
A Phase I Study of Chimeric Antigen Receptor Engineered Stem/Memory T Cells for the Treatment of HER2-Positive Brain Metastases

Grant Award Details

A Phase I Study of Chimeric Antigen Receptor Engineered Stem/Memory T Cells for the Treatment of HER2-Positive Brain Metastases

Grant Type: Clinical Trial Stage Projects

Grant Number: CLIN2-11574

Project Objective: Complete a Phase 1 study of autologous chimeric antigen receptor engineered stem/memory T Cells for the treatment of HER2-positive brain metastases.

Investigator:

Name:	Saul Priceman
Institution:	City of Hope, Beckman Research Institute
Type:	PI

Disease Focus: Brain Cancer, Breast Cancer, Cancer, Solid Tumors

Human Stem Cell Use: Adult Stem Cell

Award Value: \$9,015,149

Status: Active

Grant Application Details

Application Title: A Phase I Study of Chimeric Antigen Receptor Engineered Stem/Memory T Cells for the Treatment of HER2-Positive Brain Metastases

Public Abstract: **Therapeutic Candidate or Device**

Autologous naïve-stem/memory T cells engineered with a chimeric antigen receptor targeting the HER2 antigen (HER2BBζ-Tn/mem)

Indication

HER2-positive brain and/or leptomeningeal metastases, primarily from breast cancer

Therapeutic Mechanism

The proposed therapy aims to provide a safe and effective treatment option for patients with HER2-positive cancers that have metastasized to the central nervous system via direct chimeric antigen receptor (CAR) T cell-mediated tumor cytotoxicity.

Unmet Medical Need

Currently, there are no effective treatment options that provide durable and life-extending therapies to patients with HER2-positive brain and/or leptomeningeal metastatic disease.

Project Objective

Phase 1 trial completed

Major Proposed Activities

- Phase 1 clinical testing of regional intraventricular delivery of HER2BBζ-Tn/mem CAR T cell therapy
- Achieve primary, secondary, and correlative study objectives in phase 1 trial
- Phase 1 clinical trial activities to accelerate initiation of phase 2 trial

Statement of Benefit to California:

In California, breast cancer constitutes the highest cancer incidence with an expected 27,700 new cases and 4,560 deaths in 2019. Up to 25% of breast cancers overexpress HER2, and nearly 50% of these patients will ultimately develop brain and/or leptomeningeal metastases. Our proposal utilizes regional intraventricular delivery of HER2-targeted CAR T cells to treat brain metastases of HER2+ cancers, and aims to provide a durable and life-extending therapeutic option for these patients.

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