

CeBioND: Cellular Bioenergetics in Neurodegenerative Diseases: A system based pathway and target analysis

<https://neurodegenerationresearch.eu/survey/cebiond-cellular-bioenergetics-in-neurodegenerative-diseases-a-system-based-pathway-and-target-analysis-2/>

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Institution

Multiple

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Country

Sweden|Ireland|Italy|Germany|Canada

Title of project or programme

CeBioND: Cellular Bioenergetics in Neurodegenerative Diseases: A system based pathway and target analysis

Source of funding information

JPND-Cross Disease

Total sum awarded (Euro)

€ 1,475,261

Start date of award

01/01/2015

Total duration of award in years

3.0

The project/programme is most relevant to:

Alzheimer's disease & other dementias|Parkinson's disease & PD-related disorders|Huntington's disease

Keywords

Research Abstract

Mitochondria are parts of every cell that provide energy to enable cells to perform their day-to-

day duties. However mitochondria can also kill cells by producing damaging molecules or by initiating a cell suicide program. These processes are believed to play a key role in the degenerative changes associated with Alzheimer's disease (AD), Parkinson's disease (PD) and Huntington's disease (HD). CeBioND aims to understand if impairments in mitochondrial function are sufficient to trigger these neurodegenerative disorders, or if they represent an additional risk factor ('second hit' hypothesis) for developing the disease. It is also important to test whether mitochondria and different ways to 'boost' the cell's energy represent 'true' therapeutic targets. CeBioND assembles a team of international experts with a track record in analysis of mitochondrial functions and energetics research. To determine the contribution of mitochondria and cell bioenergetics to disease progression in AD, PD and HD we will use two complementary approaches: 1) Analysis of common disease mechanisms focusing on alterations in mitochondrial functions and in the signalling pathways regulating bioenergetics. 2) High-throughput screen to identify drugs enhancing mitochondrial functions and demonstrating neuroprotection. The CeBioND consortium will deliver much required insights into the contribution of mitochondria dysfunctions and bioenergetics to neurodegeneration in AD, PD and HD and will deliver novel therapeutic strategies. There are no disease modifying drugs currently on the market and therefore the CeBioND initiative is of highest importance as part of the work to understand the disease mechanisms and to develop efficient treatments for these devastating diseases

Lay Summary

Further information available at:

Types:

Investments > €500k, JPND Projects

Member States:

Canada, Germany, Ireland, Italy, JPND, Sweden

Diseases:

Alzheimer's disease & other dementias, Huntington's disease, Parkinson's disease & PD-related disorders

Years:

2016

Database Categories:

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