

Bankhead-Coley Cancer Research Program

Guzmán, Esther

Harbor Branch Oceanographic Institute
Florida Atlantic University

2009 Program
New Investigator (3-year project)

Project Title: Discovery of Novel Anti-Inflammatory Compounds for Use as Chemopreventatives of Pancreatic Cancer

Project Summary: The overall objective of this grant is to identify bioactive marine samples that inhibit inflammation as potential novel chemo-preventatives of pancreatic cancer. Patients with pancreatitis have a much higher risk to develop pancreatic cancer than the general population. Thus, compounds that inhibit inflammation have the potential to prevent the development of pancreatic cancer. To this purpose, pancreatic cancer cells will be treated with samples from the Harbor Branch Oceanographic Institution (HBOI) library of marine-derived natural products to find inhibitors of three key proteins: NFkB, STAT3, and IL-8. These three molecules are important inflammatory regulators and have been implicated with the aggressiveness of pancreatic cancer. Once the activity is identified in pancreatic cancer cells, the most active samples will be further validated by determining if they help stop the uncontrolled growth of pancreatic cancer cells or promote their death. The successful completion of this grant is expected to lead to the identification of novel inhibitors of inflammation that may aid in the fight against pancreatic cancer. The data obtained from this project will be used to secure funding to perform the next steps necessary to bring any of the identified compounds closer to the clinic.