



Research

PANCREATIC CANCER ACTION NETWORK

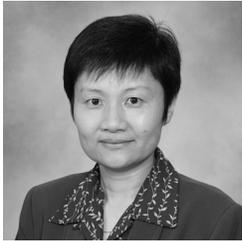
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GRANT SNAPSHOT

2010 Pancreatic Cancer Action Network – AACR Innovative Grant

Grantee:	Amy Tang, PhD
Institution:	Eastern Virginia Medical School
Research Project:	SIAH is a Novel and Effective Anti-K-Ras Drug Target in Pancreatic Cancer
Award Period:	July 1, 2010 – June 30, 2012
Amount:	\$200,000



Biographical Highlights

Dr. Tang joined the Department of Microbiology and Molecular Cell Biology at Eastern Virginia Medical School in 2010 as an Assistant Professor. Previously, she was a Senior Associate Consultant and Assistant Professor in the Department of Surgery at Mayo Clinic College of Medicine in Rochester, MN. She earned her PhD in Biochemistry and Molecular Biology from the Pennsylvania State University and then completed postdoctoral training at the University of California at Berkeley, where she then became a Research Associate. She serves as a reviewer for *Cancer Research* and *Innate Immunity* and has authored several publications in leading scientific journals including *Journal of Biological Chemistry*, *Cell*, *Genetics*, *Human Immunology*, and *Cancer Research*. Dr. Tang's research on pancreatic cancer looks at the RAS pathway. Her aim is to block only those RAS signals that ultimately lead to cancer. She has had very positive results in stopping pancreatic cancer in tissue cell culture blocking one of the RAS pathway's downstream components, the ubiquitin ligase SIAH.

Dr. Tang first witnessed the devastation of pancreatic cancer while working at the Mayo Clinic. The lack of early detection and effective treatment intrigued and challenged her to find a better way to inhibit the major "engine", the oncogenic K-Ras signaling pathway that fuels the aggressive tumor growth and cancer metastasis in pancreatic cancer. She is determined to find relief for pancreatic cancer patients and has dedicated her scientific career to combat this deadliest form of cancer.

Project Overview

Many researchers have strived to block the often-activated K-Ras signaling pathway in pancreatic cancer, with little success. K-Ras stimulates a cascade of events in the cell, culminating in the activation of a protein called SIAH. The function of SIAH is to induce degradation of specific proteins, leading to increased cell growth and movement, hallmarks of cancer.

Dr. Tang will first determine whether SIAH can serve as a biomarker of pancreatic cancer, or protein indicator of the presence of a pancreatic tumor. This will be measured by analyzing patient tumor tissue. Next, Dr. Tang will evaluate whether SIAH activity plays a role in K-Ras-induced motility (ability to move) of pancreatic cancer cells. Finally, it will be determined whether blocking SIAH activity will turn off the Ras signaling pathway, providing a novel therapeutic target for pancreatic cancer. Although a great deal of research has focused on K-Ras itself, little attention has been placed on the SIAH protein that gets activated by K-Ras. Therefore, these studies represent a fresh approach to inhibiting the K-Ras pathway in pancreatic cancer.