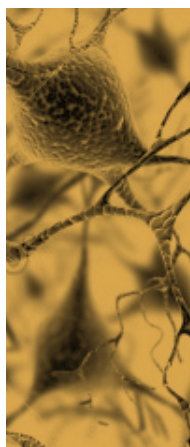


NanoBrain: Alzheimer drugs incorporated in nanoparticles for specific transport over the blood brain barrier

Austria Canada Finland France Germany Italy Israel Luxembourg Poland Romania Spain

Project Description The number of people suffering from Alzheimer's disease (AD) is estimated to be around 11.2 million Europeans by the year 2050. Any drug for AD prevention needs to fulfill two critical requirements. First, the drug should target underlying molecular and biological mechanisms responsible for initiation or initial steps of the disease process. Second, the drug should have minimal side-effects and the potential to enter the brain. Evidence from large retro- and prospective epidemiological studies has documented that long-term medication with non-steroidal anti-inflammatory drugs (NSAIDs) reduces the risk and delays the onset of AD significantly. Unfortunately these drugs do not penetrate the blood brain barrier (BBB) very well and therefore are not useful for immediate treatment approaches. Therefore the overall objective of this project is the development of a novel drug delivery systems based on nanoparticles over the BBB. The successful discovery and development of new therapeutic approaches have been increasingly aided through the use of appropriate in vitro model systems. In this project we will focus on the development of an in vitro assay to monitor drug transport through nanoparticles over the BBB which will be subsequently transferred into animal models to establish a new therapeutic approach to fight Alzheimer's disease.



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