Researchers at the University of South Florida have engineered peptibodies that can act as antiarrhythmic agents in the treatment of Atrial Fibrillation (AF).

AF is the most common type of arrhythmia observed in clinics. It is particularly challenging to restore sinus rhythm in chronic AF patients with currently available pharmacotherapies. This is primarily due to inadequacy of the antiarrhythmic agents available today. Additionally, these agents carry the risk of adverse effects. Therefore, there is a need for the development of novel, safe and atrial specific antiarrhythmic therapies that target chronic AF.

USF scientists have bioengineered a peptibody which could be a potent blocker of the acetylcholine activated inward rectifier current (IKACH). IKACH plays an important role in chronic AF, making this potassium current a compelling therapeutic target. The bioengineered anti-IKACH peptibody was developed as a fusion protein between TertiapinQ and the human IgG1 Fc fragment.

USF researchers have good reason to believe that their invention explores for the first time the idea that engineered anti-ion channel peptibodies could be a powerful therapeutic approach to a highly significant and increasingly prevalent cardiac electrophysiological disease.

ADVANTAGES:

- Specific treatment for chronic AF
- Bioengineered peptibody
- Potent blocker of $I_{KACH}$

Novel, Safe and Atrial Specific Peptibodies for the Treatment of Chronic AF

The Characteristic Contribution of $I_{KACH}$ to the Sinus Rhythm of the Atria