

Tracking Parkinson's with proteomic biomarkers

<https://neurodegenerationresearch.eu/survey/tracking-parkinsons-with-proteomic-biomarkers/>

Principal Investigators

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Country

United Kingdom

Title of project or programme

Tracking Parkinson's with proteomic biomarkers

Source of funding information

Parkinson's UK

Total sum awarded (Euro)

€ 1,016,698

Start date of award

01/03/2014

Total duration of award in years

3.0

The project/programme is most relevant to:

Parkinson's disease & PD-related disorders

Keywords

Research Abstract

Biomarkers for Parkinson's are key to further progressing drug discovery with markers suitable for very early detection, predicting outcomes, defining disease subtypes and tracking disease progression being most needed. We propose a four-phase programme in CSF and in blood; discovery, verification, validation and qualification with funding requested only for phases I-III. The study design utilizes in phase I (Discovery) both case control and endophenotype

continuous measure approaches with phenotypes as independent variables to include symptom severity, rate of progression and cognitive impairment. In Phase II (Verification) replication will be in large populations bringing together a collaboration of leading sites and major studies in the UK. In phase III (Validation) we will utilize Parkinson's and other brain banks to show biological validity of discovered proteins in Parkinson's brain. To identify biomarkers we propose to combine two leading multiplexed proteomics technologies including gel free mass spectrometry based proteomics coupled with isobaric tags and 1000 plex aptamer based arrays in discovery phase. In verification phase we will scale these technologies for even higher throughput using selective reaction monitoring coupled with isobaric tags and focused aptamer arrays; in both cases performing replication studies on exactly the same analytes discovered in phase I. Biostatistical analysis will utilize multivariate class prediction and the study is powered to show effect sizes above 0.3. To deliver on time and on budget we bring matching resource from industry partners and NIHR funded infrastructure and a timeline milestone driven project management with confidence of progression to phase IV (Qualification).

Lay Summary

Further information available at:

Types:

Investments > €500k

Member States:

United Kingdom

Diseases:

Parkinson's disease & PD-related disorders

Years:

2016

Database Categories:

N/A

Database Tags:

N/A