'Pac-Man' gene implicated in Alzheimer's disease

26 July 2016

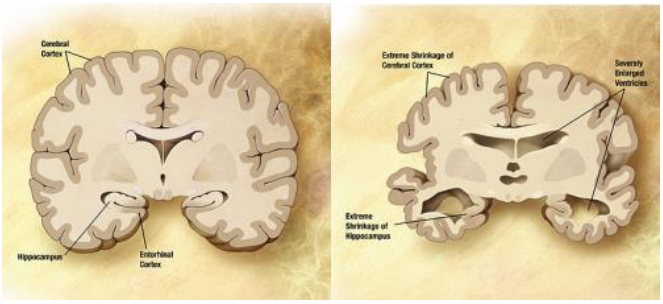

Diagram of the brain of a person with Alzheimer's Disease. Credit: Wikipedia/public domain.

A gene that protects the brain from the harmful build-up of amyloid-beta, one of the causative proteins implicated in Alzheimer's disease, has been identified as a new target for therapy by NeuRA researchers.

The recent study, led by Dr Scott Kim, revealed that the ABCA7 gene plays a protective role in the brain by "gobbling up" amyloid-beta. It will be published in the *Journal of Alzheimer's Disease*.

If amyloid-beta proteins are left unchecked, they form masses that are toxic to the nerve cells in the brain, contributing to the development of Alzheimer's disease.

The study provides compelling evidence, using animal models and human brain tissue, that ABCA7 plays a crucial role in supporting the scavenger cells that devour amyloid-beta proteins.

Two of the key suspected causes of Alzheimer's disease is that there is either a fault with the creation of amyloid-beta proteins or with the removal of amyloid-beta proteins from the brain. This study has shown that the lack of ABCA7 function contributes to the development of pathology associated with Alzheimer's disease and revealed the mechanism by which this may occur.

"In healthy people, the scavenger cells of the brain 'chomp up' excess amyloid-beta proteins, just like Pac-Man. However, in people with an aberration in ABCA7, the scavenger cells cannot do this properly," says Dr Kim.

This insight offers new hope for developing therapies that help to control the build-up of amyloid-beta in the brain and reduce a person's likelihood of developing Alzheimer's disease.

"The recent discovery of ABCA7 as a new candidate gene for Alzheimer's disease paves the way for new and innovative approaches to tackling the disease," says Dr Kim.

Provided by NeuRa

APA citation: 'Pac-Man' gene implicated in Alzheimer's disease (2016, July 26) retrieved 29 April 2021 from https://medicalxpress.com/news/2016-07-pac-man-gene-implicated-alzheimer-disease.html

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.