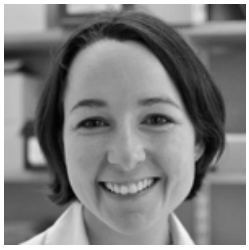
GRANT SNAPSHOT

2012 Celgene Corporation – Pancreatic Cancer Action Network – AACR Pathway to Leadership Grant

Grantee:	Stephanie Dougan, PhD
Institution:	Whitehead Institute for Biomedical Research
Research Project:	*Transnuclear mice: understanding the T cell response to pancreatic cancer*
Award Period:	July 1, 2012 – June 30, 2017
Amount:	$600,000

Biographical Highlights



Dr. Dougan received her undergraduate degree in Biochemistry at the University of Florida, and then earned a PhD in Immunology from Harvard. Dr. Dougan is currently a postdoctoral fellow at the Whitehead Institute for Biomedical Research, affiliated with the Massachusetts Institute of Technology (MIT). Her postdoctoral studies are taking place in the laboratory of Hidde Ploegh, PhD, recipient of the 2011 Kovler – Pancreatic Cancer Action Network – AACR Innovative Grant.

During the mentored phase of her Pathway to Leadership Grant, Dr. Dougan's project overlaps neatly with the studies outlined in Dr. Ploegh's Innovative Grant, and then she will expand upon her findings once she obtains an independent faculty position for the latter portion of her funded period.

Dr. Dougan is an author on an impressive list of publications, and has received various awards for her teaching and research skills. She describes herself as an immunologist with extensive experience working with animals and studying animal (mouse) models of human disease. She commented that she has a "keen interest" in tumor immunology as the focus of her future career, and is drawn towards studying pancreatic cancer as an intellectual challenge, as well as a dire unmet clinical need.

Project Overview

Although tumors are comprised of the body's own cells, there are proteins expressed by cancer cells, including pancreatic, that could and should be recognized by the immune system as "foreign." However, pancreatic tumors have devised mechanisms to evade an immune attack. The tumor is colonized by immune-suppressive cells, known as regulatory T-cells, which function to block cells intent on attacking the tumor, called cytotoxic (or killer) T-cells.

Drs. Dougan and Ploegh are working on strengthening the cytotoxic T-cells and training them to recognize a protein commonly expressed by pancreatic tumors, while at the same time blocking the inhibitory activity of the regulatory T-cells. This will be accomplished through the generation of specific mouse models of pancreatic cancer to produce the appropriate immune cells. Ultimately, a mechanism to harness the immune system to recognize and attack pancreatic tumors could represent a powerful treatment strategy.