

James & Esther King Biomedical Research Program

Vazquez-Padron, Roberto

*Department of Surgery
University of Miami*

*2011 Program
Bridge
(1-year project)*

Project Title: Leukadherins as Novel Compounds for Treating Restenosis

Project Summary: Coronary artery disease (CAD) is the leading cause of death in the United States; tobacco smoking is one of the major risk factors. Smokers' risk of developing CAD is 2–4 times that of nonsmokers. In the United States, 25% of patients who undergo percutaneous coronary intervention (PCI), the procedure in which the occluded vessels of CAD patients are opened, are active smokers. Unfortunately, re-narrowing (restenosis) hampers PCI success in 5–25% of patients, leading to a second intervention, morbidity, or death. We recently submitted a multi-PI RO1 application to perform preclinical studies with a novel group of potential anti-restenotic drugs known as leukadherins to the National Heart, Lung and Blood Institute (NHLBI). Leukadherins are a group of small compounds discovered in Dr. Vineet Gupta's laboratory that has the extraordinary ability of "locking" leukocyte adhesion to the denuded endothelium. The overall goal of this bridge grant research is to extend the characterization of leukadherins to strengthen our application and thoroughly respond to reviewers' critiques. We are certain that this bridge award will complement our current efforts to highlight the clinical potential of leukadherins, and will help us obtain the necessary NIH funds that will pave the way for future optimization of these agents to treat not only restenosis after PCI, but also other smoking and vascular inflammatory diseases.