Tempest Unveils Next-Generation In Vivo CAR-T Pipeline, with First Clinical Study Planned for the Fourth Quarter of 2026

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- *Advancing a pipeline of in vivo CAR-T product candidates for oncology and immunology applications differentiated by CD7-targeted mRNA/LNP delivery approach*
- *Lead candidate TPST-4003 combines proprietary CD7-targeted mRNA/LNP delivery with a clinically validated dual-targeting CD19/BCMA CAR construct to support broad B-cell lineage reset across multiple indications*
- *First investigator-initiated trial expected to enroll approximately 10 patients with nervous system autoimmune diseases, including MG and MS, with first patient dosing anticipated in the fourth quarter of 2026 and initial clinical data expected in the first half of 2027*

BRISBANE, Calif., July 15, 2026 (GLOBE NEWSWIRE) -- Tempest Therapeutics, Inc. (Nasdaq: TPST) ("Tempest"), a clinical-stage biotechnology company developing a pipeline of advanced chimeric antigen receptor T-cell ("CAR-T") product candidates, today announced details of its next-generation in vivo CAR-T platform. The company plans to advance TPST-4003, its lead in vivo CAR-T product candidate, into a first investigator-initiated clinical trial in patients with nervous system autoimmune diseases, initially focusing on myasthenia gravis ("MG") and multiple sclerosis ("MS"). The study is expected to enroll approximately 10 patients, with first patient dosing anticipated in the fourth quarter of 2026.

TPST-4003 combines Tempest's next-generation CD7-targeted mRNA lipid nanoparticle ("CD7-tLNP") delivery platform with the same dual-targeting CD19 B-cell maturation antigen ("CD19/BCMA") chimeric antigen receptor ("CAR") architecture used in TPST-2003, the company's clinical-stage CAR-T program. Interim Phase 1/2a clinical data generated with TPST-2003 demonstrating the achievement of a 100% complete response rate, together with its successful U.S. manufacturing, provide important support of the underlying CAR construct, establishing a foundation for TPST-4003.

"We are excited to announce the strategic prioritization of our next-generation *in vivo* CAR-T pipeline and our plan to advance TPST-4003 toward an anticipated first patient dosing later this year," said Matt Angel, Ph.D., President and Chief Executive Officer of Tempest. "We believe our differentiated *in vivo* CAR-T platform may enable broader addressable T-cell coverage and support scalable repeat dosing once developed and commercialized, supporting future commercial attractiveness of *in vivo* CAR-T therapy. The lead product candidate in our pipeline, TPST-4003, is being designed to enable broad B-cell lineage depletion and reset with its dual CD19/BCMA targeting architecture, with the goal of potentially delivering improved efficacy and durability compared with single-target CAR approaches. We look forward to advancing TPST-4003 into clinical development later this year."

Planned Investigator-Initiated Trial of TPST-4003

The first planned investigator-initiated trial is expected to evaluate TPST-4003 in approximately 10 patients with nervous system autoimmune diseases, initially focusing on MG and MS. Initial study planning has involved discussions with six prospective clinical centers and principal investigators experienced in neurological autoimmune diseases. The company expects first patient enrollment and dosing to occur in the fourth quarter of 2026.

The study is expected to assess safety, cellular kinetics and pharmacodynamic activity following initial dosing. Key assessments are expected to include treatment-emergent adverse events and serious adverse events; the generation and expansion of peripheral blood CD4+ and CD8+ CAR-T cells and CD56+ CAR-NK cells; CAR transgene copy number; and the depth and kinetics of CD19+ B-cell depletion and B-cell subset reconstitution. Where clinically appropriate, exploratory assessments may also include the detection of CAR-positive immune cells in cerebrospinal fluid and the evaluation of B-cell depletion in lymphoid tissue.

Disease-specific clinical activity will be evaluated using established measures. Initial safety and pharmacodynamic data from the first patients are expected in the first half of 2027, followed by an interim clinical update including preliminary safety, pharmacodynamic and efficacy data in the second half of 2027.

Additional preclinical programs leverage advanced payloads and create a modular *in vivo* CAR-T portfolio. These include TPST-001 for non-B-cell hematologic malignancies and TPST-002 for solid tumors.

Tempest's *in vivo* CAR-T platform, CD7-tLNP, is being designed to expand the potential of next-generation *in vivo* CAR-T therapy through three core differentiators:

- Broader T-Cell Reach: The platform is being engineered to efficiently target both CD4+ and CD8+ T-cell populations, targeting broad CAR expression across the key cellular drivers of durable immunity. This comprehensive T-cell engagement is intended to support a more balanced and effective therapeutic response.

