Researchers at the University of South Florida have identified a potent molecule that may be used to treat a variety of neurodegenerative diseases.

Alzheimer’s disease (AD) is a complex neurodegenerative condition which has become a major public health concern. It is estimated that more than 25 million people worldwide are affected by AD. Current AD drugs only produce a minor and temporal improvement on the disease symptoms and do not prevent or reverse the progression of the disease.

A number of proteins have been identified to be involved in the onset of related neurodegenerative diseases, including AD and Huntington’s disease. Three such proteins are amyloid beta peptides, tau peptides, and synuclein. AD patients exhibit the aggregation of these proteins in the brain, and evidence suggests that this aggregation is a crucial aspect of the onset and persistence of AD and related diseases. Currently, there exists no drug or therapy to disrupt the aggregation of these proteins.

USF researchers have discovered a new ligand, called HW-C-9, that has the ability to disrupt the aggregation of amyloid beta peptides, tau peptides, and synuclein, and removes plaque formed by these proteins. This promising molecule may pave the way for the development of treatments that can prevent or even reverse the progression of neurodegenerative diseases characterized by the aggregation of these proteins.

**ADVANTAGES:**
- Treats root cause of AD, not symptoms
- Disrupts the aggregation of AD causing proteins
- Potential to prevent or reverse AD

**Disrupts Formation of Alzheimer's Causing Plaque in the Brain**

Control

HW-C-9

**Alzheimer’s Afflicted Mouse Brain Tissue:**
**HW-C-9 Disrupts the Aggregation of AD Causing Proteins (Dark Spots)**