

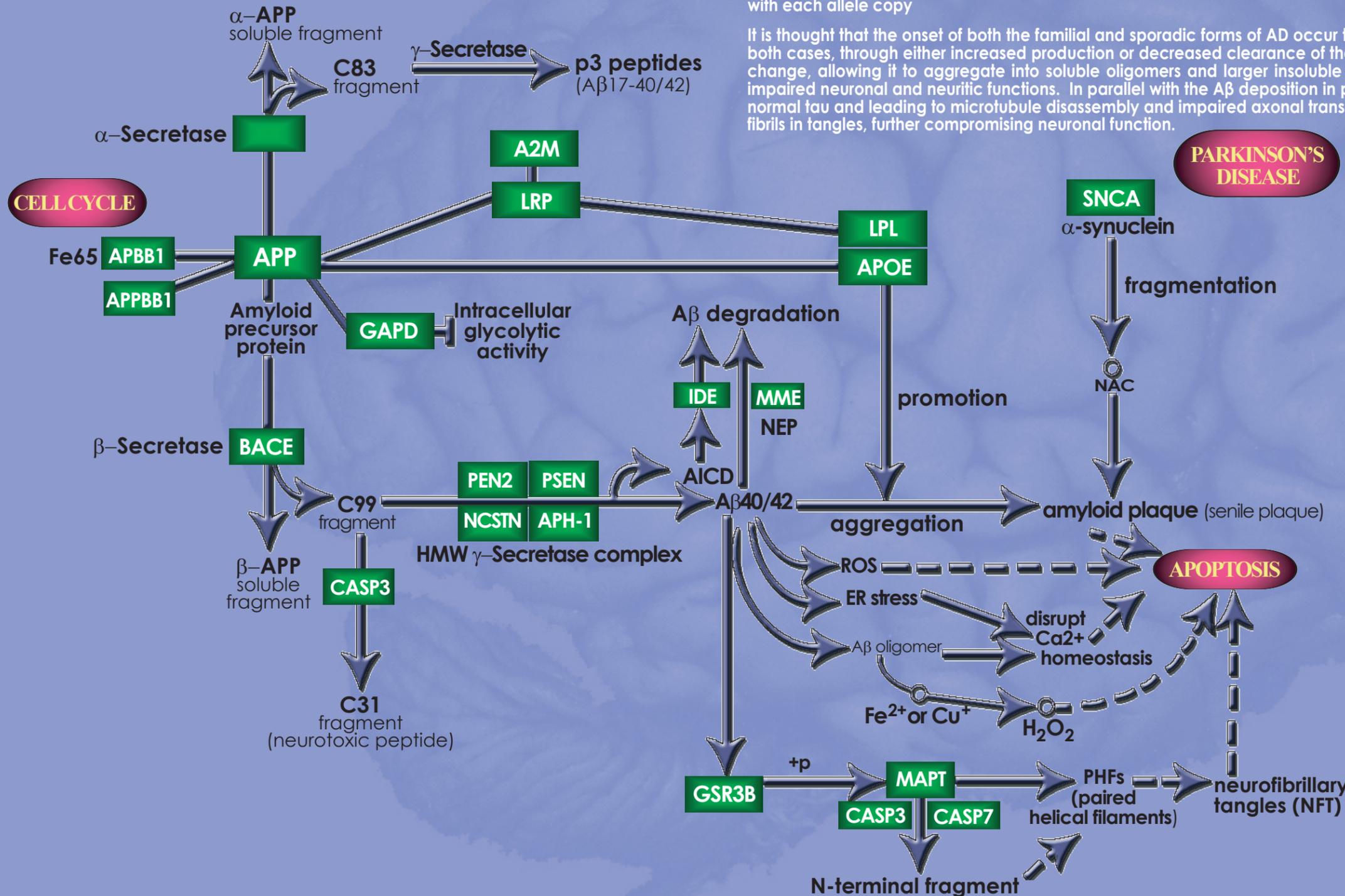
ALZHEIMER'S DISEASE

Alzheimer's Disease:

Alzheimer's disease (AD) is the most common form of dementia, accounting for more than half of all cases. The clinical characteristics include memory disturbances and at the microscopic level, neuritic plaques and neurofibrillary tangles in the medial temporal lobe structures and cortical areas of the brain coupled with a more general degeneration of the neurons and synapses. The major components of these neuritic plaques and neurofibrillary tangles are amyloid β ($A\beta$), a cleavage product of the amyloid precursor protein (APP), and hyperphosphorylated tau, an axonal protein that normally promotes microtubule assembly and stability, respectively.

