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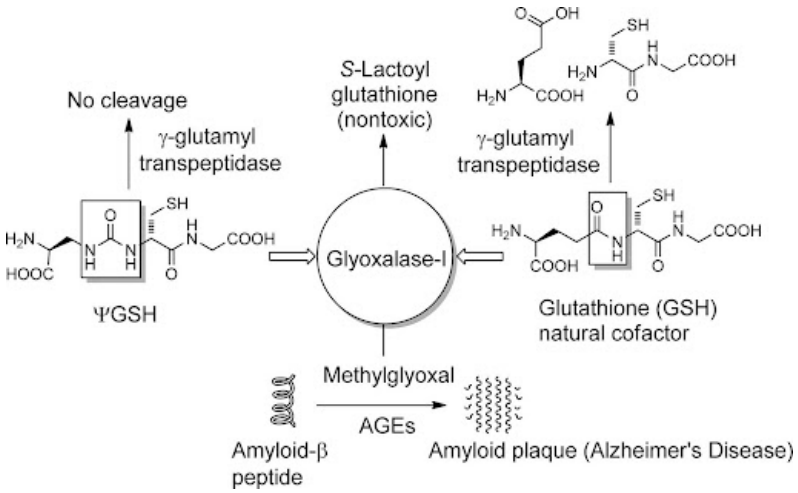
Stable glutathione analog for the treatment of Alzheimer's disease

A metabolically stable glutathione analog that resists degradation and offers protection against oxidative stress.



IP Status: US Patent Issued; Issued Patent No. 9,394,338

Applications

- Treatment for Alzheimer's and other neurodegenerative diseases

Key Benefits & Differentiators

- **Increased stability:** Resistance to γ-glutamyl transpeptidase (γ-GT) breakdown leads to extended antioxidant activity
- **Replicates endogenous GSH activity:** Crosses the blood-brain barrier and mimics key glutathione (GSH) functions

Technology Overview

Oxidative stress and plaque formation from glycation are key features of numerous neurodegenerative diseases, including Alzheimer's disease. Although glutathione (GSH) is a potent antioxidant capable of mitigating oxidative stress, its therapeutic potential is limited by its instability due to rapid degradation by γ-glutamyl transpeptidase (γ-GT). As a result, direct oral GSH administration does not result in significant systemic elevation of GSH levels, curbing its utility in treating neurodegenerative diseases.

Researchers at the University of Minnesota have developed a novel glutathione analog, Ψ-GSH, that resists γ-GT degradation while retaining critical GSH functions. Ψ-GSH crosses the blood-brain barrier and protects cells from oxidative damage and Aβ-induced cytotoxicity. Its prolonged stability and enhanced protective effects make it a promising candidate for treating

Technology ID
20110150

Category
Life Sciences/Biochemicals & Small Molecules
Life Sciences/Human Health
Life Sciences/Neuroscience
Life Sciences/Pharmaceuticals
Life Sciences/Therapeutics

Learn more

oxidative stress in Alzheimer's disease.

Phase of Development

TRL: 3-4

Efficacy demonstrated in vitro and in vivo.

Desired Partnerships

This technology is now available for:

- License
- Sponsored research
- Co-development

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Researchers

- **Robert Vince, PhD** Professor and Director, Center for Drug Design
- **Swati S. More, PhD** Professor, Center for Drug Design

References

1. Swati S. More, Robert Vince(2012) , https://pubs.acs.org/doi/10.1021/cn200113z, ACS Chemical Neuroscience, 3, 204-210