

**From:** [Faculty Description of Research Project](#)  
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**Subject:** New submission from Faculty Description of Research Project  
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**Project title:**

Adipose-derived stem cells in Rescue of Ischemic Organs and Tissues

**Faculty mentor name, email, department and phone number**

Keith L. March, MD, PhD  
Professor of Medicine  
Division of Cardiovascular Medicine  
Vice Chief of Research, Cardiovascular Medicine  
Director, Center for Regenerative Medicine  
kmarch@ufl.edu  
Cell: 3179192496

**Research Project Description**

Background: Many terrible acute and chronic medical illnesses occur due to insufficient blood flow or vascular dysfunction, ranging from heart attack, brain attack (stroke), kidney disease, and erectile dysfunction, to senile dementia and even some forms of arthritis! Interruption of blood flow also seriously impairs access to and outcomes of transplantation.

Hypotheses: Adipose Stem Cells secrete substances that act promptly to rescue and repair organs undergoing ischemia and inflammation, using highly efficient "molecular delivery" mechanisms.

Methods: We will use techniques of cell culture with adipose stem cells and various target cell types to understand and harness the effects of exosome-packaged factors for cellular rescue and repair.

Role of medical student: conduct and interpret leading-edge experiments commensurate with their interest and experience.

Funding: NIH, VA, AHA, internal.

Relevant publications:

<https://www.ncbi.nlm.nih.gov/sites/myncbi/keith.march.1/bibliography/45030344/public/?sort=date&direction=descending>