GRANT SNAPSHOT

2014 Pancreatic Cancer Action Network – AACR Innovative Grant

Grantee:	Dafna Bar-Sagi, PhD
Institution:	New York University School of Medicine
Research Project:	*PDA development: Heads or tails?*
Award Period:	July 1, 2014 – June 30, 2016
Amount:	$200,000

Biographical Highlights

Dr. Bar-Sagi is Professor in the Department of Medicine and the Department of Biochemistry and Molecular Pharmacology, Senior Vice President and Vice Dean for Science, Chief Scientific Officer at New York University Langone Medical Center. Prior to this she was Chair of the Department of Biochemistry at New York University Langone Medical Center following a Chair position in the Department of Microbiology and Molecular Genetics at SUNY Stony Brook. This is Dr. Bar-Sagi's third research grant from the Pancreatic Cancer Action Network; she is the co-principal investigator on the 2013 Tempur-Pedic – Inaugural Research Acceleration Network Grant in memory of Tim Miller, and received a Pilot Grant in 2008. In addition, several postdoctoral trainees of Dr. Bar-Sagi have received grants from the organization.

She is a world authority in the field of oncogenic signaling and has made fundamental contributions to the understanding of the role of Ras oncogenes in tumor development. She has devoted the past decade to demystifying the complex functions of the Ras oncogene in pancreatic cancer, an effort that has led to the identification of specific effector mechanisms that are critical for the tumorigenic process including inflammation, immunity. and metabolism.

Project Overview

The pancreas is an elongated soft gland divided into three sections: the head, the body, and the tail. A well-documented but poorly understood and understudied clinical aspect of pancreatic cancer is that in the majority of patients (close to 80%), the tumors develop in the head rather than the tail of the pancreas indicating that the anatomical location within the pancreas can dictate the course of tumor development (also known as tumorigenesis). However, the mechanisms underlying this region-specific difference in tumorigenic potential are unknown, and their identification is the major goal of the studies outlined by Dr. Bar-Sagi in this proposal.

Specifically, Dr. Bar-Sagi and her colleagues will employ diverse strategies to pursue two specific aims: (1) To characterize the differential capacity of precancerous pancreatic abnormalities to develop and progress in the head and the tail of the pancreas, and (2) To identify determinants outside of the cell that confer distinct precancerous growth properties in the head and the tail of the pancreas. These efforts will improve our biological understanding of the drivers of pancreatic tumorigenesis and, as such, should provide novel insights into the eventual design of effective therapeutic strategies for this disease.