GRANT SNAPSHOT

2012 Pancreatic Cancer Action Network – AACR Innovative Grant (Grant funded in part by the Lefkofsky Foundation)

Grantee:	Paul Chiao, PhD
Institution:	MD Anderson Cancer Center
Research Project:	*TAK1 is a Novel Therapeutic Target in Pancreatic Cancer*
Award Period:	July 1, 2012 – June 30, 2014
Amount:	$200,000

Biographical Highlights

After receiving his bachelor's degree in Microbiology from the University of Iowa, Dr. Chiao completed his PhD studies in Molecular Biology at the University of Texas Graduate School of Biomedical Sciences. When he finished a postdoctoral fellowship at the Salk Institute for Biological Studies, Dr. Chiao joined the faculty of The University of Texas M. D. Anderson Cancer Center in 1995, and he is currently an Ashbel Smith Professor and the Co-Director of Cancer Biology Program of the Graduate School. Dr. Chiao's laboratory focuses the studies on the biology and signaling pathways to provide mechanistic insights into to the development of pancreatic cancer and identify novel therapeutic targets for the treatment of this disease.

Project Overview

Historically, cancer treatments have aimed to attack any cells that are currently growing. For pancreatic cancer, this approach has not been successful. Therefore, many research laboratories are striving to devise more specific methods to target cancer cells, and spare normal cells. A hallmark of pancreatic tumors is mutation of a protein called K-Ras. Efforts to therapeutically target K-Ras have not been successful to date. However, the proteins that get activated by K-Ras and lead to changes in cellular behavior could also be attractive targets for novel drugs.

Dr. Chiao is focusing on one such protein, called TAK1. TAK1 is known to be expressed and active in pancreatic cancer cells, and its presence predicts poor patient outcome. Moreover, a protein that functions to negatively regulate TAK1 activity, CYLD, has been found to be absent from pancreatic cancer cells, thereby allowing TAK1 to maintain a constant, high level of activity. Dr. Chiao therefore strives to develop drugs to chemically inhibit the activity of TAK1, and test their effectiveness in several types of mouse models of pancreatic cancer. Targeted therapies that are directed towards vulnerabilities unique to the cancer cells could revolutionize the treatment of pancreatic cancer.