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ADtest: Role of proteases and their inhibitors in pathophysiology and diagnosis of Alzheimer Disease


Project Description

Dementias are a major burden to mankind. Due to the demographic shift towards an aging population, the next decades will see an unparalleled rise in the occurrence of dementias in developed countries. The most prevalent dementia by far is Alzheimer's disease, where accumulation of the proteins beta-amyloid and tau in Neurons or their direct vicinity leads to selective death of neurons and subsequent intellectual deterioration. Lately it has become obvious that accumulation of proteins in tissues or cells is the direct result of an imbalance between generation and clearance of potentially-toxic proteins. Currently, there are only very few, non-invasive tests, corroborating the diagnosis of dementias such as Alzheimer's disease, and these tests suffer from a lack of specificity. In addition, therapeutic options to treat Alzheimer's disease are particularly limited and there is only causal therapy available.




Experts from clinical dementia research, neuropathology, disease modelling and structural biology have joined forces in the ADtest consortium to develop and implement novel diagnostic tools for Alzheimer's disease. Furthermore, ADtest will investigate novel pathophysiological mechanisms of Alzheimer's disease focusing on routes of protein degradation. Results from these studies will help to optimize diagnosing Alzheimer's disease with a cost-effective, non-invasive test. Furthermore, ADtest will search for novel diagnostic targets.



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