

NAB3: Development of a Novel Multicellular In Vitro Model of Alzheimer's disease-like Blood-Brain Barrier

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Principal Investigators

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Institution

Multiple

Contact information of lead PI

Country

Italy|Portugal|Germany|Netherlands|France

Title of project or programme

NAB3: Development of a Novel Multicellular In Vitro Model of Alzheimer's disease-like Blood-Brain Barrier

Source of funding information

JPND-JPcofuND

Total sum awarded (Euro)

€ 812,488

Start date of award

01/01/2016

Total duration of award in years

3.0

The project/programme is most relevant to:

Alzheimer's disease & other dementias

Keywords

Research Abstract

A striking challenge in diagnosis and therapy of neurodegenerative diseases is the design of drugs capable of crossing the blood-brain barrier (BBB), a tightly regulated barrier that prevents

the passage of drugs from the blood to the brain. In vitro cellular BBB models are available, but they mimic only healthy conditions without taking into account the BBB alterations associated with neurodegenerative diseases, like Alzheimer's disease (AD). This project aims to develop and characterize a complex in vitro model of the BBB in AD conditions, built up with different cellular types combined with organotypic brain slices or neuronal cultures. This newly designed in vitro model will be realized thanks to the expertise and the multidisciplinary of the consortium in genetic engineering, physiology, neurobiology, neuroanatomy and biochemistry. The expected results will provide an innovative tool to i) obtain new information on the pathogenesis and pathophysiology of AD; ii) conduct more advanced early drug development and pre-clinical studies; and iii) devise new diagnostic or therapeutic strategies.

Lay Summary

Further information available at:

Types:

Investments > €500k, JPND Projects

Member States:

France, Germany, Italy, JPND, Netherlands, Portugal

Diseases:

Alzheimer's disease & other dementias

Years:

2016

Database Categories:

N/A

Database Tags:

N/A