Mis-Disordered Tau Protein Interactions with Curcuma longa Utilizing a C. elegans Model

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Alzheimer’s disease is primarily caused by the misfolding and aggregation tau and amyloid-ß proteins interactions causing reduced neuronal function in over five million people in the United States alone. Curcuma longa produces the antioxidant polyphenol, Curcumin, which has promising anti-tau properties. Curcuma longa could potentially improve the motor function of C. elegans with abnormal tau aggregation. To evaluate loss of motor function, N2 C. elegans and V337 (abnormal tau mutant) were age-synchronized and treated with Curcuma longa extract concentrations ranging from 0uM to 100uM. A liquid thrashing assay was utilized to assess improved motor function of the worms.V337 worms treated with Curcuma longa extract exhibited improvement in motor function compared to the control group. This supports the need of further investigations regarding the mechanisms of of Curcuma longa to reduce symptoms associated with Alzheimer’s disease.

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