F9 Presenilin Function: Connections to Alzheimer’s Disease and Signal Transduction
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Presenilin function in Alzheimer’s disease is not yet fully understood. The presenilins (PS1 and PS2) are located in the endoplasmic reticulum. PSs play important roles in the translocation of various proteins, including their role in the translocation of beta-catenin from the endoplasmic reticulum to the nucleus. This translocation is mediated by PSs, which may play a role in the transduction of various signals.

F10 Apolipoprotein E and Alzheimer’s Disease
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Apolipoprotein E (ApoE) plays a crucial role in the pathogenesis of Alzheimer’s disease (AD). The three common ApoE isoforms (ApoE2, ApoE3, and ApoE4) differ in their abilities to bind to specific receptors and lipoproteins. ApoE4, the most common isoform in AD patients, is associated with increased β-amyloid deposition and tau pathology. ApoE has a crucial role in the clearance of β-amyloid and tau proteins, and there is evidence that ApoE4 may enhance amyloid deposition and tau phosphorylation.

F11 APOE and Alzheimer’s disease - is tau the link?
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Apolipoprotein E (ApoE) is the most important risk factor for Alzheimer’s disease (AD). ApoE4 is associated with an increased risk of AD, while ApoE2 is protective. ApoE4 binds to two microtubule-associated proteins - tau and MAP2 - which might escape from the endosomal/lysosomal system, thereby altering the ability of tau to bind and stabilize microtubules. This may result in the formation of neurofibrillary tangles.

F12 ApoE and β-amyloid: signals and effects
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Apolipoprotein E (ApoE) is a key player in Alzheimer’s disease (AD). ApoE knockout mice were used to study the effects of ApoE deficiency on AD pathology. ApoE4 is associated with an increased risk of AD, while ApoE2 is protective. ApoE4 binds to two microtubule-associated proteins - tau and MAP2 - which might escape from the endosomal/lysosomal system, thereby altering the ability of tau to bind and stabilize microtubules. This may result in the formation of neurofibrillary tangles.