

November 4, 2023

BrightPath to Update the Preclinical Data of iPSC-derived CAR-iNKT at SITC 2023

Tokyo, Japan - November 4, 2023/ -- BrightPath Biotherapeutics (TSE Growth 4954), a clinical-stage biopharmaceutical company focused on developing novel immunotherapeutics, today announced that Company will present preclinical data on iPSC-derived CAR-iNKT cells at the Society for Immunotherapy of Cancer Annual Meeting (SITC 2023, November 1-5, San Diego). Summary of the abstracts and the electronic posters will be posted on the website of BrightPath after SITC 2023 is held.

Abstract number 315

- iPSC-derived CAR-iNKT cells targeting HER2 show prolonged tumor control and promote durable survival in a tumor xenograft model.

Date & Time: 9 a.m.-9 p.m. EST on Saturday, November 4, 2023

Invariant Natural Killer T (iNKT) cells are a rare subset of T lymphocytes that combine both characteristics of NK cells and T cells. iNKT cells can directly kill tumor cells while also indirectly exert antitumor activities by prompting dendritic cell maturation, priming tumor specific CD8+T cells, and reprogramming pro-tumor myeloid cells. On the other hand, iNKT cells do not induce graft-versus-host disease, which makes them an ideal cell source for “off-the-shelf” cell product. However, the rarity of iNKT cells in human blood poses a challenge in large-scale manufacturing. Induced pluripotent stem cell (iPSC) technology offers a promising strategy to overcome this hurdle by their proliferative capacity that enables large-scale productions of appropriately differentiated and functional cells.

We previously reported the establishment of a feeder cell-free production method for differentiation of iPS cells into iNKT cells, as well as the generation of genetically engineered iPS-iNKTs by transducing anti-CD19 or anti-HER2 chimeric antigen receptors (CARs). The CAR-iPS-iNKTs demonstrated substantially enhanced tumor-killing ability in vitro.

In this presentation, we have reported that HER2-targeting CAR-iPS-iNKTs exhibited potent anti-tumor effects and promoted extension of survival in a tumor xenograft model. Notably, there were no observed adverse events, such as weight loss. Furthermore, we verified that HER2 CAR-iPS-iNKT cells exhibited an HER2-dependent increase in the production of Th1 cytokines, such as IFN- γ , while reducing the production of immunosuppressive cytokines such as IL-10.

About BrightPath:

BrightPath is a clinical stage biopharmaceutical company focused on the development of novel cancer immuno-therapies to transform cancer treatment for refractory or progressive cancers that cannot be treated with conventional standard therapies. BrightPath is actively involved in developing cell therapies currently in clinical trials, immunomodulatory antibodies and new drug targeted at cancer specific neoantigens.

For more information, visit www.brightpathbio.com

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