

European stem cell consortium for neural cell replacement, reprogramming and functional brain repair

<https://www.neurodegenerationresearch.eu/survey/european-stem-cell-consortium-for-neural-cell-replacement-reprogramming-and-functional-brain-repair/>

Principal Investigators

Institution

Contact information of lead PI

Country

European Commission

Title of project or programme

European stem cell consortium for neural cell replacement, reprogramming and functional brain repair

Source of funding information

European Commission FP7-Seventh Framework Programme

Total sum awarded (Euro)

€ 6,000,000

Start date of award

01/10/2013

Total duration of award in years

4.0

The project/programme is most relevant to:

Parkinson's disease & PD-related disorders|Huntington's disease

Keywords

Research Abstract

Neurostemcellrepair aims at taking human stem cells through the final steps toward clinical application in cell replacement therapy for neurological disorders. PD will be taken as the prototypical disease because stem cell therapy is now close to clinical translation. Moreover, we will tackle next generation issues pertaining to stem cells at a basic level and develop new approaches and novel cell sources, validated at pre-clinical stages, for both PD and HD. The project teams represent a wide range of competences, including stem cell specialists, developmental neurobiologists, experts in neurodegeneration, scientists with links to the clinic

and stem cell manufacturing/clinical validation. The research plan is constructed on exchange of tools, sharing of protocols and expertise and joint deliverables among the participants. We will address issues related to the control of progenitor proliferation and differentiation into authentic, functional and phenotypically stable dopaminergic or striatal neurons, and exploit new technology for cell reprogramming. We will develop strategies to obtain enduring donor cell engraftment in the host, including acquisition of specific neuronal identities and functional integration in the recipient brain. The therapeutic effect will be evaluated following transplantation in animal models of PD and HD. Cutting edge technologies will be guaranteed by the involvement of three SMEs, one industry and partners experienced in bioengineering, who will collectively provide a toolbox to deliver ontogenetic and reprogramming factors, small molecules and miRNA, immunoseparation strategies, in vivo monitoring of donor cell behaviour, scale up and GMP-compliant protocols. Ultimately, Neurostemcellrepair is expected to develop new cell sources based on cellular reprogramming, make significant advance towards stem cell therapy in HD, and close the gap between development and clinical implementation of stem cell replacement therapies for PD.

Lay Summary

Further information available at:

Types:

Investments > €500k

Member States:

European Commission

Diseases:

Huntington's disease, Parkinson's disease & PD-related disorders

Years:

2016

Database Categories:

N/A

Database Tags:

N/A