

European Consortium for Stem Cell Therapy for Neurodegenerative Diseases (NEUROSTEMCELL)

<https://neurodegenerationresearch.eu/survey/european-consortium-for-stem-cell-therapy-for-neurodegenerative-diseases-neurostemcell/>

Title of project or programme

European Consortium for Stem Cell Therapy for Neurodegenerative Diseases (NEUROSTEMCELL)

Principal Investigators of project/programme grant

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Source of funding information

European Commission

Total sum awarded (Euro)

11900000

Start date of award

01-12-2008

Total duration of award in months

48

The project/programme is most relevant to

- Parkinson's disease
- Huntington's disease

Keywords

Parkinson,Cell Therapy,Stem cell lines,Huntington,Cell Banks

Research abstract in English

The NEuroStemCell consortium will foster collaboration between leading European experimental and clinical researchers in order to maximise the prospects for successful clinical trials of stem cell therapy for Parkinson's (PD) and Huntington's (HD) Disease. The activities will be driven by a Clinical WorkPackage (WP), which will set the requirements, and monitor and guide advances in development of the most promising cells. The goal is to compare different stem cell sources with respect to their capacity to generate mesencephalic Dopaminergic and striatal GABAergic neurons suitable for neuronal cell replacement. The major sources will be neuralised Embryonic Stem (ES) cells, adherent Neural Stem (NS) cell lines and short term expanded Ventral Midbrain neural stem cells/progenitors grown as Neurospheres (VMN). Two exploratory WPs will use extrinsic cues to specify neuronal differentiation and compare rigorously the different human stem cell lines and their progeny in giving rise to authentic neurons. WP3 will integrate long-term assessments of functional (motor and cognitive) recovery in appropriate animal models of PD and HD, and WP4 will exploit non-invasive in vivo imaging to evaluate the survival, composition, integration and functional impact of the donor cells in host brain. These two WPs will also provide the elements necessary to standardise the extent of recovery as a function of cell replacement and integration. In WP5, three SMEs will generate the technologies for manufacturing and scale-up of safe, fully traceable, efficacious and banked stocks of cells ready for clinical use. Regulatory and ethical requirements will be considered in the Clinical WP which also incorporates training. Building on the successful experience of the FPVI EuroStemCell project, NEuroStemCell will provide a focal point for European researchers engaged in the translational aspects of stem cell-based strategies to develop cures for PD and HD.

Lay summary