Poseida Therapeutics to Present Preclinical Data Highlighting Fully Allogeneic CAR-T Product Candidates at the Society for Immunotherapy of Cancer 2021 Annual Meeting

Poseida's piggyBac® DNA delivery system, Cas-CLOVER™ site-specific gene editing system, and Poseida's proprietary "booster molecule" enable allogeneic products with a high percentage of stem cell memory T cells

SAN DIEGO, Nov. 9, 2021 /PRNewswire/ -- Poseida Therapeutics, Inc. (Nasdaq: PSTX), a clinical-stage biopharmaceutical company utilizing proprietary genetic engineering platform technologies to create cell and gene therapeutics with the capacity to cure, today announced the upcoming presentation of preclinical data highlighting P-BCMA-ALLO1 for the treatment of relapsed/refractory multiple myeloma and P-MUC1C-ALLO1 for the treatment of multiple solid tumor indications at the Society for Immunotherapy of Cancer 2021 Annual Meeting (SITC), being held in Washington, D.C., and virtually November 10-14, 2021.

"We are pleased to share preclinical data for P-BCMA-ALLO1 and P-MUC1C-ALLO1, our first fully allogeneic candidates," said Devon Shedlock, Ph.D., Chief Scientific Officer, Cell Therapies at Poseida Therapeutics. "The results being shared at SITC not only demonstrate potent antitumor efficacy in preclinical models for our allogeneic product candidates, but also further validate the capabilities of our piggyBac and Cas-CLOVER technologies. Using our proprietary manufacturing process which includes our booster molecule, we have the potential to produce hundreds of patient doses from a single manufacturing run while also preserving high levels of stem cell memory T cells (T_{SCM}), which are correlated with antitumor efficacy in the clinic. We have recently received FDA clearance on our P-BCMA-ALLO1 IND and are in the process of initiating a Phase 1 trial. We look forward to advancing our P-MUC1C-ALLO1 CAR-T candidate with an IND filing expected later this year."

Poseida is presenting two posters, which will be on display on the SITC 2021 virtual meeting platform from 7 a.m. EST on Friday, Nov. 12, 2021 until the virtual meeting platform is closed on Jan. 9, 2022.

Presentation Highlights:

In the poster titled *"Memory Phenotype in Allogeneic Anti-BCMA CAR-T Cell Therapy (P-BCMA-ALLO1) Correlates with In Vivo Tumor Control"* (Abstract Number 147), Hubert Tseng, Ph.D., Poseida Therapeutics, will highlight:

- Using the Company's piggyBac DNA Delivery System in combination with its Cas-CLOVER gene editing system and a proprietary "booster molecule," Poseida generated doses of P-BCMA-ALLO1 from healthy donor T cells and consistently maintain high frequency of stem cell memory T cells.
- Cas-CLOVER was used to eliminate surface expression of both the TCR and MHC class I to make fully allogeneic CAR-T cells. In addition to the CAR molecule, piggyBac enables delivery of a selectable marker allowing the generation of a final cell product that is >95% CAR-positive.
- P-BCMA-ALLO1 is comprised of a high frequency of T_{SCM}. It has potent in vivo antitumor activity, which is comparable to non-edited autologous anti-BCMA CAR-T cell therapy. Expression of memory markers at both the mRNA and protein levels across individual lots significantly correlates with in vivo tumor control.
- P-BCMA-ALLO1 is a highly potent and safe allogeneic anti-BCMA CAR with a manufacturing process that consistently maintains a T_{SCM} phenotype, which correlates with antitumor efficacy. P-BCMA-ALLO1 has received FDA IND clearance and is advancing rapidly toward the clinic.

