

Increasing glutathione levels lowers Alzheimer's pathology and improves cognitive decline

17 February 2021



Credit: Unsplash/CC0 Public Domain

Australian researchers have shown that a dietary supplement that increases the levels of a powerful antioxidant in the brain may represent a novel strategy for the treatment and/or prevention of cognitive impairment and debilitating neurodegenerative diseases such as Alzheimer's disease.

Findings of the study were recently published in *Neurochemistry International*.

A team of researchers from UNSW Sydney's Centre for Healthy Brain Ageing (CHeBA), and the School of Biotechnology and Biomolecular Sciences (BABS), has shown that dietary supplementation with glutathione precursor γ -glutamylcysteine (γ -GC), marketed as Glyteine™, reduced [oxidative stress](#), neuroinflammation and amyloid pathology in the brains of transgenic mice, a murine model to study Alzheimer's disease. The study also found significant cognitive improvements in the mice as determined using the

Morris water maze, a test often used to test memory in mice.

The study identifies for the first time that γ -GC as a glutathione-elevating strategy in an Alzheimer's disease mouse model and is likely to have clinical relevance.

Lead author and Leader of CHeBA's Brain Ageing Research Laboratory, Dr. Nady Braidy, said: "Cellular depletion of glutathione has been linked to cognitive decline and the development of Alzheimer's pathology. Supplementation with γ -GC can transiently augment cellular glutathione levels by bypassing the regulation of glutathione homeostasis."

More information: Yue Liu et al.

Supplementation with γ -glutamylcysteine (γ -GC) lessens oxidative stress, brain inflammation and amyloid pathology and improves spatial memory in a murine model of AD, *Neurochemistry International* (2020). [DOI: 10.1016/j.neuint.2020.104931](#)

Provided by CHeBA

APA citation: Increasing glutathione levels lowers Alzheimer's pathology and improves cognitive decline (2021, February 17) retrieved 11 October 2022 from <https://medicalxpress.com/news/2021-02-glutathione-lowers-alzheimer-pathology-cognitive.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.