

Neurodegenerative diseases: immunotherapy, biomarkers, clinical and epidemiological investigations

<https://neurodegenerationresearch.eu/survey/neurodegenerative-diseases-immunotherapy-biomarkers-clinical-and-epidemiological-investigations/>

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Country

Sweden

Title of project or programme

Neurodegenerative diseases: immunotherapy, biomarkers, clinical and epidemiological investigations

Source of funding information

Swedish Research Council

Total sum awarded (Euro)

€ 348,205

Start date of award

01/01/2013

Total duration of award in years

4

Keywords

Research Abstract

Alzheimer's disease (AD), dementia with Lewy bodies (DLB) and Parkinson's disease (PD) are the most common neurodegenerative disorders caused by aggregation of pathological proteins in the brain. In AD, amyloid-beta is deposited extracellularly whereas in DLB and PD alpha-synuclein accumulates in nerve cells and cell membranes. To date, there are no therapies against the respective pathogeneses, although immunotherapy against amyloid-beta has shown

some promise in clinical trials on AD patients. However, an optimal therapy should target soluble protofibrils of amyloid-beta, which are likely to be the most toxic forms. We have therefore developed a protofibril selective monoclonal antibody, mAb158, which has been well tolerated in a phase I clinical trial. We now aim at further improving amyloid-beta directed immunotherapy. Moreover, to develop a targeted immunotherapy also for PD and DLB we have generated antibodies highly selective for alpha-synuclein protofibrils. As there also is a lack of reliable disease biomarkers, we are generating assays that can measure protofibrils of amyloid-beta and alpha-synuclein. We are performing clinical and epidemiological studies to evaluate these novel biomarkers in cerebrospinal fluid. In addition, we are developing a new type of PET ligand selective for amyloid-beta protofibrils. The significance of this program is that we are developing new treatments and biomarkers for neurodegenerative diseases.

Further information available at:

Types:

Investments < €500k

Member States:

Sweden

Diseases:

N/A

Years:

2016

Database Categories:

N/A

Database Tags:

N/A