

The contribution of extracellular tau to the propagation of neurodegeneration in Alzheimer disease

<https://neurodegenerationresearch.eu/survey/the-contribution-of-extracellular-tau-to-the-propagation-of-neurodegeneration-in-alzheimer-disease-2/>

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Canada

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The contribution of extracellular tau to the propagation of neurodegeneration in Alzheimer disease

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Research Abstract

Tau protein is believed to normally stabilize microtubules, the railways responsible for the transport of proteins within a neuron. During the course of Alzheimer disease and other neurodegenerative disorders termed frontotemporal lobar degeneration, tau protein detaches from microtubules and forms toxic aggregates that are associated with neuronal cell death. The formation of tau aggregates begins in a discrete region of the brain and propagates to larger

areas at later of stages of the disease. A new concept has emerged to explain this specific pattern of the propagation of tau aggregation in the brain. Tau aggregates would be released from neurons and taken up by neighboring neurons. The uptake of tau aggregates would induce the formation of aggregates by normal endogenous tau. These newly formed aggregates would be released by neurons and then would initiate a new cycle of propagation. Our research program aims to define how and where tau aggregates are released by a neuron and how and where tau aggregates are taken up by a neuron using diverse cellular and molecular biology techniques. Our research will have direct impact on the elaboration of new therapeutic strategies to slow down the progression of the Alzheimer disease and frontotemporal lobar degeneration.

Further information available at:

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Investments < €500k

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Canada

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