Poseida Therapeutics to Present Early Data from Phase 1 Trials of P-MUC1C-ALLO1 and P-BCMA-ALLO1 at ESMO Immuno-Oncology 2022 Annual Congress

December 6, 2022

P-MUC1C-ALLO1 and P-BCMA-ALLO1 were well tolerated, with no dose-limiting toxicities (DLTs), cytokine release syndrome (CRS), graft vs host disease (GVHD) or immune effector cell-associated neurotoxicity syndrome (ICANS)

P-MUC1C-ALLO1 demonstrated encouraging *clinical activity including an objective partial response in a breast cancer patient at the lowest dose*

P-BCMA-ALLO1 demonstrated responses in heavily pre-treated patients with relapsed/refractory multiple myeloma at the lowest CAR-T dose tested including in patients who had failed prior BCMA-targeted therapy and patients with high-risk disease

SAN DIEGO, Dec. 6, 2022 /PRNewswire/ -- Poseida Therapeutics, Inc. (Nasdaq: PSTX), a clinical-stage cell and gene therapy company advancing a new class of treatments for patients with cancer and rare diseases, today announced it will present early clinical results from its Phase 1 clinical trials of P-MUC1C-ALLO1 and P-BCMA-ALLO1 at the European Society for Medical Oncology Immuno-Oncology (ESMO I-O) 2022 Annual Congress, taking place in Geneva, Switzerland and online from December 7-9, 2022.

"These early data being presented at ESMO I-O for our first two fully allogeneic programs reinforce our belief that our technology and approach have the potential to deliver differentiated off-the-shelf CAR-T cell therapies to patients fighting cancer," said Mark Gergen, Chief Executive Officer of Poseida Therapeutics. "While it is still quite early in both trials, we have seen encouraging responses in both P-MUC1C-ALLO1 and P-BCMA-ALLO1 at the lowest doses as well as favorable tolerability. As we look ahead, we are excited to continue enrolling patients at higher dose levels and explore additional strategies to optimize the therapeutic index, including redosing, cyclic dosing, novel preconditioning regimens and combination therapies. We look forward to providing updates at a medical meeting in 2023."

Both posters will be presented at ESMO I-O on Thursday, December 8, 2022 at 12:30-1:15 PM CET in Foyer ABC at the Palexpo Exhibition Centre in Geneva and are now available on the Poseida website at www.poseida.com.

In the poster titled *"Development of an allogeneic CAR-T targeting MUC1-C (MUC1, cell surface associated, C-terminal) for epithelial derived tumors"* (abstract #407, presentation 46P), David Oh, M.D., Ph.D., Assistant Professor, University of California, San Francisco, will highlight:

- As of the cutoff date of November 14, 2022, the study had dosed seven patients with epithelial-derived cancers, including esophageal, colorectal, breast, pancreatic and prostate carcinomas, of which four were evaluable for response.
- Only one patient with breast cancer has been dosed to date; this patient with HR+, HER2- breast cancer, with four prior lines of treatment, achieved a partial response at a dose of $0.75x10^6$ cells/kg.
- Two other patients with heavily pretreated gastrointestinal tumors (colorectal and pancreatic cancer) achieved stable disease at a dose of $0.75x10^6$ cells/kg and $2x10^6$ cells/kg each.
- P-MUC1C-ALLO1 was safe and well tolerated, with no DLTs, CRS, GVHD or ICANS.

"We are very encouraged by these early data highlighting initial safety and tolerability as well as signs of clinical activity of P-MUC1C-ALLO1 even at very low doses," said Dr. Oh, an investigator on the trial. "Importantly, for a novel target such as MUC1-C it has been a key focus to monitor for any

evidence of on-target off-tumor toxicity, and we are pleased that we have not observed any such significant toxicity to date. Overall, we believe that these data support MUC1-C as a target with the potential to address the significant unmet need in patients with advanced carcinomas. We look forward to continuing to evaluate the safety, efficacy and durability of responses as we continue to enroll additional patients into the study."

