

Cytovia Therapeutics and NYSCF Announce Filing of Provisional Patent for iPSC-derived NK Cells to Produce Unlimited On-demand NK and CAR-NK Cells for the Treatment of Cancer

Aug. 31, 2020 by Charlotte Tomic

(August 25, 2020)--New York, NY--Cytovia Therapeutics, an emerging biopharmaceutical company and the New York Stem Cell Foundation (NYSCF) Research Institute today announced the filing of a provisional patent application with the U.S. Patent & Trademark Office (USPTO) for the differentiation of Natural Killer (NK) cells from induced pluripotent stem cells (iPSCs). The NYSCF Research Institute is a pioneer and acknowledged leader in stem cell technology, having developed the NYSCF Global Stem Cell Array®, the premier automated robotic platform for reprogramming skin or blood into induced pluripotent stem cells (iPSCs) and differentiating them into disease-relevant cell types.

Cytovia and NYSCF are also collaborating on the process development of Good Manufacturing Practices (GMP) of iPSC NK and CAR-NK cells with the potential to file additional patents on the engineering, expansion and GMP manufacturing processes of iPSC NK cells to treat cancer.

Dr. Daniel Teper, CEO of Cytovia commented, “This first patent application filing on iPSC-NK cells is an important milestone for Cytovia, positioning us as a pioneer in this emerging field. The use of iPSC-NK cells constitutes a transformational approach to cancer treatment, enabling the use of precision cell therapy for many patients. Cytovia plans to initiate first clinical trials with iPSC NK-cells in 2021. “

Susan L Solomon, Chief Executive Officer of NYSCF added, “We are delighted by the progress made by the NYSCF and Cytovia team in the differentiation and expansion of NK cells from an iPSC source. These iPSC-NK cells can be genetically modified to create iPSC-CAR-NK cells. In the coming months, the collaboration will focus on developing a standardized GMP process to support Cytovia’s iPSC-NK and iPSC-CAR NK therapeutic candidates for cancer.”

ABOUT CAR NK CELL THERAPY

Chimeric Antigen Receptors (CAR) are fusion proteins that combine an extracellular antigen recognition domain with an intracellular co-stimulatory signaling domain. Natural Killer (NK) cells are modified genetically to allow insertion of a CAR. CAR-NK cell therapy has demonstrated initial clinical relevance without the limitations of CAR-T, such as Cytokine Release Syndrome, neurotoxicity or Graft vs Host Disease (GVHD). Induced Pluripotent Stem Cells (iPSC) - derived CAR-NKs are naturally allogeneic, available off-the-shelf and may be able to be administered on an outpatient basis. Recent innovative developments with the iPSC, an innovative technology, allow large quantities of homogeneous genetically modified CAR NK cells to be produced from a master cell bank, and thus hold promise to expand access of cell therapy for many patients.

ABOUT THE NEW YORK STEM CELL FOUNDATION RESEARCH INSTITUTE

The New York Stem Cell Foundation (NYSCF) Research Institute is an independent non-profit organization accelerating cures and better treatments for patients through stem cell research. The NYSCF global community includes over 190 researchers at leading institutions worldwide, including the NYSCF – Druckenmiller Fellows, the NYSCF – Robertson Investigators, the NYSCF – Robertson Stem Cell Prize Recipients, and NYSCF Research Institute scientists and engineers. The NYSCF Research Institute is an acknowledged world leader in stem cell research and in the development of pioneering stem cell technologies, including the NYSCF Global Stem Cell Array®, which is used to create cell lines for laboratories around the globe. In 2019, NYSCF launched the [Women's Reproductive Cancers Initiative](#), which aims to shift paradigms in the way these cancers are studied and treated, in collaboration with leading cancer experts across the globe. NYSCF focuses on translational research in an accelerator model designed to overcome barriers that slow discovery and replace silos with collaboration. For more information, visit www.nyscf.org

ABOUT CYTOVIA THERAPEUTICS, INC

Cytovia Therapeutics Inc is an emerging biotechnology company that aims to accelerate patient access to transformational immunotherapies, addressing several of the most challenging unmet medical needs in cancer and severe acute infectious diseases. Cytovia focuses on Natural Killer (NK) cell biology and is leveraging multiple advanced patented technologies, including an induced pluripotent stem cell (iPSC) platform for CAR (Chimeric Antigen Receptors) NK cell therapy, next-generation precision gene-editing to enhance targeting of NK cells, and NK engager multi-functional antibodies. Our initial product portfolio

focuses on both hematological malignancies such as multiple myeloma and solid tumors including hepatocellular carcinoma and glioblastoma. The company partners with the University of California San Francisco (UCSF), the New York Stem Cell Foundation (NYSCF), the Hebrew University of Jerusalem, and CytolImmune Therapeutics. Learn more at www.cytoviatx.com

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