Fred Hutch Cancer Center

CCNA1 TCRs for AML and solid tumors

Business Opportunity

Exclusive license
Sponsored research

Technology Type

Cell Therapy

State of Development

Preclinical in vivo

Patent Information

PCT application filed

Investigator

Phil Greenberg, MD
Professor & Head,
Program in Immunology,
CRD,
The Rona Jaffe
Foundation Endowed
Chair

Tech ID

18-092

Contact

partnering@fredhutch.org

Brief Description

High-affinity HLA-A2 restricted TCRs for the treatment of AML and several solid tumors.

Technology Overview

Cancer-testis antigen cyclin A1 (CCNA1) is an alternative A-type cyclin and is thought to promote cell proliferation (specifically at the G1/S transition) and survival, has been shown to be leukemogenic in mice. It is overexpressed in ≥50% Acute Myeloid Leukemia (AML) and ovarian cancer. This overexpression is associated with poor prognosis and shorter survival rates in AML patients. Dr. Phil Greenberg's lab at Fred Hutchinson Cancer Center have identified high affinity HLA-A2 restricted TCRs that can selectively recognize and attack CCNA1-positive cancer cells. These TCRs demonstrate potent cytotoxicity against CCNA1-expressing cells. Preclinical studies validate their efficacy, with progress made towards clinical trials.

Applications

- AML, ovarian, cervical, head and neck, bladder and other epithelial cancers

Advantages

- High-affinity TCRs selected from high-avidity clones
- Kills leukemia cell lines and primary AML