# Development and characterization of a novel Clusterin mouse model

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**Country**

USA

**Title of project or programme**

Development and characterization of a novel Clusterin mouse model

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Acquired Cognitive Impairment... Aging... Alzheimer's Disease... Alzheimer's Disease including Alzheimer's Disease Related Dementias (AD/ADRD)... Brain Disorders... Dementia... Genetics... Neurodegenerative... Neurosciences

**Research Abstract**

? DESCRIPTION (provided by applicant): Alzheimer disease (AD) is the most common cause of dementia and is characterized by extracellular plaques formed by the deposition of amyloid-ß (Aß) peptide and intracellular tangles comprised of hyperphosphorylated forms of the tau protein. Another common pathology in AD is cerebral amyloid angiopathy (CAA), caused by Aß

deposition in the walls of cerebral vessels leading to vascular dysfunction and hemorrhage. The strongest genetic risk factor for both AD and CAA is e4 allele of the apolipoprotein E (APOE) gene, but multiple recent genome-wide association studies have proven that a similar apolipoprotein, Clusterin (CLU), also confers risk for AD. While much is known about apoE biology, much less is known about CLU biology but several lines of evidence indicate that key differences may exist between human and mouse CLU protein. Studies from many years ago demonstrated that CLU is a critical factor in mediating the neurotoxicity associated with amyloid plaques in vivo through some unknown signaling mechanism. The objective of this application is to generate a novel humanized CLU mouse in which the entire human CLU locus replaces the endogenous mouse Clu locus. These mice will be characterized by behavioral, biochemical and histological methods at baseline as well as after immune challenge with lipopolysaccharide. This new mouse model will be useful not only for AD but also for stroke and breast cancer given the emerging role of CLU in those respective fields.

**Further information available at:**

**Types:**
Investments < €500k

**Member States:**
United States of America

**Diseases:**
N/A

**Years:**
2016

**Database Categories:**
N/A

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