PRESS RELEASE

FSU Researcher's 'Mutant' Proteins Could Lead to New Treatment for Heart Disease

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By Doug Carlson

TALLAHASSEE, Fla. – Heart damage due to blocked arteries remains the leading cause of disease and death in the Western world, but a Florida State University College of Medicine researcher is helping to open new pathways toward treating the problem.

Michael Blaber

Michael Blaber, a professor in the department of biomedical sciences, is researching mutant forms of a human protein that have been shown to help the human body grow new blood vessels to restore blood flow in damaged areas of the heart. Working with a $264,000, three-year grant from the American Heart Association, Blaber hopes to provide data that will enable the use of the mutant proteins in new treatment methods previously unavailable for patients with advanced "no option" heart disease. "This research offers the potential to treat people who currently are being sent home to die," Blaber said. "We've tested a group of mutants in the laboratory with unusual properties of increased stability and activities—good properties. In some cases it was unexpected, but the results are very promising." Obstructed blood vessels and clogged or blocked arteries typically are treated through angioplasty, the mechanical widening of a vessel, or bypass surgery. Some patients, however, have numerous small blockages that cannot be treated through traditional approaches. In most cases, they are sent home with a predicted life expectancy that, no matter how it's phrased, sounds like a death sentence. A new approach to the problem called therapeutic coronary angiogenesis is creating hope through the injection of human fibroblast growth factor protein into affected areas. Improvements with the procedure may arise from the use of mutant forms with increased stability. Blaber and his research team are creating artificial "mutant" proteins in their College of Medicine laboratory that mimic the human proteins used in angiogenic therapy, and with enhanced stability properties. So far, the mutant proteins engineered at the College of Medicine have exhibited potency in stimulating cell growth while simultaneously maintaining greater stability under conditions common to angiogenic therapy. The work has enormous potential commercial applications and already has drawn the attention of private companies interested in the results Blaber's lab has achieved and the intellectual properties his studies are generating.