Researchers at the University of South Florida have identified ways of disrupting protein aggregation, a common problem in many neurodegenerative diseases.

Protein aggregation is a biological occurrence that emanates from accumulation of misfolded proteins. This biological phenomenon has been implicated in the pathogenesis of many neurodegenerative diseases known as amyloidosis, such as Alzheimer’s disease, Parkinson’s disease, ALS, and Prion disease.

These diseases affect millions of people worldwide, and the risk of being affected increases with age. However, despite the fact that many people are projected to develop neurodegenerative disease in the coming decades, there is currently no way to significantly slow the progression of these diseases. This has created an urgent need to understand the cause of these diseases, and to develop creative approaches for their prevention and treatment.

Our researchers have discovered an empirical way of preventing amyloid aggregates. They investigated CyP40 disaggregase capacity by incubating tau or a-synuclein fibrils with purified recombinant CyP40 and found that CyP40 is capable of disrupting amyloid-producing protein and preventing the accumulation of amyloid found in many neurodegenerative disorders.

This invention has great therapeutic potential to significantly arrest progression of a number of neurodegenerative diseases.

**ADVANTAGES:**
- Disrupts amyloid fibril aggregation that is a symptom of various neurodegenerative diseases
- Potential to treat or prevent the most endemic neurodegenerative disease

**Preventing Protein Aggregation in Neurodegenerative Disorders**

*Image shows CyP40 significantly lowered level of tau and promoted neuronal health in a mouse model overexpressing P301L tau*