



Research

PANCREATIC CANCER ACTION NETWORK

ADVANCE RESEARCH. SUPPORT PATIENTS. CREATE HOPE.

www.pancan.org | 877.272.6226

GRANT SNAPSHOT

2011 Abby Sobrato – Pancreatic Cancer Action Network – AACR Innovative Grant

Grantee:	Matthias Hebrok, PhD
Institution:	University of California, San Francisco
Research Project:	<i>Role of miRNAs in Pancreatic Adenocarcinoma</i>
Award Period:	July 1, 2011 – June 30, 2013
Amount:	\$200,000

Biographical Highlights



Prior to this award, Dr. Hebrok was also the recipient of the 2008 Michael C. Sandler – Pancreatic Cancer Action Network – AACR Pilot Grant. The Pilot Award mechanism has been renamed to Innovative Awards, providing funding to novel and creative projects focused on pancreatic cancer.

Dr. Hebrok is the Hurlbut-Johnson Distinguished Professor in Diabetes Research and Director of the UCSF Diabetes Center. He performed his PhD studies at the Max-Planck-Institute for Immunobiology in Freiburg, Germany.

His postdoctoral work was completed at the Howard Hughes Medical Institute at Harvard University. Dr. Hebrok has been at UCSF since 1999. His laboratory uses cell, molecular, and developmental biology approaches to understand normal pancreatic development, as well as pancreatic diseases, including diabetes and cancer.

Project Overview

General function of RNA is to serve as an intermediary between genes (DNA) and proteins. However, a recently discovered class of RNAs, called microRNA or miRNA, is made up of small sequences of nucleic acid that do not code for proteins. Instead, miRNAs positively or negatively regulate the process by which coding RNAs lead to the expression of certain proteins. In cancer, miRNAs lead to aberrant expression of proteins that affect growth, survival, and other cellular features that transform normal cells into cancer cells.

Dr. Hebrok's work aims to better understand the role of miRNAs in pancreatic cancer initiation and progression, as well as decipher which miRNAs become activated throughout each step of the development of the disease. Additionally, there has been a great deal of recent attention to the tissue surrounding a tumor, or stroma. The stroma is thought to support and nourish the tumor, and potentially impede drug delivery. Dr. Hebrok will analyze how stroma-epithelial interactions change the expression of miRNAs in pancreatic cancer cells. Subsequently, he will manipulate miRNA levels in pancreatic cancer cells themselves. In addition, he will eliminate critical miRNAs in a mouse model of pancreatic cancer. These studies will shed light on the expression and function of miRNAs throughout the progression of pancreatic cancer, potentially leading to improved drug targets or markers to detect earlier disease.