Familial Alzheimer's disease accounts for only 0.1% of all cases, with the vast majority of the remainder of the cases considered as 'sporadic'. The first gene linked to Alzheimer's disease was identified as the APP gene on chromosome 21. However, mutations in the presenilin 1 and 2 genes are thought to account for most forms of the familial disease. An allele of another protein, Apolipoprotein E (APOE) ϵ 4, has been linked to increased risk of the sporadic form of AD, with each allele copy

It is thought that the onset of both the familial and sporadic forms of AD occur through similar mechanisms years before any clinical symptoms appear. In both cases, through either increased production or decreased clearance of the APP cleavage products, normally soluble $A\beta$ undergoes a conformational change, allowing it to aggregate into soluble oligomers and larger insoluble fibrils in plaques, leading to inflammatory responses, oxidative stress, and impaired neuronal and neuritic functions. In parallel with the $A\beta$ deposition in plaques, tau protein phosphorylation increases, causing the sequestration of normal tau and leading to microtubule disassembly and impaired axonal transport. The hyperphosphorylation of tau induces it to aggregate into insoluble fibrils in tangles, further compromising neuronal function.



| Antibodies: | |
|-------------|--|
| CAT.NO. | PRODUCT NAME |
| XAV-8418 | Amyloid-B1-40 polyclonal antibody |
| 2133 | APP polyclonal antibody |
| 2136 | APP polyclonal antibody |
| XBP-4001 | APP [phospho-T668] polyclonal antibody |
| XG-6130 | APP extra protein polyclonal IgY antibody |
| 2253 | BACE polyclonal antibody |
| 2249 | BACE2 polyclonal antibody |
| 2247 | BACE2 polyclonal antibody |
| XBP-4308 | β-Amyloid 40 polyclonal antibody |
| 3451 | Caspase 4 polyclonal antibody |
| 3465 | Caspase 7 polyclonal antibody |
| 3856 | Clusterin polyclonal antibody |
| XA-1007 | Clusterin (CLI-9) monoclonal antibody |
| 3781 | GAPDH polyclonal antibody |
| 3983 | Nicastrin polyclonal antibody |
| 3975 | PDCD4 polyclonal antibody |
| 3979 | PEN2 polyclonal antibody |
| XG-6101 | Presenilin 1 polyclonal IgY antibody |
| XG-6102 | Presenilin 2 polyclonal IgY antibody |
| XBP-4283 | Tau [phospho-SS199/202] glyc polyclonal antibody |
| 4001 | APH1 polyclonal antibody |
| 4057 | Tau polyclonal antibody |

| Detection Set: | |
|---|---|
| CAT.NO. | PRODUCT NAME |
| PSI-1812 | Alzheimer's Disease β-Amyloid Protein Detection Set |
| 4 Polyclonal Antibodies: APP (CT), APP (Aβ-NT), BACE and BACE2. | |

| Lysates: (Total Protein, Cytoplasmic, Membrane and Nuclear Fractions) | |
|---|---|
| CAT.NO. | PRODUCT NAME |
| XBL10274 | Alzheimer's Disease Amygdala tissue lysate |
| XBL10278 | Alzheimer's Disease Corpus Callosum tissue lysate |
| XBL10282 | Alzheimer's Disease Frontal Lobe tissue lysate |
| XBL10286 | Alzheimer's Disease Hippocampus tissue lysate |
| XBL10290 | Alzheimer's Disease Occipital lobe tissue lysate |
| XBL10294 | Alzheimer's Disease Parietal Lobe tissue lysate |
| XBL10298 | Alzheimer's Disease Pons tissue lysate |
| XBL10302 | Alzheimer's Disease Postcentral Gyrus tissue lysate |
| XBL10306 | Alzheimer's Disease Precentral Gyrus tissue lysate |
| XBL10310 | Alzheimer's Disease Thalamus tissue lysate |
| XBL10314 | Alzheimer's Disease Temporal Lobe tissue lysate |

Please visit www.prosci-inc.com for a complete listing of all Alzheimer's Disease antibodies and reagents available from ProSci.