

**Withania somnifera showed neuroprotective effect and increase longevity in
Drosophila Alzheimer's disease model**

ABSTRACT

Alzheimer's disease is a complex neurodegenerative disease and is only unique to human. The disease is defined in human brain by the accumulation of amyloid beta in the parenchyma of the brain. *Withania somnifera*, commonly known as Ashwagandha is an Indian Ayurvedic medicine that has been used for centuries to treat countless range of human health problem. The active compound of Ashwagandha was shown to be beneficial in treating many neurodegenerative diseases including Alzheimer's disease (AD). In this study, *Drosophila melanogaster* AD model was used to study the effect of Ashwagandha on the toxicity of beta amyloid and also the longevity effect of the compound. We found that 20 mg/mL of Ashwagandha was shown to be effective in rescuing the "rough eye phenotype" of AD *Drosophila*. Furthermore, Ashwagandha also promotes longevity in AD as well as wild type *Drosophila*. The results above showed that Ashwagandha could potentially be a potent drug to treat AD as well as maintaining the wellbeing of cells.