New biomarkers in early diagnosis and treatment of AD

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Country

Sweden

Title of project or programme

New biomarkers in early diagnosis and treatment of AD

Source of funding information

Swedish Foundation for Strategic Research

Total sum awarded (Euro)

€ 3,590,860

Start date of award

01/01/2015

Total duration of award in years

5

The project/programme is most relevant to:

Alzheimer's disease & other dementias

Keywords
Research Abstract
This project has a translational approach starting with in-silico studies followed by the synthesis of new PET tracers for Alzheimer´s disease (AD) tested and validated in well characterized AD cohorts which are characterized based on large data sets of AD subjects from a broad spectrum of cognitive impairment. In silico studies will use state-of-the-art visualization and multi-scale modeling for identification of biomolecular protein structures and property changes and

modeling of ligands for amyloid fibrils.amyloid oligomrers and tau ligands .2) Experimental studies will address new plaques and oligomeric tentative PET tracers. 3) In vivo by PET studies using tracers for tau astrocyte and microglia actvation will be performed in patients with mild cognitive impairment (MCI), AD disease and controls and other forms of dementia.The presence of PET amyloid plaque in brain will be investigate in healthy elderly in an epidemiological cohort. Subtypes of AD patients will be defined based upon biomarker pattern by combining different imaging techniques (MRI, PET) with CSF and neuropsychology.The findings will be translated to the prodromal stages of the disease and cognitive normal subjects.With this project design we aim to develop reliable imaging biomarkers that can predict future conversion to AD, discriminate from other dementia disorders as well as target the right population for clinical trials and treatment.

Lay Summary
Further information available at:

Types:
Investments > €500k

Member States:
Sweden

Diseases:
Alzheimer's disease & other dementias

Years:
2016

Database Categories:
N/A

Database Tags:
N/A