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FAU Harbor Branch Scientists Awarded National Institutes of Health Grant for Pancreatic Cancer Research

BOCA RATON, Fla. (April 10, 2013) – Scientists at FAU’s Harbor Branch Oceanographic Institute (HBOI) have been awarded a grant of \$345,716 by the National Institutes of Health (NIH) to identify marine natural products for their potential use in the treatment of pancreatic cancer. The principal investigator for this award is Esther Guzmán, Ph.D., along with co-investigator Amy Wright, Ph.D.

Pancreatic cancer is the fourth leading cause of cancer deaths in the United States, with a five-year survival rate of only 6 percent. Guzmán and Wright will initiate a screening effort with this grant to discover inhibitors of the Receptor for Advanced Glycation End products (RAGE) in pancreatic cancer cells using HBOI’s unique library of marine natural products. RAGE has emerged as an important regulator of inflammatory, stress and cell survival pathways, which contribute to the aggressiveness of pancreatic cancer.

“To identify potential treatments for pancreatic cancer, we are looking beyond compounds that directly kill cancer cells to compounds that can change key processes that have gone awry inside the cancer cells or that alter the microenvironment surrounding the tumor, both of which can facilitate tumor initiation and disease progression,” said Guzmán. “Chronic inflammation creates a microenvironment that is conducive to cancer formation. RAGE has recently been shown to be a key factor in driving the inflammatory process in pancreatic cancer cells and discovery of inhibitors that block its action may provide new therapeutic options. We hope that inhibitors of RAGE will not only have the ability to fight pancreatic cancer but may also be used to prevent it from ever developing.”

Guzmán and Wright are members of the Marine Biomedical and Biotechnology Research Program at HBOI, working to discover marine natural products that can be used as medicines or as tools to better understand the molecular basis of disease. They have identified more than 100 marine natural products with cancer fighting properties.

Guzman and Wright are co-inventors on a U.S. patent that was awarded last year covering the potential use of manzamine A, a natural product isolated from a marine sponge, as a

treatment in pancreatic cancer. Manzamine A is not a potent killer of pancreatic cancer cells, but its anti-tumor properties stem from its ability to change the tumor microenvironment and the signaling pathways of the cancer cells.

Wright serves as the director of the multidisciplinary Florida Center of Excellence in Biomedical and Marine Biotechnology. This Center brings together groups with established expertise in marine biotechnology, functional genomics and bioinformatics in a synergistic fashion with the overall goal of discovering and developing new medicines and transferring new technology related to marine drug discovery to the industrial sector.

For more information, contact Carin Campbell Smith at 772-242-2230 or carinsmith@fau.edu, or visit www.cebmb.info/.

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About Harbor Branch Oceanographic Institute:

Founded in 1971, FAU's Harbor Branch Oceanographic Institute is a research community of marine scientists, engineers, educators and other professionals focused on Ocean Science for a Better World. The institute drives innovation in ocean engineering, at-sea operations, drug discovery and biotechnology from the oceans, coastal ecology and conservation, marine mammal research and conservation, aquaculture, ocean observing systems and marine education. For more information, visit www.hboi.fau.edu.

About Florida Atlantic University:

Florida Atlantic University, established in 1961, officially opened its doors in 1964 as the fifth public university in Florida. Today, the University, with an annual economic impact of \$6.3 billion, serves more than 30,000 undergraduate and graduate students at sites throughout its six-county service region in southeast Florida. FAU's world-class teaching and research faculty serves students through 10 colleges: the Dorothy F. Schmidt College of Arts and Letters, the College of Business, the College for Design and Social Inquiry, the College of Education, the College of Engineering and Computer Science, the Graduate College, the Harriet L. Wilkes Honors College, the Charles E. Schmidt College of Medicine, the Christine E. Lynn College of Nursing and the Charles E. Schmidt College of Science. FAU is ranked as a High Research Activity institution by the Carnegie Foundation for the Advancement of Teaching. The University is placing special focus on the rapid development of three signature themes – marine and coastal issues, biotechnology and contemporary societal challenges – which provide opportunities for faculty and students to build upon FAU's existing strengths in research and scholarship. For more information, visit www.fau.edu.