

Scientists discover pathway that may lead to Alzheimer's disease

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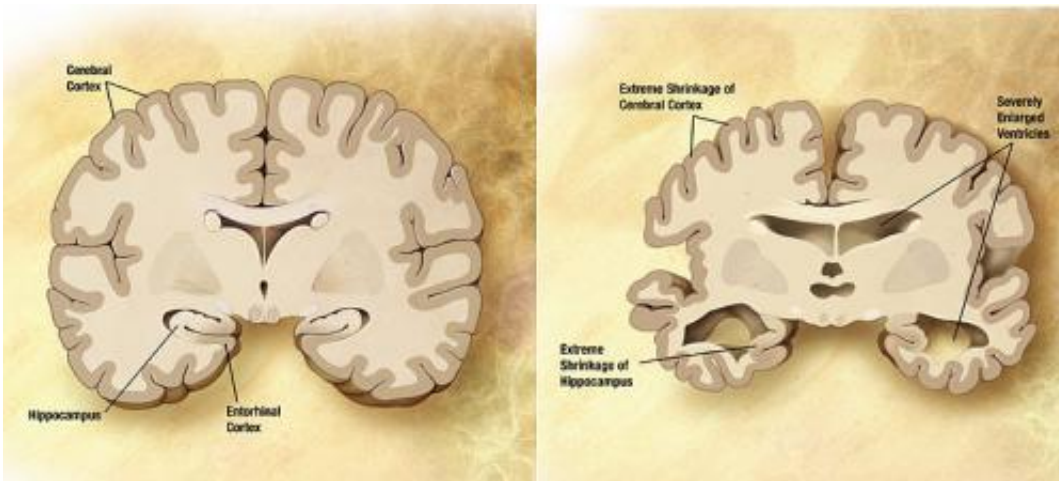


Diagram of the brain of a person with Alzheimer's Disease. Credit: Wikipedia/public domain.

Today, researchers at the Fisher Center for Alzheimer's Research Foundation report the results of two new studies conducted by the Fisher Center scientists at Rockefeller University, led by Nobel Laureate Dr. Paul Greengard, in the quest to find a cure for Alzheimer's disease.

"As a result of the funding support we provide to the Fisher Center for Alzheimer's Research at Rockefeller University, the lab has identified a potential new way to improve Alzheimer's symptoms and open new doors for potential Alzheimer's treatments," said Kent L. Karosen, foundation president and CEO. "The Rockefeller University Laboratory

is on the cutting edge of science and we are pleased to fund their breakthrough research in an effort to find a cure for Alzheimer's."

As published in the scientific journal *Proceedings of the National Academy of Sciences*, under the direction of Dr. Greengard and spearheaded by Dr. Marc Flajolet, they demonstrated through a complex set of imaging technologies and experiments that an early trafficking protein [pathway](#) (COPI) affects APP, a protein that causes the development of Alzheimer's. This discovery affirms the physiological relevance of this pathway in the progression of Alzheimer's.

By manipulating this pathway, the scientists further discovered that the moderation of COPI leads to a significant decrease in [amyloid plaques](#), which contributes to memory loss and other symptoms from which patients with Alzheimer's often suffer. The reduction of COPI resulted in some improvement of memory impairment.

"These findings are significant, as they provide further explanation of the creation of amyloid plaques, a primary symptom of the disease, and that the manipulation of this pathway leads to improvement of some memory impairments, which can lead to future Alzheimer's treatments that slow the progression of the disease," said Greengard, director of the Fisher Center for Alzheimer's Research.

More information: Karima Bettayeb et al. δ -COP modulates A β peptide formation via retrograde trafficking of APP, *Proceedings of the National Academy of Sciences* (2016). [DOI: 10.1073/pnas.1604156113](https://doi.org/10.1073/pnas.1604156113)

Karima Bettayeb et al. Relevance of the COPI complex for Alzheimer's disease progression in vivo, *Proceedings of the National Academy of Sciences* (2016). [DOI: 10.1073/pnas.1604176113](https://doi.org/10.1073/pnas.1604176113)

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