Targeting the pathological pathways to Parkinson’s

https://neurodegenerationresearch.eu/survey/targeting-the-pathological-pathways-to-parkinsons/

Principal Investigators

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Contact information of lead PI
Country

United Kingdom

Title of project or programme

Targeting the pathological pathways to Parkinson's

Source of funding information

Parkinson's UK

Total sum awarded (Euro)

€ 7,940,999

Start date of award

01/02/2015

Total duration of award in years

5.0

The project/programme is most relevant to:

Parkinson's disease & PD-related disorders

Keywords
Research Abstract
The Oxford Parkinson’s Disease Centre (OPDC) is a world-leading multi-disciplinary translational research program. The OPDC comprises one of the largest and best-characterised clinical PD cohorts in the world, a program in Parkinson’s fMRI and laboratory biomarkers, a core expertise in molecular genetics and molecular neuropathology, the largest induced pluripotent stem-cell (iPSC) research program in PD in Europe, and a world-leading research

hub for deep-phenotyping transgenic rodent models of PD.
In this proposal for 2015-2020 we will direct our increased knowledge of disease mechanisms towards translational research in four essential areas aimed at changing clinical practice. By September 2015 the OPDC Discovery Cohort will comprise 1800 subjects (1200 PD, 300 control, 300 at-risk), representing an exceptionally powerful resource. We will use advanced statistical algorithms to delineate at-risk groups (diagnosed REM sleep behaviour disorder and asymptomatic GBA/LRRK2 mutation carriers) and stratify PD clinical heterogeneity and extreme phenotypes to provide a unique window into PD progression. Our platform of biomarkers (MRI imaging, blood biomarkers, colonoscopy samples, voice recognition) will combine with genetic pathway-based detection of predisposing variants to give a multimodal prediction of PD risk. Combining the phenotyping of our rich resource of patient-derived iPSC neurons from GBA, LRRK2 and sporadic disease with defining the mechanisms of basal ganglia circuit dysfunction using robust, physiologically-relevant transgenic rodent models, will provide the rationale for assays to identify potential targets and repositionable drugs. Finally, we will test the utility of disease-modifying interventions arising from screens of patient iPSC-derived neurons to prevent disease in rodent models.

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