



Nkarta Therapeutics Presents Preclinical Findings Supporting Gene Editing of Natural Killer Cells and the Combination of Engineered NK plus T Cells at the American Association for Cancer Research (AACR) Virtual 2020 Annual Meeting II

June 22, 2020

Gene editing of engineered natural killer cells contributed to enhanced cell persistence and tumor killing

Combination of engineered natural killer cells and engineered T cells demonstrated potential to achieve improved tumor control, optimized cell proliferation and moderate levels of cytokine accumulation

SOUTH SAN FRANCISCO, Calif. – June 22, 2020 – Nkarta, Inc. (Nkarta), a privately-held biopharmaceutical company developing engineered natural killer (NK) cell therapies to treat cancer, announced today presentations of preclinical findings on the gene editing of natural killer (NK) cells and therapeutic combinations of engineered NK cells and T cells. The findings were presented in two posters at the American Association for Cancer Research (AACR) Virtual 2020 Annual Meeting II.

“As we advance our two co-lead programs for engineered NK cells targeting NKG2D ligands and CD19, Nkarta continues to pioneer novel development approaches that leverage our platform capabilities in NK cell expansion, targeting, manufacturing and cryopreservation,” said Paul J. Hastings, President and Chief Executive Officer of Nkarta. “The findings presented today highlight the exciting potential of gene editing to add additional punch to the tumor killing properties of engineered NK cells and address the inhibitory checkpoints of the tumor microenvironment. In addition, we are encouraged by the early observation of beneficial effects when CAR NK cells and CAR T cells are combined as a potential NK Plus T anti-cancer therapeutic.”

“The exciting data generated by our scientists support our optimism about gene editing and immune cell combinations further propelling our pipeline of NK cell therapies,” said James Trager, Chief Scientific Officer of Nkarta. “These laboratory advances shine a light on the mechanisms behind the anti-cancer immune response. We’re looking forward to learning more from our planned clinical studies about the most relevant ways to optimize NK cell performance using these approaches.”

The posters are available on the [AACR Virtual 2020 Annual Meeting II website](#) and the [Presentations section of the Nkarta website](#).

Details of Posters

Title: CRISPR-Cas9-gRNA RNP mediated gene knockout of TGFβ2 and CISH enhances CD19-CAR NK cell function and provides resistance to TGFβ

Poster number: 891 / 20

Session: PO.IM02.01 Adoptive Cell Therapy 1

Presentation time: June 22, 2020, 9:00am – 6:00pm ET

Summary: An optimized CRISPR/Cas9 gene editing system was used successfully in engineered CAR NK cells to disrupt TGFβ2 and CISH, genes related to the downregulation of cytokine signaling and immune cell activation. TGFβ2 knockout CAR NK cells were resistant to TGFβ-mediated inhibition of tumor cell killing. CISH knockout CAR NK cells had improved proliferation, survival, cytokine production and tumor cell killing. The findings showed that gene editing can be combined with engineering to enhance NK cell function and resist the inhibitory action of the tumor microenvironment.

Title: A combination of CAR-NK and CAR-T cells results in rapid and persistent anti-tumor efficacy while reducing CAR-T cell mediated cytokine release and T-cell proliferation

Poster number: 4235 / 9

Session: PO.CL06.02 Adoptive Cell Therapy 4 / Combination Immunotherapies

Presentation time: June 22, 2020, 9:00am – 6:00pm ET

Summary: A novel platform combining CAR-NK and CAR-T cells enhanced anti-tumor cytotoxicity and persistence, lowered the accumulation of cytokines associated with cytokine release syndrome, promoted NK cell expansion while reducing antigen dependent proliferation of T cells, and prevented tumor relapse in an animal model for at least four months.

About Nkarta

Nkarta, Inc. focuses on combining its natural killer (NK) cell expansion and cryopreservation platform with proprietary cell engineering technologies to generate an abundant supply of NK cells, engineer enhanced NK cell recognition of tumor targets, and improve persistence for sustained activity in the body for the treatment of cancer. Nkarta’s mission is to discover, develop and deliver novel off-the-shelf NK cell therapy product candidates that have a profound impact on patients. Founded in 2015, the company’s investors include Amgen Ventures, Deerfield Management, LSP, Logos Capital, NEA, Novo Holdings A/S, RA Capital Management, Samsara BioCapital and SR One. For more information, please visit the company’s website at www.nkartatx.com.

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