Chapter 12: 
Aging – Related Memory Disorders --- Alzheimer’s Disease

From *Mechanisms of Memory*, second edition
By J. David Sweatt, Ph.D.
Chapter 12: Amyloid Plaques and Neurofibrillary Tangles
Amyloid Plaques and Neurofibrillary Tangles, AD
Stages of Neurofibrillary Pathology in Alzheimer’s Disease

Figure 2
Key Molecules Involved in Alzheimer’s Disease Pathogenesis
Tau Phosphorylation Sites

- GSK3, Cdk5, ERK (Proline-Directed)
- PKA
- MARK (KXGS)
- Fyn/Abl (Tyrosine)

Figure 4
Figure 5

Fragment of Amyloid Beta Peptide

A

B

C Terminus

N Terminus
Amyloid Precursor Protein (APP)

Figure 6
APP, Aβ, and the Secretases

Figure 7
PS1 A246 E  FAD Mutant Transgene Accelerates Amyloid Plaque Pathology of Tg2576 Mice
Effect of apoE Genotype on AD Risk
Reelin and ApoE Signaling --- Implications for AD
FEAR CONDITIONING

Training

- Wild Type n=9
- PS-1 M146L n=6
- APP K670N, M671L n=9
- Double n=9

Cued

Context

Figure 11
Microscopic Features of Alzheimer’s Disease
Cholinergic Hypothesis of Alzheimer's Disease and Current Pharmacotherapies