In the poster titled *"Phase 1 Study to Assess the Safety and Efficacy of P-BCMA-ALLO1, a Fully Allogeneic CAR-T Therapy, In Patients with Relapsed/Refractory Multiple Myeloma (RRMM)"* (abstract #705, presentation 47P), Mehmet Hakan Kocoglu, M.D., Assistant Professor, University of Maryland Medical Center, will highlight:

- As of the cutoff date of November 11, 2022, the study had dosed 10 patients with relapsed/refractory (R/R) multiple myeloma, Of these ten patients, six are evaluable for response (all at the lowest dose level of 0.75 X 10^6 cells/kg).
- The response evaluable patients were heavily pre-treated, having received an average of 6.5 prior lines of therapy with a median time since diagnosis of 5 years. Three patients had previously received BCMA-targeted therapy and four patients had high-risk cytogenetics, of which two had p53 deletions.
- As of the cutoff date, P-BCMA-ALLO1 achieved a 50% (3/6) overall response rate, with a 66% (2/3) ORR in patients who had previously received BCMA-targeted therapy and a 50% (2/4) ORR in patients with high-risk cytogenetics.
- Of the three responders in the first cohort (0.75x10^6 cells/kg), two patients were partial responses and one patient achieved a very good partial response.
- P-BCMA-ALLO1 was extremely well tolerated. There were no cases of CRS, GVHD or ICANS. No DLTs were observed. There was one case of febrile neutropenia.

"To date, P-BCMA-ALLO1 has demonstrated a favorable safety and tolerability profile in patients with R/R multiple myeloma. We have also observed encouraging efficacy signals even at the lowest doses highlighting the potential of Poseida's proprietary genetic editing platforms in allogeneic cell therapies," said Dr. Kocoglu, an investigator on the trial. "In particular, we have seen responses in patients with p53 mutations, a known marker for aggressive multiple myeloma as well as in patients who had received prior BCMA-targeted therapy. These early results support the potential of P-BCMA-ALLO1 to treat a broad patient population with an off-the-shelf CAR-T therapy and we look forward to continuing enrollment in the study."

About P-MUC1C-ALLO1
P-MUC1C-ALLO1 is an allogeneic CAR-T product candidate in Phase 1 development for multiple solid tumor indications. Poseida believes P-MUC1C-ALLO1 has the potential to treat a wide range of solid tumors derived from epithelial cells, such as breast, ovarian, colorectal, lung, pancreatic and renal carcinomas, as well as other cancers expressing a cancer-specific form of the Mucin 1 protein, or MUC1-C. P-MUC1C-ALLO1 is designed to be fully allogeneic, with genetic edits to eliminate or reduce both host-vs-graft and graft-vs-host alloreactivity. Poseida has demonstrated the elimination of tumor cells to undetectable levels in preclinical models of both breast and ovarian cancer. Additional information about the Phase 1 study is available at www.clinicaltrials.gov using identifier: NCT05239143.

About P-BCMA-ALLO1
P-BCMA-ALLO1 is an allogeneic CAR-T product candidate, partnered with Roche, targeting B-cell maturation antigen (BCMA) for the treatment of relapsed/refractory multiple myeloma in Phase 1 development. In vitro and in vivo P-BCMA-ALLO1 preclinical studies showed effective, targeted cancer cell killing and cytokine secretion, with similar or superior anti-tumor efficacy compared to an autologous CAR-T therapy. Additional information about the Phase 1 study is available at www.clinicaltrials.gov using identifier: NCT04960579.

About Poseida Therapeutics, Inc.
Poseida Therapeutics is a clinical-stage biopharmaceutical company advancing differentiated cell and gene therapies with the capacity to cure certain cancers and rare diseases. The Company's pipeline includes allogeneic CAR-T cell therapy product candidates for both solid and liquid tumors as well as in vivo gene therapy product candidates that address patient populations with high unmet medical need. Poseida's approach to cell and gene therapies is based on its proprietary genetic editing platforms, including its non-viral Super piggyBac® DNA Delivery System, Cas-CLOVER™ Site-Specific Gene Editing System and nanoparticle and hybrid gene delivery technologies. The Company has formed global strategic collaborations with Roche and Takeda to unlock the promise of cell and gene therapies for patients. Learn more at www.poseida.com and connect with Poseida on Twitter and LinkedIn.

Forward-Looking Statements
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, among other things, expected plans with respect to clinical trials, including timing of clinical data updates; 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, Poseida's reliance on third parties for various aspects of its business; risks and uncertainties associated with development and regulatory approval of novel product candidates in the biopharmaceutical industry; Poseida's ability to retain key scientific or management personnel; 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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