

## Abstract

Alzheimer's disease is one of the most discussed conditions, due to its huge social and economic consequences. Whereas molecular and genetic aspects causing early onset of the disease are relatively well known, it still remains to be clearly shown how genetic risks and environmental factors interact to ultimately cause the late onset form. Major molecular-genetic factors affecting risk of developing Alzheimer's disease are *APOE* gene and its product apolipoprotein E. This gene occurs in humans in three common variants that differ among each other in exon sequence by one single nucleotide polymorphism. Similar difference exists between human and mammal *APOE* gene that served as an origin for human forms. This thesis discusses possible evolutionary scenarios of *APOE* gene and links acquired information to molecular and environmental aspects of Alzheimer's disease.