

Neuroprotective microRNAs, trophic factors and ER stress in adult dopaminergic neurons: significance for Parkinson's disease

<https://neurodegenerationresearch.eu/survey/neuroprotective-micrnas-trophic-factors-and-er-stress-in-adult-dopaminergic-neurons-significance-for-parkinson%20s-disease/>

Name of Fellow

Domanskyi Andrii

Institution

Funder

Academy of Finland

Contact information of fellow

Country

Finland

Title of project/programme

Neuroprotective microRNAs, trophic factors and ER stress in adult dopaminergic neurons: significance for Parkinson's disease

Source of funding information

Academy of Finland

Total sum awarded (Euro)

€ 434,485

Start date of award

01/09/15

Total duration of award in years

5.0

The project/programme is most relevant to:

Parkinson's disease & PD-related disorders

Keywords

microRNA | Parkinson's disease | neurotrophic factor | CDFN | MANF | neuroprotection |

neurodegeneration | AAV | lentiviral vectors | mouse | dopamine | laser microdissection | expression profiling | qPCR | 6OHDA | substantia nigra | ER stress

Research Abstract

Cells in our body use the information encoded in the DNA to direct protein synthesis. This process is carefully controlled by many molecules including microRNAs that regulate the levels of specific proteins. The microRNAs are extremely important for normal cellular functions. For example, when we, using genetic manipulations, ablated all microRNAs in dopaminergic neurons, these neurons rapidly degenerated. Similar degeneration of this neuronal population also occurs in Parkinson's disease patients. Neurotrophic factor proteins can support and protect neurons, but the mechanism of their action is not yet fully understood. We believe that particular microRNAs mediate the protective functions of neurotrophic factors. In this project we aim to identify specific neurotrophic factor induced microRNAs that are essential for neuronal survival and are able to prevent the degeneration of dopaminergic neurons. This work may lead to the development of novel therapies to treat Parkinson's disease.

Types:

Fellowships

Member States:

Finland

Diseases:

Parkinson's disease & PD-related disorders

Years:

2016

Database Categories:

N/A

Database Tags:

N/A