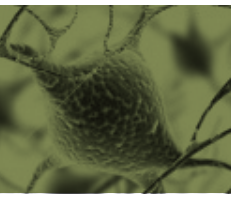

PROJECTS RECOMMENDED FOR FUNDING

## nEUAPPs \\ CNS delivery of the secreted amyloid precursor protein ectodomain APPsa: Effects on brain physiology and therapeutic potential for Alzheimer's disease

Austria\ Belgium\ Canada\ Finland\ France\ Germany\ Israel\ Italy\ Luxembourg\ Poland\ Portugal\ Romania\ Spain

Alzheimer's disease (AD) is the most common cause of age-related dementia affecting about 5% of adults above 65 years with a doubling prevalence every 5 years. In view of an aging society and with respect to economic and social impacts the need for effective therapies becomes obvious. Although described already in 1906, up to now molecular causes of AD are not fully understood. Post mortem brains of AD patients contain so called neuritic plaques which are extracellular deposits composed of a short peptide, the ß-amyloid. This peptide is cleaved from the widely expressed amyloid precursor protein (APP). Despite the central role of APP for AD pathogenesis the physiological role of APP and the related APP like proteins is still poorly understood. However, increasing evidence indicates that a loss of signals mediated by APP family proteins may contribute to AD pathogenesis. Within this collaborative project we therefore aim at further elucidating the role of APP family proteins and their fragments for brain physiology and to assess how we can exploit these functions for AD therapy. These studies will involve the analysis of genetically engineered mouse mutants in comparison to non-treated controls with respect to brain physiology, neuronal, morphological, behavioral, and cognitive improvements.

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