



Research

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GRANT SNAPSHOT

2010 Pancreatic Cancer Action Network – AACR Innovative Grant

Grantee:	Gloria Su, PhD
Institution:	Columbia University
Research Project:	Notch Decoy Signaling in Pancreatic Cancer Stem Cells
Award Period:	July 1, 2010 – June 30, 2012
Amount:	\$200,000

This grant is funded in part by a generous gift from an anonymous family foundation.



Biographical Highlights

After receiving her PhD in Immunology from University of Chicago, Dr. Su relocated to Johns Hopkins University where she first completed a postdoctoral fellowship in Cancer Genetics/Pancreatic Cancer. She then became an Instructor in the Department of Pathology and, in 2001, was promoted to Assistant Professor. In 2003, she joined Columbia University College of Physicians and Surgeons as an Assistant Professor in the Departments of Otolaryngology/Head & Neck Surgery, and Pathology. Her research interests include genetic profiling and mouse modeling for pancreatic cancer. Dr. Su is a two-time recipient of a Pancreatic Cancer Action Network Grant. In 2007, she received a Pilot Grant for her research titled *Activin Signaling in the Development of Pancreatic Cancer Precursor Lesions*. Dr. Su serves on the editorial board of the International Journal of Gastrointestinal Cancer and has served as a grant reviewer for the National Institutes of Health, Department of Defense – Congressionally Directed Medical Research Programs, Italian Ministry of Health, and Cancer Council NSW Australia.

Project Overview

Notch is a protein known to play a vital role in the development of numerous tissues, including pancreatic, and then is turned off in adult tissues. However, pancreatic cancer cells aberrantly reactivate Notch signaling, leading to cell differentiation and proliferation. Notch comprises a family of four receptors, and numerous proteins that bind to and activate those receptors. The focus of Dr. Su's study is to evaluate a novel method of blocking Notch.

Initial studies will involve deleting the Notch gene itself from both the tumor and surrounding cells in a mouse model of pancreatic cancer, and determining if this protein's presence is necessary for tumor development and maintenance. Then, Dr. Su and colleagues will explore whether a Notch "decoy" can exclusively impede the Notch signaling pathway. This decoy physically prevents Notch receptors from binding to their activating proteins, representing a novel strategy, as opposed to previously described inhibitors that less specifically block an entire family of similarly signaling molecules. Dr. Su's experimental approach provides promising therapeutic potential by obstructing an important signaling pathway in pancreatic cancer.