In the poster titled *"P-MUC1C-ALLO1: A Fully Allogeneic Stem Cell Memory T Cell CAR-T Therapy with Broad Potential in Solid Tumor"* (Abstract Number 123), Yan Zhang, Ph.D., Poseida Therapeutics, will highlight:

- P-MUC1C-ALLO1 is manufactured using Poseida's piggyBac DNA delivery system and Cas-CLOVER gene editing system to knockout both

the TCR and MHC class I proteins. Poseida can generate significant doses of P-MUC1C-ALLO1 including a high-percentage of desirable T_{SCM} cells.

- P-MUC1C-ALLO1 displayed specificity for tumor vs normal cells: MUC1C CAR-T cells had potent cytotoxicity against tumor cells, and minimal killing of normal MUC1-C-positive human primary cells.
- In a triple negative breast cancer xenograft model, P-MUC1C-ALLO1 eliminated established tumor cells, demonstrating robust T cell expansion in peripheral blood and maintained a favorable T_{SCM} percentage over time.
- P-MUC1C-ALLO1 has also shown robust efficacy in a peritoneal ovarian cancer xenograft model, eliminating established tumor cells to undetectable levels with minimal toxicity.

About P-BCMA-ALLO1
P-BCMA-ALLO1 is Poseida's first fully allogeneic product candidate targeting B-cell maturation antigen (BCMA) for the treatment of relapsed/refractory multiple myeloma. In in vitro and in vivo preclinical studies, P-BCMA-ALLO1 showed effective targeted cancer cell killing and cytokine secretion, with similar or superior performance in anti-tumor efficacy compared to an autologous CAR-T therapy, P-BCMA-101. Inclusion of a proprietary booster molecule in the allogeneic manufacturing process further improves expansion of gene-edited cells and may potentially enable production of hundreds of patient doses from a single manufacturing run, thereby potentially reducing the manufacturing cost per dose into the same range as that of a monoclonal antibody. In August 2021, Poseida announced that its Investigational New Drug (IND) application for P-BCMA-ALLO1 received clearance from the U.S. Food and Drug Administration (FDA).

About P-MUC1C-ALLO1
P-MUC1C-ALLO1 is an allogeneic CAR-T product candidate in preclinical development with the potential to treat a wide range of solid tumors derived from epithelial cells, including breast and ovarian cancers, as well as other cancers expressing a cancer-specific form of the Mucin 1 protein, or MUC1C. We have designed P-MUC1C-ALLO1 to be fully allogeneic, with genetic edits to eliminate or reduce both host-vs-graft and graft-vs-host alloreactivity. We have demonstrated the elimination of tumor cells to undetectable levels in preclinical models of breast cancer and ovarian cancer.

About Poseida Therapeutics, Inc.
Poseida Therapeutics is a clinical-stage biopharmaceutical company dedicated to utilizing our proprietary genetic engineering platform technologies to create next generation cell and gene therapeutics with the capacity to cure. We have discovered and are developing a broad portfolio of product candidates in a variety of indications based on our core proprietary platforms, including our non-viral piggyBac® DNA Delivery System, Cas-CLOVER™ Site-Specific Gene Editing System and biodegradable nanoparticle- and AAV-based gene delivery technologies. Our core platform technologies have utility, either alone or in combination, across many cell and gene therapeutic modalities and enable us to engineer our portfolio of product candidates that are designed to overcome the primary limitations of current generation cell and gene therapeutics. To learn more, visit www.poseida.com and connect with us on Twitter and LinkedIn.

Forward-Looking Statement
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 the clinical data presented, the potential benefits of Poseida's technology platforms and product candidates and Poseida's plans and strategy with respect to developing its technologies and product candidates. Because such statements are subject to risks and uncertainties, actual results may differ materially from those expressed or implied by such forward-looking statements. These forward-looking statements are based upon Poseida'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 development and regulatory approval of novel product candidates in the biopharmaceutical industry, the fact that future clinical results could be inconsistent with results observed to date and the other risks described in Poseida's filings with the Securities and Exchange Commission. All forward-looking statements contained in this press release speak only as of the date on which they were made. Poseida 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.

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