

# Cross-talk between amyloid and neuroinflammatory cascades in neurodegenerative diseases.

<https://neurodegenerationresearch.eu/survey/cross-talk-between-amyloid-and-neuroinflammatory-cascades-in-neurodegenerative-diseases/>

## Principal Investigators

Ludmilla Morozova-Roche

## Institution

Umeå University

## Contact information of lead PI

### Country

Sweden

## Title of project or programme

Cross-talk between amyloid and neuroinflammatory cascades in neurodegenerative diseases.

## Source of funding information

Swedish Research Council

## Total sum awarded (Euro)

€ 435,256

## Start date of award

01/01/2015

## Total duration of award in years

4

## Keywords

### Research Abstract

We propose to conduct an integrated study of amyloid-inflammatory cascades implicated in neurodegenerative diseases: Alzheimer's (AD), Parkinson's (PD) and traumatic brain injury as a precursor state for AD/PD. The specific focus is on the interactions of the amyloid (Aβ, alpha-synuclein) and inflammatory (S100A8/A9) proteins and their role in disease.

Overwhelming evidence shows the contribution of neuroinflammation in AD/PD and yet the specific mechanisms remain unclear. Our aim is to identify the links between amyloid formation

and inflammation by integrating the studies at molecular, cellular and organism levels, using our expertise and state of the art equipment. The ultimate aim is to use this knowledge in biodiagnostics – identifying the biomarkers of disease (especially the early stages) rooted in the disease pathology, and in the treatment – by targeting the specific pathological mechanisms by small drug molecules and anti-inflammatory cures. The project includes: (1) High-resolution NMR, SAXS and spectroscopic studies of S100A8/A9 monomers and oligomers. (2) AFM, nanofluidic and spectroscopic studies of amyloid processes. (3) Amyloid regulation/inhibition and reversal. (4) Protein-cell interactions at nanoscale by AFM and confocal microscopies and cell biology techniques. (5) Immunohistochemistry of ex vivo brain tissues – insights into pathology at the tissue level. (6) Multi-marker biodiagnostics and monitoring disease progression across AD and PD.

**Further information available at:**

**Types:**

Investments < €500k

**Member States:**

Sweden

**Diseases:**

N/A

**Years:**

2016

**Database Categories:**

N/A

**Database Tags:**

N/A