

Luteolin and Diosmin Therapies for Alzheimer's Disease and Dementia

Researchers at the University of South Florida have discovered that the natural flavones luteolin, diosmin and diosmetin have therapeutic value and potential as novel drugs for the treatment of neurodegenerative diseases including Alzheimer's disease (AD) and dementia.

AD is the most common cause of dementia constituting 60%-70% of all cases. An estimated 5 million Americans have the disease and this number is expected to increase to 14 million by 2050. Lack of effective therapy, increased incidence of the disease, medical and socioeconomic implications have encouraged research and development of new treatments.

Amyloid precursor protein (APP) proteolysis is responsible for the production of β -amyloid ($A\beta$) peptides which can be deposited in brain neural tissues. APP cleavage can be achieved through two pathways. The first leads to the production of $A\beta$ peptides that are implicated in AD pathology. A second pathway involves α -secretase activity which prevents the generation of $A\beta$ peptide.

USF researchers have discovered that luteolin, diosmin, and diosmetin inhibit γ -secretase activity ($A\beta$ generation) through the inhibition of GSK-3 activity and subsequent modulation of presenilin phosphorylation at a unique site.

This invention will be useful in the field of pharmaceuticals and nutraceuticals.

ADVANTAGES:

- Reduce levels of $A\beta$ production
- Improved cognition in animal models
- Minimal risk of dose toxicity

Natural, safe compounds

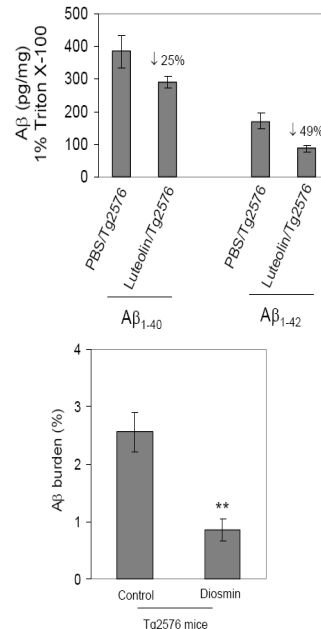


Figure: Flavones reduce $A\beta$ levels in transgenic mice

Tech ID # 07A009

Patent #: [8,778,986](#); [8,802,638](#)