

Bridging the world of fungi and dementia

<https://www.neurodegenerationresearch.eu/survey/bridging-the-world-of-fungi-and-dementia/>

Name of Fellow

Institution

Funder

European Commission FP7-Seventh Framework Programme

Contact information of fellow

Country

EC

Title of project/programme

Bridging the world of fungi and dementia

Source of funding information

European Commission FP7-Seventh Framework Programme

Total sum awarded (Euro)

€ 100,000

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01/02/12

Total duration of award in years

4.0

The project/programme is most relevant to:

Alzheimer's disease & other dementias

Keywords

Alzheimer's disease | endoplasmic reticulum | secretion stress | filamentous fungus | Molecular genetics | Genomics | Transcriptomics

Research Abstract

Alzheimer's disease is the most common form of dementia which seriously interferes with the daily life of millions of people. People suffering from Alzheimer's disease show the accumulation of two misfolded proteins in the nerve cells of their brains – amyloid plaques and tau tangles. Although many aspects of the Alzheimer's disease pattern are well-established, only little is known about the onset, development and progression of this disease. Thus, early detection,

including diagnosis before symptoms become visible, is still not possible yet. Furthermore, the development of drugs designed to slow down or even prevent Alzheimer's disease progression is very difficult and tedious.

In the envisaged project, a microorganism, the filamentous fungus *Aspergillus niger*, will be used to study the onset and development of Alzheimer's disease. The presence of misfolded proteins in this microorganism provokes a cellular reaction that shows many parallels to what is known from nerve cells. It seems that both man and fungus use similar defense strategies to detect and get rid of dangerous misfolded proteins. This makes *A. niger* very appealing for use as a model system to explore in utmost detail the origin and temporal progression of Alzheimer's disease. As it is a fast-growing and easy genetically tractable organism, respective analyses can be performed very cost and time effective, something which is not feasible when working with human cell models.

Types:

Fellowships

Member States:

N/A

Diseases:

Alzheimer's disease & other dementias

Years:

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