
Human Pancreatic Cancer Stem Cells: Developing a Novel Drug for Cancer Eradication

Grant Award Details

Human Pancreatic Cancer Stem Cells: Developing a Novel Drug for Cancer Eradication

Grant Type: Inception - Discovery Stage Research Projects

Grant Number: DISC1-10583

Project Objective: Human Pancreatic Cancer Stem Cells: Developing a Novel Drug for Cancer Eradication

Investigator:

Name:	John Cashman
Institution:	Human BioMolecular Research Institute
Type:	PI

Disease Focus: Cancer, Pancreatic Cancer, Solid Tumors

Human Stem Cell Use: Cancer Stem Cell

Cell Line Generation: Cancer Stem Cell

Award Value: \$303,785

Status: Closed

Progress Reports

Reporting Period: Year 1

[View Report](#)

Grant Application Details

Application Title: Human Pancreatic Cancer Stem Cells: Developing a Novel Drug for Cancer Eradication

Public Abstract:**Research Objective**

We will use human pancreatic cancer (PC) stem cells to show 1 inhibits proliferation, self-renewal and cell viability. This paradigm is transformational for anti-cancer drug discovery for patients.

Impact

Pancreatic cancer (PC) kills >40,000/yr in the US. PC is a major unmet medical need. Use of PC stem cells in development of 1 will usher in a new paradigm. 1 may be of great utility with other drugs.

Major Proposed Activities

- Show 1 potently and selectively reduces self-renewal capacity and cell viability of a human pancreatic cancer stem cell and compare the result with a normal pancreatic cancer cell.
- Show 1 induces apoptosis of a human pancreatic cancer stem cell line via the intrinsic induced cell death (or apoptosis) pathway.
- Show effectiveness of 1 as an inhibitor of the KRAS-NF-κB signaling pathway as a mechanism to eradicate human pancreatic cancer stem cell progression relevant to human patients.
- Summarize the results in a pre-IND report and contact the U.S. FDA. Apply for financial support to do additional IND-enabling studies.

Statement of Benefit to California:

We will develop a new pancreatic cancer (PC) therapy using PC cancer stem cells. In California, the incidence of PC death is ~5,000/yr. PC incidence is increasing in CA & will be 20% greater in 2020. Therapy for PC is limited to surgery. Combination of chemotherapy & radiation are ineffective. Thus, PC is a major unmet medical need. Successful completion of this work will provide CA citizens much needed advances in PC health technology & improvement in health care & effective anti-cancer drugs.

Source URL: <https://www.cirm.ca.gov/our-progress/awards/human-pancreatic-cancer-stem-cells-developing-novel-drug-cancer-eradication>