

Abstract Submitted
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Computational Study of Pseudo-phosphorylation of the Microtubule associated Protein Tau DMITRIY PROKOPOVICH, LUCA LARINI, Rutgers University-Camden — This computational study focuses on the effect of pseudo-phosphorylation on the aggregation of the microtubule associated protein tau. In the axon of the neuron, tau regulates the assembly of microtubules in the cytoskeleton. This is important for both stabilization of and transport across the microtubules. One of the hallmarks of the Alzheimer's disease is that tau is hyper-phosphorylated and aggregates into neurofibrillary tangles that lay waste to the neurons. It is not known if hyper-phosphorylation directly causes the aggregation of tau into tangles. Experimentally, pseudo-phosphorylation mimics the effects of phosphorylation by mutating certain residues of the protein chain into charged residues. In this study, we will consider the fragment called PHF43 that belongs to the microtubule binding region and has been shown to readily aggregate.

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