
Chimeric Antigen Receptor Targeting Spike Glycoprotein of SARS-cov2

Grant Award Details

Chimeric Antigen Receptor Targeting Spike Glycoprotein of SARS-cov2

Grant Type: Discovery Research Projects

Grant Number: DISC2COVID19-12016

Project Objective: To develop an allogeneic, iPSC-derived CAR NK cell therapy targeting SARS-CoV-2

Investigator:

Name:	PREET Chaudhary
Institution:	University of Southern California
Type:	PI

Disease Focus: COVID-19, Infectious Disease, Respiratory Disorders

Human Stem Cell Use: iPS Cell

Award Value: \$249,996

Status: Active

Grant Application Details

Application Title: Chimeric Antigen Receptor Targeting Spike Glycoprotein of SARS-cov2

Public Abstract: **Research Objective**

We expect to generate iPSC derived NK cells expressing a CAR against SARS-cov2 that could be used as an off-the-shelf therapy for COVID-19

Impact

The proposed studies will provide a novel therapeutic approach to boost the cellular immunity against SARS-cov2, especially for high risk populations.

Major Proposed Activities

- Construction of SARS-cov2 CAR constructs
- Generation of iPSC-derived NK cells expressing CARs
- Differentiation of iPSC-CAR cells into hematopoietic progenitors
- Derivation of human NK-CAR cells
- In vitro studies of iPSC derived NK-CAR cells
- In vivo studies of iPSC-derived NK CAR cells

Statement of Benefit to California: The SARS-cov2 is the etiological agent of COVID-19, a global pandemic that has caused more than 4200 deaths in California. The proposed studies will provide a novel therapeutics to improve the immune response to COVID-19.

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