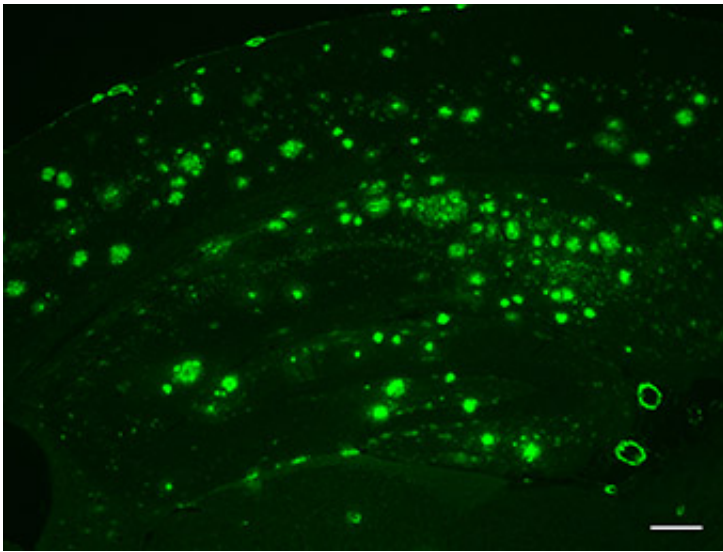


Innovative method to treat Alzheimer's in mice

April 1 2013

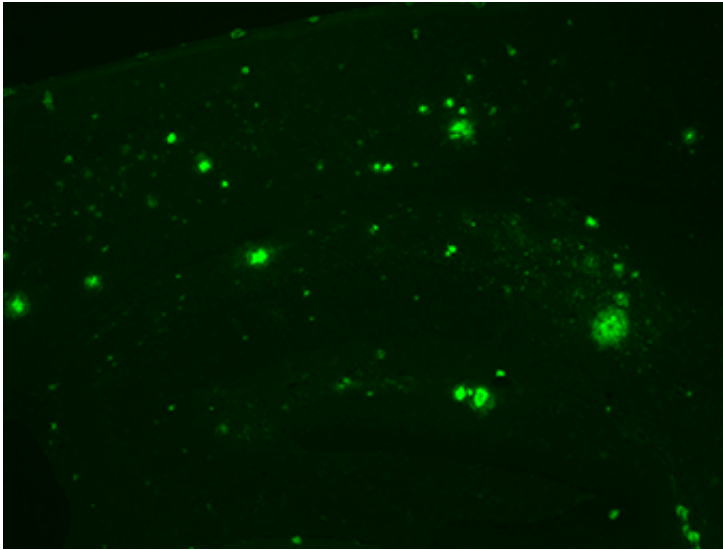


Amyloid-beta peptide in the brain of the mouse model, before gene transfer using AAV.

Researchers from the RIKEN Brain Science Institute report that they successfully used a virus vector to restore the expression of a brain protein and improve cognitive functions, in a mouse model of Alzheimer's disease.

The researchers, led by Dr Takaomi Saido, developed an adeno-associated virus (AAV) vector carrying the neprilysin gene that they administered to neprilysin-deficient mice. Because it is impossible to

deliver genes directly to the brain without surgery, the researchers injected the virus in the [left ventricle](#) of the heart, as this provides a direct route to the brain.



Amyloid-beta peptide in the mouse model after the gene transfer.

They show that neprilysin was expressed in the brain of the mice and that this resulted in a decrease in the accumulation of amyloid-beta peptide, the protein responsible for cognitive decline in Alzheimer's patients. The researchers also observe a reduction of the symptoms associated with Alzheimer's disease in the mice, such as memory loss. These results point towards a new therapeutic strategy for Alzheimer's disease and other neurodegenerative diseases.

More information: The results are presented in the journal *Scientific Reports*, [DOI: 10.1038/srep01472](https://doi.org/10.1038/srep01472)

Provided by RIKEN

Citation: Innovative method to treat Alzheimer's in mice (2013, April 1) retrieved 28 April 2023 from <https://medicalxpress.com/news/2013-04-method-alzheimer-mice.html>

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