
Modulation of the Wnt pathway to restore inner ear function

Grant Award Details

Modulation of the Wnt pathway to restore inner ear function

Grant Type: Quest - Discovery Stage Research Projects

Grant Number: DISC2-11199

Project Objective: Identification of regimens of Wnt activators that stimulate hair cell regeneration.

Investigator:

Name:	Alan Cheng
Institution:	Stanford University
Type:	PI

Disease Focus: Hearing Loss

Human Stem Cell Use: Adult Stem Cell

Award Value: \$1,394,870

Status: Active

Grant Application Details

Application Title: Modulation of the Wnt pathway to restore inner ear function

Public Abstract:**Research Objective**

We aim to identify drug regimens that stimulate endogenous progenitors in the inner to regenerate to restore hearing or balance functions.

Impact

Treatment for irreversible hearing loss and balance disorders is limited, a drug regimen to reverse is highly impactful.

Major Proposed Activities

- Production of R-spondin proteins
- Drug testing in neonatal cochlear cultures
- Drug testing in neonatal and mature utricle cultures
- Drug testing in human utricle cultures
- Drug testing in the cochlea in vivo
- Drug testing in the utricle in vivo

Statement of Benefit to California:

Hearing loss (HL) is a permanent sensory disorder affecting about 48 and 7.7 million people in the US and California. Another 90 and 14.5 million US and California residents suffer from dizziness and vertigo. Currently, treatment options including hearing aids aim at improving the symptoms of HL and dizziness, yet fail to reverse the main underlying pathology, loss of inner ear sensory hair cells (HC). The current research aims to characterize a drug regimen to reverse these sensory deficits.

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