

# Scientists isolate genes that delay Alzheimer's

December 1 2015

---



Associate Professor Arcos-Burgos (centre) with Dr Claudio Mastronardi and Dr Hardip Patel. Credit: Stuart Hay, ANU

Scientists have identified a network of nine genes that play a key role in the onset of Alzheimer's Disease.

The finding could help scientists develop new treatments to delay the onset of the [disease](#), said lead researcher Associate Professor Mauricio Arcos-Burgos from The Australian National University (ANU).

In a study of a [family](#) of 5,000 people in Columbia, scientists identified [genes](#) that delayed the disease, and others that accelerated it, and by how much.

"If you can work out how to decelerate the disease, then you can have a profound impact," said Associate Professor Arcos-Burgos, a medical geneticist at The John Curtin School of Medical Research (JCSMR) at ANU.

"I think it will be more successful to delay the onset of the disease than to prevent it completely. Even if we delay the onset by on average one year, that will mean nine million fewer people have the disease in 2050."

Alzheimer's disease affects up to 35 million people around the world and is predicted to affect one in 85 people globally by 2050.

The Columbian family are afflicted by a type of hereditary Alzheimer's. They are a unique resource in the fight against the disease because they are such a large, close-knit family and live in a specific region in the western mountains of Columbia.

The United States National Institute of Health has put \$170 million towards developing treatments for Alzheimer's, which will be tested amongst this family.

Associate Professor Arcos-Burgos and his team took a different approach, studying the variable age of onset of dementia in this family, rather than trying to treat symptoms which develop later in life, even though changes in the brain can be observed in individuals before the age of 20.

With the cooperation of the family, the team were able to discount environmental factors and trace their genetic predisposition to

Alzheimer's Disease back to a founder mutation in one individual who came to the region about 500 years ago.

The team was able to isolate the nine genes involved in Alzheimer's, some of which delay the onset by up to 17 years, while others advance its progress.

Associate Professor Arcos-Burgos is now turning closer to home, to study the genes of a group of Queanbeyan [people](#) who have been followed for the past 10 years.

The study is published in *Molecular Psychiatry*.

**More information:** J I Vélez et al. APOE\*E2 allele delays age of onset in PSEN1 E280A Alzheimer's disease, *Molecular Psychiatry* (2015). [DOI: 10.1038/mp.2015.177](https://doi.org/10.1038/mp.2015.177)

Provided by Australian National University

Citation: Scientists isolate genes that delay Alzheimer's (2015, December 1) retrieved 18 April 2024 from <https://medicalxpress.com/news/2015-12-scientists-isolate-genes-alzheimer.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.