Researchers at the University of South Florida have discovered therapy for tauopathies, synucleinopathies and GPRC6a-linked neurodegenerative diseases using allosteric antagonist of GPRC6a.

An emerging number of proteinopathies including Alzheimer’s disease (AD), tauopathies and synucleinopathies continue to impact neuronal health and show casual impact on cognitive impairment and neuronal loss. The exact number of neurodegenerative diseases remains elusive, yet estimates project 600 brain disorders impacting 50 million Americans and costing in excess of $5 billion according to National Institutes of Health. Currently, agents that modify disease or even slow progression fail to exist on the market for any of the tauopathies including AD.

USF scientists have created novel agents that target GPRC6a and promote the clearance of various forms of tau and alpha synuclein. The identification of the GPRC6a receptor as a drug target for proteinopathies will enable the treatment of certain neurodegenerative diseases that harbor protein aggregation and ultimately cell demise.

These invented agents are GPRC6a allosteric antagonists, and will improve behavioral and pathological outcomes associated with tauopathies and synucleinopathies.

**ADVANTAGES:**

- New class of drug that clears multiple forms of tau and alpha-synuclein
- Treats multiple proteinopathy disorders
- Improves behavioral and pathological outcomes associated with tauopathies and synucleinopathies

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**Graph of Alpha Synuclein and Tau Expression Against Increasing Concentrations of GPRC6a Antagonist**