

Development of in vivo gene therapy methods to treat Parkinson's disease.

<https://www.neurodegenerationresearch.eu/survey/development-of-in-vivo-gene-therapy-methods-to-treat-parkinsons-disease/>

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Country

Sweden

Title of project or programme

Development of in vivo gene therapy methods to treat Parkinson's disease.

Source of funding information

Swedish Research Council

Total sum awarded (Euro)

€ 435,256

Start date of award

01/01/2015

Total duration of award in years

4

Keywords

Research Abstract

This project is based on the idea that to be a viable clinical option, gene therapy needs to be cell-specific and regulatable, which optimizes efficacy and minimizes side effects. Our main objective in this project is to develop cell-specific lentiviral vectors that can be regulated and used to treat the hallmarks features of PD, and research tools for the further understanding of PD. Towards this purpose we will investigate the differential expression miRNAs in the striatum and use this data to develop vector s specific for subpopulations of striatal neurons. Furthermore, we will test the hypothesis that selective inhibition of signaling molecules in D1-neurons in the striatum will be more effective to ameliorate L-DOPA induced dyskinesia

symptoms. We will attempt to reinstate the GDNF response in nigral neurons, that is lost due to dysexpression of alpha-synuclein. We will analyze the longevity of the neurotrophic outcomes of GDNF expression in a model of PD, thus testing the feasibility of the therapy over long treatment periods in a controlled pre-clinical setting. The designed projects will result in scientific tools that will be useful to address fundamental questions about basal ganglia physiology as well as be used to develop new therapies for PD. Furthermore, the proposed projects will provide answers on the function of GDNF in different models of PD and potentially result in a novel treatment route based on overexpression of the receptor rather than the ligand.

Further information available at:

Types:

Investments < €500k

Member States:

Sweden

Diseases:

N/A

Years:

2016

Database Categories:

N/A

Database Tags:

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