

Targeting Neurovascular Dysfunction in AD

<https://www.neurodegenerationresearch.eu/survey/targeting-neurovascular-dysfunction-in-ad/>

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Targeting Neurovascular Dysfunction in AD

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1

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Research Abstract

? DESCRIPTION (provided by applicant): In the wake of failed amyloid-targeted drug trials and immune therapies, recent efforts are directed towards a broad range of alternative mechanisms of Alzheimer's disease (AD) including, in particular vascular dysfunction. The overall goal of our research is to define cerebrovascular dysfunction as a mechanistic link between cardiometabolic disorders such as type 2-diabetes (T2DM) and AD and as a potential target for

vasculoprotective strategies in AD treatment. The present project utilizes a mouse model of AD with non-genetically induced T2DM that shows accelerated amyloid deposition with cognitive impairment. The approach uses innovative techniques and strategies including the use of 2-photon imaging focused on vascular changes (i.e., pericyte loss/injury, astrocyte endfeet and blood brain barrier disruption correlated with increased vascular amyloid) and responses i.e., altered functional hyperemia (cerebral blood flow) and vasodilation potentially leading to metabolic/synaptic dysfunction and cognitive decline. In a therapeutic approach, we will test the efficacy of a novel Apo AI mimetic peptide (5A) with demonstrated vasculoprotective properties, in the diabetic AD model. The outcome of these studies should provide strong and direct support to the vascular hypothesis of AD and further suggest new therapeutics to limit vascular triggers of AD pathogenesis.

Further information available at:

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United States of America

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