

Amyloids in Membranes: The final challenge in understanding amyloid action?

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There is a strong connection between amyloid protein aggregation and neurodegenerative diseases, but the mechanism of toxicity remains elusive. The interaction of oligomeric aggregation intermediates remains a major suspect. However, finding the structure of a transient species present in low concentrations in membranes has proved to be rather hard. We have probed this problem from different angles with tools of single molecule fluorescence spectroscopy, Raman spectroscopy, AFM and solid state NMR. Some conformational features of Amyloid- β in membranes have now become apparent, and these already allow us to design small molecules which can alter the course of toxicity in vitro.