- Better Delivery Logic: A differentiated targeting ligand, combined with rapid cellular internalization and a chemically optimized mRNA payload, is being designed to maximize intracellular delivery and CAR protein expression. Nucleoside-modified mRNA and optimized construct architecture together target a reduced innate immune sensing, extended

functional mRNA activity, and robust yet transient CAR expression – enhancing delivery efficiency while preserving the advantages of an *in vivo* approach.

- Scalable *In Vivo* CAR-T: By increasing CAR expression on a per-particle basis, the platform is being designed to achieve meaningful biological activity at lower doses, supporting improved manufacturing efficiency, reduced cost of goods, and the potential for scalable, repeatable treatment.

Together, we believe these capabilities may position the CD7-tLNP platform as a differentiated solution for the next generation of *in vivo* CAR-T therapies.

About TPST-4003

TPST-4003 is a preclinical, *in vivo* dual-targeting CD19/BCMA CAR-T product candidate that combines proprietary CD7-targeted mRNA/LNP delivery with a clinically validated dual-target CAR architecture utilized in the company's TPST-2003 CAR-T program. Targeting broad B-cell lineage depletion and reset, TPST-4003 is being designed to address a range of autoimmune and oncology indications, initially including MG and MS.

Forward-Looking Statements

This press release contains forward-looking statements (including within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended, and Section 27A of the Securities Act of 1933, as amended, concerning Tempest. These statements may discuss goals, intentions, and expectations as to future plans, trends, events, results of operations or financial condition, or otherwise, based on current beliefs of the management of Tempest, as well as assumptions made by, and information currently available to, management of Tempest. Forward-looking statements generally include statements that are predictive in nature and depend upon or refer to future events or conditions, and include words such as "may," "will," "should," "would," "could", "expect," "anticipate," "plan," "likely," "believe," "estimate," "project," "intend," "goal", "suggest", "target" and other similar expressions. All statements that are not historical facts are forward-looking statements, including but not limited to, statements regarding: Tempest's strategic prioritization of its next-generation *in vivo* CAR-T platform program; the advancement, development, design, potential benefits and differentiation of TPST-4003, TPST-001, TPST-002 and Tempest's CD7-tLNP platform; the planned investigator-initiated trial of TPST-4003, including the expected patient population, indications, number of patients, timing of first patient enrollment and dosing, expected assessments and anticipated timing and nature of initial and interim clinical data; the potential ability of TPST-4003 to enable broad B-cell lineage depletion and reset and to deliver improved efficacy or durability compared with single-target CAR approaches; the potential scalability, repeat dosing, manufacturing efficiency, cost-of-goods benefits and commercial attractiveness of Tempest's *in vivo* CAR-T approach; the potential applicability of Tempest's platform and product candidates across autoimmune and oncology indications; and Tempest's ability to achieve its operational plans. All forward-looking statements in this press release are based on Tempest's current expectations, estimates and projections about its industry as well as management's current beliefs and expectations of future events only as of today and are subject to a number of risks and uncertainties that could cause actual results to differ materially and adversely from those set forth in or implied by such forward-looking statements. These risks and uncertainties include, but are not limited to Tempest's need for additional capital to fund its planned programs and operations and to continue to operate as a going concern; unexpected safety or efficacy data observed during preclinical or clinical trials; the possibility that results from prior clinical trials and preclinical studies may not necessarily be predictive of future results; past results may not be indicative of future results; clinical trial site activation or enrollment rates that are lower than expected; loss of key personnel; changes in expected or existing competition; changes in the regulatory environment; risks relating to volatility and uncertainty in the capital markets for biotechnology companies; and unexpected litigation or other disputes. These and other factors that may cause actual results to differ from those expressed or implied are discussed in greater detail in the "Risk Factors" section of Tempest's Annual Report on Form 10-K for the year ended December 31, 2025, filed with the Securities and Exchange Commission ("SEC") on March 30, 2026, and in other documents filed by Tempest from time to time with the SEC. Except as required by applicable law, Tempest undertakes no obligation to revise or update any forward-looking statement, or to make any other forward-looking statements, whether as a result of new information, future events or otherwise. These forward-looking statements should not be relied upon as representing Tempest's views as of any date subsequent to the date of this press release and should not be relied upon as prediction of future events. In light of the foregoing, investors are urged not to rely on any forward-looking statement in reaching any conclusion or making any investment decision about any securities of Tempest.

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