

Role of microRNA dysregulation in Alzheimers Disease

<https://neurodegenerationresearch.eu/survey/role-of-microrna-dysregulation-in-alzheimers-disease/>

Principal Investigators

Institution

Contact information of lead PI

Country

European Commission

Title of project or programme

Role of microRNA dysregulation in Alzheimers Disease

Source of funding information

European Commission FP7-Seventh Framework Programme

Total sum awarded (Euro)

€ 2,500,000

Start date of award

01/05/2011

Total duration of award in years

5.0

The project/programme is most relevant to:

Alzheimer's disease & other dementias

Keywords

Research Abstract

Alzheimer's Disease (AD) is a major health problem in aging societies. Remarkable progress in the study of the rare genetic forms of the disease has lead to the identification of several key players like APP and the secretases, but the molecular basis of sporadic AD remains largely unresolved. The convergence of several factors (multicausality) has to be considered. miRNAs are crucially involved in normal brain functioning and integrity. Evidence obtained from analyzing a limited number of brains indicates that miRNA expression is affected in sporadic AD. We propose the hypothesis that such changes can affect normal functioning of neurons increasing their susceptibility to AD. We will document in 3 brain regions in >100 sporadic AD patients and in >100 controls alterations in miRNA expression and explore whether similar alterations can be detected in cerebrospinal fluid. This part of the study will firmly establish which miRNAs are altered in AD. We will then investigate the functional relevance of those

miRNAs by gain and loss of function experiments in brains of zebra fish and mice. We will determine the target genes of the miRNA with genetic and proteomic approaches, and establish the functional networks controlled by those miRNA. We anticipate that this will lead to complete novel insights in the role of miRNAs in AD and in maintenance of brain integrity. Our work is likely to have diagnostic relevance for AD and will identify novel drug targets for the disease.

Lay Summary

Further information available at:

Types:

Investments > €500k

Member States:

European Commission

Diseases:

Alzheimer's disease & other dementias

Years:

2016

Database Categories:

N/A

Database Tags:

N/A