, submission of INDs, and clinical trials; the potential benefits of any of the Company's proprietary platforms, multiplexing, or current or future product candidates in treating patients; the Company's ability to fund its operating plan into the second half of 2027 with its existing cash, cash equivalents, and marketable securities; the expected charges, cost reductions and savings, and capital preservation associated with the strategic prioritization; and the Company's goals, strategy and anticipated financial performance. TScan intends such forward-looking statements to be covered by the safe harbor provisions for forward-looking statements contained in Section 21E of the Securities Exchange Act of 1934 and the Private Securities Litigation Reform Act of 1995. In some cases, you can identify forward-looking statements by terms such as, but not limited to, "may," "might," "will," "objective," "intend," "should," "could," "can," "would," "expect," "believe," "anticipate," "project," "target," "design," "estimate," "predict," "potential," "plan," "on track," or similar expressions or the negative of those terms. Such forward-looking statements are based upon current expectations that involve risks, changes in circumstances, assumptions, and uncertainties. The express or implied forward-looking statements included in this release are only predictions and are subject to a number of risks, uncertainties and assumptions, including, without limitation: the beneficial characteristics, safety, efficacy, therapeutic effects and potential advantages of TScan's TCR-T therapy product candidates; TScan's expectations regarding its preclinical studies being predictive of clinical trial results; TScan's approved INDs being indicative or predictive of bringing TScan closer to its goal of providing customized TCR-T therapies to treat patients with cancer; the timing of the launch, initiation, progress, expected results and announcements of TScan's preclinical studies, clinical trials and its research and development programs; TScan's ability to enroll patients for its clinical trials within its expected timeline; TScan's plans relating to developing and commercializing its TCR-T therapy product candidates, if approved, including sales strategy; estimates of the size of the addressable market for TScan's TCR-T therapy product candidates; TScan's manufacturing capabilities and the scalable nature of its manufacturing process; TScan's estimates regarding expenses, future milestone payments and revenue, capital requirements and needs for additional financing; TScan's expectations regarding competition; TScan's anticipated growth strategies; TScan's ability to attract or retain key personnel; TScan's ability to establish and maintain development partnerships and collaborations; TScan's expectations regarding federal, state and foreign regulatory requirements; TScan's ability to obtain and maintain intellectual property protection for its proprietary platform technology and our product candidates; the sufficiency of TScan's existing capital resources to fund its future operating expenses and capital expenditure requirements; and other factors that are described in the "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" sections of TScan's most recent Annual Report on Form 10-K and any other filings that TScan has made or may make with the SEC in the future. Any forward-looking statements contained in this release represent TScan's views only as of the date hereof and should not be relied upon as representing its views as of any subsequent date. Except as required by law, TScan explicitly disclaims any obligation to update any forward-looking statements.

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