

# PROP-AD: Propagation behaviour of peripheral amyloid-? towards brain structures: effects of the blood-brain barrier

<https://neurodegenerationresearch.eu/survey/prop-ad-propagation-behaviour-of-peripheral-amyloid-towards-brain-structures-effects-of-the-blood-brain-barrier/>

## Principal Investigators

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## Institution

Multiple

## Contact information of lead PI

### Country

Norway|Germany||Israel|Finland|Sweden

## Title of project or programme

PROP-AD: Propagation behaviour of peripheral amyloid-? towards brain structures: effects of the blood-brain barrier

## Source of funding information

JPND-JPcofuND

## Total sum awarded (Euro)

€ 1,746,751

## 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

Alzheimer's disease is a disease in which specific peptides, so-called beta-amyloids, accumulate in the brain, leading to the destruction of neurons and the resulting clinical

functional effects, e.g. memory and orientation problems.

Discussions are ongoing as to whether or not Alzheimer's disease may be transmissible between individuals and could therefore have implications with regard to health security issues that are similar to those of prion diseases. These considerations were raised from findings in mouse experiments in which peripheral injections of amyloidogenic material from mice led to the presence of immunopositive material in the brains of injected animals.

Researchers regarded these findings as proof of transmissibility, as seen in Creutzfeldt-Jakob disease. However, there are a number of concerns, both from the scientific community and the public, about whether such conclusions really can be drawn from these experiments.

The project aims to use amyloid as it is found in patients and transgenic, so-called Alzheimer's mice, and label it with mass-isotope labelling which does not disturb chemical and conformational characteristics. We plan to use new mass-spectrometry methods to determine the route of the delivery of peripherally administered Alzheimer's amyloid to the brain. We also want to see whether specific changes at the blood-brain barrier with regard to receptors and transport molecules could modify the entrance into the brain, if detectable at all.

Our objective is to resolve some of the issues that unlink Alzheimer's disease from transmissible, infectious prion diseases

### **Lay Summary**

**Further information available at:**

#### **Types:**

Investments > €500k, JPND Projects

#### **Member States:**

Finland, Germany, Israel, JPND, Norway, Sweden

#### **Diseases:**

Alzheimer's disease & other dementias

#### **Years:**

2016

#### **Database Categories:**

N/A

#### **Database Tags:**

N/A