BACKGROUND BRIEFING

Alloplex presents poster describing novel tumor-killing cells at SITC 2021 Conference

Non-engineered SUPLEXA cells demonstrate potent activity against patient-derived cancer organoids *in vitro*

Boston, USA – November 15, 2021. Today Alloplex Biotherapeutics released details of its abstract entitled *Potent Tumor Organoid Infiltration and Killing by PBMC-Derived Effector Cells* presented at SITC 2021. Alloplex's abstract shows that the organization can generate tumor-killing cells from PBMCs using a clinical grade manufacturing process for SUPLEXA: a broad pan-cancer, novel autologous immuno-therapeutic.

Specifically, PBMC-derived SUPLEXA cells contain a mixture of NK cells, CD8 cells, CD56 positive NK-like T cells and gamma delta T cells and utilize a multi-modal anti-tumor mechanism of action against patient-derived cancer organoid tumor cells.

For the benefit of industry analysts, members of the media and VCs, Alloplex's Chief Scientific Officer, Dr. Jim Lederer, today details the insights covered in the abstract.

- Abstract number for publication: #164
- Abstract title: *Potent Tumor Organoid Infiltration and Killing by PBMC-Derived Effector Cells*

Process by which the non-engineered therapeutic cells are generated

PBMCs are taken from cancer patients. These patient cells are then co-incubated with proprietary engineered ENLIST cells to activate PBMCs which are subsequently expanded to become therapeutic SUPLEXA cells[1]. The SUPLEXA cells are cryopreserved and stored under liquid nitrogen conditions until required in the clinic where they are administered intravenously back to the patient.

About the study

The patient-derived organoid killing assays in this study used SUPLEXA cells generated from healthy volunteers. The fluorescence-based assays (where the organoids are labelled red and the SUPLEXA cells are labelled blue assays) were conducted by Champions Oncology in Hackensack New Jersey, an independent CRO.

Documented in the poster is tumor organoid SUPLEXA infiltration data, supplemented with mass cytometry characterization of the cells. "Many people ask what are SUPLEXA cells. Well, they are a combination of a number of immune cell types, and we provide that data in the poster," said Dr. Lederer.

Organoid data presented

[1] SUPLEXA therapeutic cells are a mixture of different cell types. They contain a lot of NK cells, T cells mostly CD8 + T cells with alpha-beta receptors, but also cells with gamma delta TCR expression.

Lung and Colorectal cancer patient-derived organoid models.
Patient-derived organoid model treated with an increasing titration of SUPLEXA cells showed a profound reduction in the number of tumor cells killed (shown by the increased presence of red tumor cells). The results are highly statistically significant.

Conclusion:
"We are very pleased to see that there was observed killing of both the colorectal and lung cancer organoid model by SUPLEXA cells. This supports the potent potential for broad tumor-killing activity," said Dr. Lederer. "SUPLEXA cells represent a novel autologous therapeutic for cancer that will be tested in Phase 1 clinical trial by Alloplex Biotherapeutics, forecast to start starting in the first quarter of 2022," he said.

Commenting on the paper's conclusions, Alloplex Scientific Founder and CEO Frank Borriello stated, "I am thrilled with these findings which show that SUPLEXA cell anti-tumor activity is exceedingly robust with high statistical relevance. We have now done everything possible preclinically and await regulatory approval to proceed into our first-in-human clinical trial."

Download conference poster here
https://alloplexbio.com/publications/potent-tumor-organoid-infiltration-and-killing-by-pbmc-derived-effector-cells/

About Alloplex Biotherapeutics, Inc.
Alloplex Biotherapeutics is a clinic-ready company focused on developing SUPLEXA; a potential first-in-class autologous, pan-cancer therapy for the treatment of cancer patients. The privately-held company was established in 2016 by Scientific Founder and CEO, Dr. Frank Borriello, MD, PhD.

About SUPLEXA Therapeutic Cells
SUPLEXA Therapeutic Cells are an autologous cellular therapy intended to treat cancer. They are manufactured from peripheral white blood cells (PBMC). Following a short *ex vivo* activation procedure, the PBMC are differentiated into a mixed population of cells comprised of NK, NK-T and T cells. SUPLEXA therapeutic cells are capable of recognizing and lysing a broad range of tumor cells without harming normal cells. SUPLEXA is cultured ex-vivo and administered by IV.

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