Researches at the University of South Florida have discovered a novel pharmaceutical compound that may act as an anti-diabetic agent in diabetes mellitus patients.

Diabetes mellitus is the seventh leading cause of death in the United States affecting an estimated 29.1 million people, and costing nearly $245 billion per year. Diabetic patients have an increased risk of developing and dying from ventricular arrhythmias, which are abnormal heart rhythms that originate in the heart’s ventricles. The biological mechanisms underlying these cardiac related diabetic complications are unknown. This highlights the need for a greater understanding of the pathophysiology of diabetes associated ventricular arrhythmias and an effective treatment option.

USF researchers have investigated a novel pharmaceutical compound, known as P7C3. This compound was found to be a nicotinamide phosphoribosyltransferase (Nampt) activator and exhibited anti-ischemic cardioprotective activity in mice. Nampt is a known modulator of the physiological complications that lead to diabetic arrhythmogenesis. Additional co-morbidities of diabetic patients include higher atrial fibrillation, ventricular defects, myocardial damage, and scar formation. These risks can all be reduced by the P7C3 compound. Furthermore, testing revealed that this drug is safe to use, reporting no over hepatotoxicity, renal, or blood toxicity. This Nampt activator provides improved glucose tolerance along with insulin secretion and sensitivity. Overall, the indices of diabetes are significantly improved with use of Nampt activators for both short and long term use.

ADVANTAGES:

- Increased cardio protection
- Provides improved glucose tolerance
- An anti-diabetic agent
- Safe for long term use

Increases Insulin Secretion, Cardiac Function, and Muscle Activity

A Schematic for the Discovery of Anti-Diabetic and Cardio-Protective Roles for a Nampt Activator