

Title: Alpha-Synuclein and Cellular Iron Reduction

<https://www.neurodegenerationresearch.eu/survey/title-alpha-synuclein-and-cellular-iron-reduction/>

Principal Investigators

David Brown

Institution

University of Bath

Contact information of lead PI

Country

United Kingdom

Title of project or programme

Title: Alpha-Synuclein and Cellular Iron Reduction

Source of funding information

Alzheimer's Research UK

Total sum awarded (Euro)

€ 149,482

Start date of award

06/02/2012

Total duration of award in years

4

Keywords

Research Abstract

Brain diseases such as Parkinson's Disease are likely to be caused by changes to certain brain proteins. While we don't know how these changes occur we do know what changes occur. In the case of Parkinson's disease aggregates of a protein called alpha-synuclein can be detected in the brain. One of the difficulties in discovering how these changes occur and how these changes might cause Parkinson's disease has been not knowing what alpha-synuclein actually does in the brain normally. We have made the first major breakthrough in understanding what alpha-synuclein does. We have shown that it is an enzyme that can change iron to a form more commonly used by cells. This activity known as ferrireductase activity (FR) is likely to have protective effect but increase or loss of this activity might be damaging to cells in the brain. In

this project we will study FR activity of alpha-synuclein and see whether it is changed in disease and how change in this activity affects cells. It is possible that the generation of excess reduced iron because of too high alpha-synuclein levels might explain the loss of dopamine cells in the brain of Parkinson's disease and some other dementias.

Further information available at:

Types:

Investments < €500k

Member States:

United Kingdom

Diseases:

N/A

Years:

2016

Database Categories:

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