JPND research
EU Joint Programme – Neurodegenerative Disease Research

SYNACTION

Unravelling the pathophysiological role of alpha-synuclein aggregation, transmission and neuroinflammation in neurodegeneration

Several neurodegenerative disorders, including Parkinson's disease (PD), dementia with Lewy bodies (DLB) and multiple system atrophy (MSA) are caused by aggregates of a single protein, known as alpha-synuclein, in different brain regions and cell types.

For a long time, researchers have been puzzled by how a single protein can be involved in these different diseases. Now, recent intriguing findings by our consortium (Peelaerts et al. 2015, Nature) propose that the shape of the alpha-synuclein aggregates might explain this clinical heterogeneity. Moreover, these diseases are accompanied by different neuroinflammation profiles in humans and in animal models.

In this project, we will use alpha-synuclein aggregates from human brain samples of PD, DLB and MSA patients and study their pathological and inflammatory effects in advanced experimental rodent and non-human primate models. These new insights will contribute to early diagnosis, prevention and the development of novel therapeutic strategies for alpha-synuclein-related disorders.

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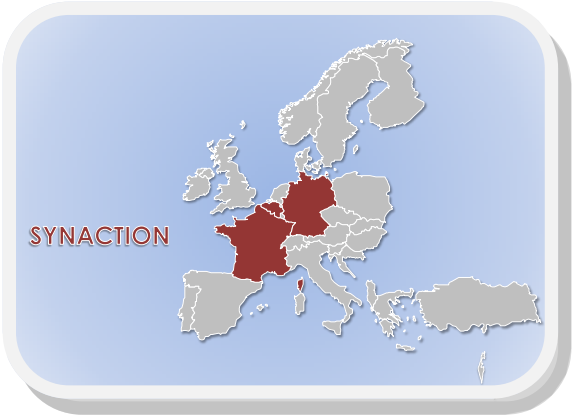
Duration: 3 years

Coordinator: Veerle Baekelandt

T: + 32 16 374 057

E: Veerle.Baekelandt@med.kuleuven.be



Project Partners:

COORDINATOR I VEERLE BAEKELANDT

Veerle Baekelandt, KU Leuven, Belgium

Ronald Melki, Paris-Saclay Institute of Neuroscience, Gif-sur-Yvette, France

Michael Heneka, University of Bonn, Germany

Stéphane Hunot, Brain & Spine Institute, Paris, France