



Poseida Therapeutics Presents Stem Cell Memory CAR-T Therapy for Prostate Cancer at 2018 Keystone Symposia on Emerging Cellular Therapies

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SAN DIEGO, Feb. 14, 2018 (GLOBE NEWSWIRE) -- Poseida Therapeutics Inc. ("Poseida"), a San Diego-based company translating best-in-class gene engineering technologies into lifesaving cell therapies, presented preclinical data on P-PSMA-101 at the 2018 Keystone Symposia on Emerging Cellular Therapies: T Cells and Beyond. P-PSMA-101 is the company's PSMA-specific stem cell memory CAR-T drug candidate for the treatment of prostate cancer, which is the most common cancer among men in the United States.

"P-PSMA-101 is a first-in-class stem cell memory CAR-T therapy that exhibits a persistently high frequency of stem cell memory T-cells and mediates durable anti-solid tumor efficacy that surpasses previously established anti-PSMA CAR T-cell therapy in several *in vivo* models," said Eric Ostertag, M.D., Ph.D., chief executive officer at Poseida. "Future development efforts are aimed at completing preclinical studies and preparing for filing of an investigational new drug application with the US FDA."

Jenessa Smith, Ph.D., of Poseida, led an oral presentation at the 2018 Keystone Symposia titled: "PSMA-Specific CAR T-Stem Cell Memory Therapy Eliminates Solid Tumor in Prostate Cancer Model." The presentation covered the development of P-PSMA-101 via Poseida's non-viral piggyBac™ DNA modification system and included a safety switch, a PSMA-specific CAR molecule and a selection gene – a combination of desirable features that may improve safety and therapeutic efficacy. Using piggyBac, researchers obtained >95% CAR+ T-cells after selection and expansion. Importantly, Poseida's unique production methodology resulted in >60% T-stem cell memory (Tscm) cells, an early memory T-cell population that correlates with complete responses in CD19 CAR T-cell clinical trials. No evidence of tonic signaling or exhaustion was detected.

Key findings include:

- Mice treated with P-PSMA-101 demonstrated enhanced anti-tumor efficacy and survival (114 days) in comparison to mice treated with a CAR-T using J591 as a binding molecule, a single chain variable fragment (scFv), (41 days) in a highly aggressive castrate-resistant metastatic prostate cancer mouse xenograft model (LNCaP).
- P-PSMA-101, comprised of >60% Tscm, expanded *in vivo* and gave rise to differentiated effector CAR+ T-cells that were detected in the peripheral blood concomitant with a decrease in tumor burden below detectable caliper and BLI imaging limits.
- Following tumor regression, P-PSMA-101 cells then contracted, yet persisted in the peripheral blood with >70% of T-cells retaining a Tscm phenotype.

About P-PSMA-101

P-PSMA-101 is a CAR-T immunotherapy designed to supercharge a patient's own T-cells to safely and effectively eliminate tumor cells carrying prostate-specific membrane antigen (PSMA), which is expressed on the majority of prostate cancer cells. P-PSMA-101 employs a PSMA-specific CAR molecule and is engineered using a non-viral gene delivery system called the piggyBac™ DNA Modification System, which leverages the technology's capability to deliver up to 30 times more cargo than traditional virus-based CAR-T cell modification systems. P-PSMA-101 has demonstrated potent anti-tumor activity, persistent and durable response, significant T stem cell memory, a high concentration of P-PSMA-101 modified T-cells and no T-cell exhaustion. A unique feature of P-PSMA-101 and other Poseida CAR-T products is their exceptionally high percentage of stem cell memory T-cells, which has been shown in preclinical studies to lead to unprecedented durability of response without re-administration of treatment.

About Poseida Therapeutics, Inc.

Poseida Therapeutics is translating best-in-class gene engineering technologies into lifesaving cell therapies. The company is developing CAR T-cell immunotherapies for multiple myeloma, prostate and other cancer types, as well as gene therapies for orphan diseases. P-BCMA-101 is Poseida's lead CAR-T therapy currently in Phase 1 clinical development for the treatment of multiple myeloma. Poseida has assembled a suite of industry-leading gene engineering technologies, including the piggyBac™ DNA Modification System, TAL-CLOVER™ and Cas-CLOVER™ site-specific nucleases, and Footprint-Free™ Gene Editing (FFGE). For more information, visit www.poseida.com.

Corporate Communications Contact:

Jason Spark
Canale Communications
619-849-6005