GRANT SNAPSHOT

2010 Pancreatic Cancer Action Network – AACR Career Development Award

Grantee:	Michael VanSaun, PhD
Institution:	Vanderbilt University
Research Project:	Influence of Adipokines on Pancreatic Cancer Progression
Award Period:	July 1, 2010 – June 30, 2012
Amount:	$200,000

Biographical Highlights

Dr. VanSaun received his PhD in Anatomy and Cell Biology from the University of Kansas Medical Center in 2003. He then joined Vanderbilt University in 2004 as a Research Fellow, first completing his postdoctoral training in the Department of Cancer Biology, and then advancing to a Research Instructor in the Departments of Surgery and Cancer Biology in 2009. Through his involvement with the Division of Hepatobiliary Surgery and Liver Transplantation at Vanderbilt, Dr. VanSaun has become acutely aware of the struggle faced by pancreatic cancer patients. His interest in pancreatic cancer research also has been sparked by personal circumstances as there have been multiple gastrointestinal related cancers in his family. Dr. VanSaun hopes to identify novel molecular mediators of pancreatic cancer progression and determine their potential for prevention and/or therapeutics. His research contributions have been published in several leading scientific journals, including *American Journal of Pathology, Cancer Research, Molecular Imaging, Developmental Neurobiology, Molecular and Cellular Biology,* and *Journal of Neurobiology.*

Project Overview

Research has shown a link between obesity and increased inflammation and pancreatitis, as well as a potential increased rate of pancreatic cancer. Dr. VanSaun previously identified a category of proteins, called adipokines, that are derived by adipose (fat) tissue, and can act upon the tumor cells, potentially influencing their growth. Consistent with this possibility, Dr. VanSaun has discovered the expression of the appropriate receptors that bind and are activated by these adipokines on the pancreatic cancer cell surface.

The purpose of this project is to determine the role of adipokines, and obesity in general, on pancreatic cancer development and progression. First, Dr. VanSaun and colleagues will analyze pancreatic cancer cells cultured in a dish, with genetically altered receptors for these adipokines. He hypothesizes that the absence of functional adipokine receptors will yield cancer cells with reduced ability to grow, move, and penetrate cell membranes. Next, Dr. VanSaun will conduct similar experiments in a mouse model, assessing whether a deficiency of functional adipokine receptors will affect the tumors' growth in the mouse. He will also analyze the effects of a high-fat diet on the ability of pancreatic tumors to grow and develop in mice. Overall, these important studies will shed light on the interconnection between obesity, fat-derived factors, and pancreatic cancer.