# BIOMARKAPD: Biomarkers for Alzheimer’s disease and Parkinson’s disease

https://neurodegenerationresearch.eu/survey/biomarkapd-biomarkers-for-alzheimers-disease-and-parkinsons-disease/

**Principal Investigators**

Prof Brian Lawlor

**Institution**

St James's Hospital

**Contact information of lead PI**
**Country**

Ireland

**Title of project or programme**

BIOMARKAPD: Biomarkers for Alzheimer's disease and Parkinson's disease

**Source of funding information**

Health Research Board / JPND

**Total sum awarded (Euro)**

€ 449,066

**Start date of award**

01/06/2012

**Total duration of award in years**

4.0

**The project/programme is most relevant to:**

Alzheimer's disease & other dementias

**Keywords**
**Research Abstract**

Neurodegenerative disorders, represented mostly by Alzheimer’s disease (AD) and Parkinson’s disease (PD), are characterised by progressive neuronal impairment and death. In spite of the brain’s known capacity for regeneration, lost neurons generally cannot be replaced. Therefore, drugs aimed at inhibiting neurodegenerative processes are likely to be most effective if the treatment is initiated as early as possible in the disease process. However, clinical

manifestations in early disease stages are often difficult to diagnose. This is where biomarkers, specifically reflecting the onset of pathology may have a profound impact on diagnosis and detection of treatment effects in the near future. A triplet of cerebrospinal fluid (CSF) biomarkers for AD, total and hyperphosphorylated tau that reflect AD-type axonal degeneration, and the 42 amino acid isoform of amyloid ! that reflects senile plaque pathology, has already been established for early detection of AD before the onset of dementia. With regards to PD, the most promising biomarker is CSF “-synuclein. However, large variations in all biomarker measurements have been reported between studies, both between and within centres and laboratories. Such variations may be caused by pre-analytical, analytical, or assay-related factors and seriously jeopardize the introduction of biomarkers in clinical routine and trials around the world. The aim of BIOMARKAPD is to standardise the assessment of established and new fluid biomarkers for AD and PD. To this end we will: • Create and validate detailed standardised operating procedures for sample collection, storage, analytical procedures and clinical use of biomarkers for AD and PD. • Create an assay qualification algorithm specifying technical characteristics that must be fulfilled to employ the assay in AD and PD biomarker studies and in clinical routine and trials. • Create a network of harmonised laboratories around Europe and also implement a certification system for laboratories and technicians with yearly hands-on training events and external quality control surveys four times per year. • Define a workflow for how new biomarkers can be developed from proof-of concept studies to established biomarkers with reference limits, cut-offs and controlled confounders. • Build a biobank for validating new biomarker candidates. • Establish certified reference materials for biomarker measurements. This is by far the most ambitious AD and PD biomarker standardisation programme to date, covering the whole of Europe, as well as one Canadian site. The harmonisation of biomarker-related procedures across Europe will facilitate clinical trials and allow for general implementation of the newly proposed diagnostic guidelines for AD and new diagnostic approaches for PD in clinical routine.

**Lay Summary**
**Further information available at:**

**Types:**
Investments > €500k, JPND Projects

**Member States:**
Ireland, JPND

**Diseases:**
Alzheimer's disease & other dementias

**Years:**
2016

**Database Categories:**
N/A

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