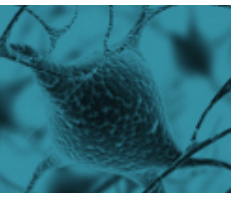
ERA-Net Neuron
NEWSLETTER 18



PROJECTS RECOMMENDED FOR FUNDING

ABETA ID \\ PREPARATION OF AMYLOID-BETA AGGREGATE SPECIES FROM SYNTHETIC AND PATIENT-DERIVED MATERIAL TO DEFINE DISEASE-CAUSING MECHANISMS

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

Alzheimer's disease belongs to the neurodegenerative diseases, which cause nerve cells in the brain to degenerate and die. This process believed to be caused by proteins that fold abnormally and therefore cannot function correctly. In post-mortem brain of Alzheimer patients, researchers have found several abnormal structures formed from the amyloid-beta protein but could not yet determine which are responsible for disease. Is it large fibrils that disturb the neuronal metabolism or rather smaller oligomeric structures? Current evidence indicates that small oligomers disturb the neuronal metabolism. In order to study these oligomers in detail, it is necessary to have sufficient amounts. This proves difficult, as they are present in post-mortem brain only in very small quantities. This project therefore sets out to establish a method with which oligomers derived from biological samples can be used as templates that cause readily available synthetic protein to form oligomers as well. With this amplification method we aim to provide a valuable tool for the successful elucidation of the process of protein misfolding and aggregation in Alzheimer's disease and how it leads to neurodegeneration. Also, we will use template mediated oligomers to find new chemical or biological entities with therapeutic potential for this devastating disease.

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