Nkarta Presents Preclinical Data Exploring Gene Knockout Strategies and Combination Agents with NK Cell-Based Therapies at the 2023 AACR Annual Meeting

April 17, 2023

Improved ADCC with ADAM17 gene knockout of NK or CAR NK cells, supporting ADAM17 KO use for clinical applications

Increased specific killing of cancer cells in vitro by the combination of NKX101 and cetuximab, supporting use for combination in solid tumors

SOUTH SAN FRANCISCO, Calif., April 17, 2023 (GLOBE NEWSWIRE) -- Nkarta, Inc. (Nasdaq: NKTX), a biopharmaceutical company developing engineered natural killer (NK) cell therapies to treat cancer, today announced the presentation of two preclinical data abstracts focused on its natural killer cell pipeline and proprietary manufacturing technology at the 2023 American Association of Cancer Research (AACR) Annual Meeting.

"Our AACR presentations demonstrate the potential to combine our engineered, donor-derived NK cell therapies with monoclonal antibodies to extend and enhance the potency of both modalities," said James Trager, PhD, Chief Scientific Officer of Nkarta. "We have shown that our products maintain high levels of CD16 and that the binding of appropriate monoclonal antibodies to CD16 can expand the targeting and potency of CAR NK cells. Specifically, we've shown that NKX101, our clinical candidate engineered with an NKG2D-based CAR, can be combined with cetuximab to enhance activity towards EGFR-expressing tumor cells. We've also shown that CRISPR-mediated knockout of ADAM17, a suppressor of CD16 activity, can be used to further elevate ADCC, and to help maintain NK cell potency. These findings will be critical groundwork for developing successful therapeutic combinations that include treatment with CAR NK cells, particularly in solid tumor settings."

Nkarta's 2023 AACR posters will be available for download shortly after their scheduled presentation at https://www.nkartatx.com/publications/.

ADAM17 knockout NK or CAR NK cells augment antibody dependent cellular cytotoxicity (ADCC) and anti-tumor activity
***Abstract Number* 890**
April 16, 2023, 1:30 p.m. – 5:00 p.m. ET

In this study, ADAM17 KO CAR NK cells demonstrate improved ADCC and ADAM17 KO can enhance *in vivo* anti-tumor activity of CISH/CBLB KO CD70 CAR NK cells in relevant tumor models. ADAM17 KO NK cells maintain dramatically higher surface expression of CD16a and CD62L than control NK cells. ADAM17 KO CD19 CAR NK cells demonstrate higher cytotoxicity compared to control NK cells against Raji tumor cells in the presence of rituximab (anti-CD20). Similarly, ADAM17 KO CD70 CAR NK cells also possess enhanced cytotoxicity against 786-O tumor cells in the presence of the anti-EGFR antibody, cetuximab. Furthermore, ADAM17/CISH/CBLB triple KO CD70 CAR NK cells have improved antitumor efficacy *in vivo* in an HL60 AML xenograft model. These data support the further exploration of ADAM17 KO CAR NK cells for clinical application and to improve the efficacy of therapeutic antibodies in combination with the adoptive transfer of engineered NK cells.

Combination of anti-EGFR antibody cetuximab with NKX101, an allogeneic NKG2D-L targeting NK cell therapy, enhances potency and in vitro cytotoxicity against solid tumors
***Abstract Number* 3183**
April 17, 2023, 1:30 p.m. – 5:00 p.m. ET

This study demonstrates that cetuximab, a human IgG1 antibody targeting epidermal growth factor receptor (EGFR) approved for the treatment of colorectal and head and neck cancers, increases the anti-tumor effect of NKX101 in a dose-dependent manner. Assessment of the interaction between NKX101 and cetuximab *in vitro* revealed that the two agents can combine to kill cancer cells in a synergistic manner. Blocking CD16 on NKX101 cells with a neutralizing antibody significantly decreases the potency of the combination, suggesting that the improvement in potency observed is a direct result of CD16-mediated ADCC activity. It was also demonstrated that common CD16 polymorphisms do not influence NKX101 ADCC activity. This study shows that the combination of an engineered allogeneic NK cell therapy, NKX101, with cetuximab leads to an increase in the specific killing of cancer cells *in vitro* and supports further investigation into this combination for the treatment of solid tumors.

About Nkarta
Nkarta is a clinical-stage biotechnology company advancing the development of allogeneic, off-the-shelf natural killer (NK) cell therapies for patients with cancer. By combining its cell expansion and cryopreservation platform with proprietary cell engineering technologies and CRISPR-based genome engineering capabilities, Nkarta is building a pipeline of future cell therapies engineered for deep anti-tumor activity and intended for broad access in the outpatient treatment setting. For more information, please visit the company's website at www.nkartatx.com.

Cautionary Note on 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, as amended. Words such as "anticipates," "believes," "expects," "intends," "plans," "potential," "projects," "would" and "future" or similar expressions are intended to identify forward-looking statements. Examples of these forward-looking statements include, but are not limited to, statements concerning Nkarta's expectations regarding any or all of the following: the potential benefits of combining NK cell therapies with monoclonal antibodies such as anti-CD16 or anti-EGFR antibodies; the possibility of treating solid tumors with such combination therapies; and the potential benefits of an ADAM17 gene knockout in NK cell therapies. 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 risks and uncertainties include, among others: Nkarta's limited operating history and historical losses; Nkarta's lack of any products approved for sale and its ability to achieve profitability; the risk that the results of preclinical studies and early-stage clinical trials may not be predictive of future results; Nkarta's ability to raise additional funding to complete the development and any commercialization of its product candidates; Nkarta's dependence on the success of its two lead product candidates, NKX101 and NKX019; that Nkarta may be delayed in initiating, enrolling or completing any clinical trials; competition from

third parties that are developing products for similar uses; Nkarta's ability to obtain, maintain and protect its intellectual property; Nkarta's dependence on third parties in connection with manufacturing, clinical trials and pre-clinical studies; the complexity of the manufacturing process for CAR NK cell therapies; and risks relating to the impact on our business of the COVID-19 pandemic or similar public health crises.

These and other risks are described more fully in Nkarta's filings with the Securities and Exchange Commission ("SEC"), including the "Risk Factors" section of Nkarta's Annual Report on Form 10-K for the quarter and year ended December 31, 2022, filed with the SEC on March 16, 2023, and Nkarta's other documents subsequently filed with or furnished to the SEC. All forward-looking statements contained in this press release speak only as of the date on which they were made. Except to the extent required by law, Nkarta undertakes no obligation to update such statements to reflect events that occur or circumstances that exist after the date on which they were made.

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