

Students' Annual Webinar

Structural differences between Apolipoprotein E isoforms and its effect on neurodegeneration

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Apolipoprotein E (ApoE), the primary lipoprotein in brain, plays important role in transport of lipids and cholesterol. There are three common isoforms namely ApoE2 (112 Cys, 58 Cys), ApoE3 (112 Cys, 158 Arg) and ApoE4 (112 Arg, 158 Arg). ApoE4 isoform is the strongest genetic risk factor for sporadic Alzheimer's disease but its pathological mechanism is unclear. However, ApoE4 is known to exhibit higher population of partially folded intermediates under mild denaturing conditions, compared to ApoE3. Whether these intermediates are key to the pathological role of ApoE4 needs further investigation. We are currently investigating the effects of common and rare missense mutants of ApoE on its biophysical properties and its effect on neurodegeneration in the transgenic *Drosophila* model.

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