Rhamnazin

Rhamnazin is an O-methylated flavonols, a type of chemical compound. It can be found in Rhamnus petiolaris, a buckthorn plant endemic to Sri Lanka.

Yang et al. intended to investigate the protective effect of rhamnazin (RMZ), a dimethoxyflavone against experimentally induced TBI in mice.

Methods: The effect of RMZ was investigated on cerebral edema and grip test score after induction of experimental brain injury in rats. The effect of RMZ was also investigated on neuronal degeneration in brain tissues of the experimental mice via Nissl staining and flow cytometry analysis. The expression of Bax and Bcl-2 was also quantified using Western blot analysis. The level of inflammatory cytokines (TNF-α and IL-1β) and oxidative stress markers (malondialdehyde, superoxide dismutase, and glutathione peroxidase) was also determined using an enzyme-linked immunosorbent assay.

Results: RMZ showed a significant reduction in edema and improved grip strength. It also prevented neuronal degeneration via inhibition of neuronal apoptosis as shown by flow cytometry analysis. RMZ showed an antiapoptotic effect via reduction of Bax and increased the expression of Bcl-2 in Western blot analysis. It also showed to inhibit oxidative stress and inflammation compared to the TBI group

Collectively, the study is the first to demonstrate the protective effect of RMZ against experimentally induced TBI in rats. [1)]

1)
Yang B, Zhang R, Sa Q, Du Y. Rhamnazin Ameliorates Traumatic Brain Injury in Mice via Reduction in Apoptosis, Oxidative Stress, and Inflammation. Neuroimmunomodulation. 2021 Jul 15:1-8. doi: 10.1159/000516927. Epub ahead of print. PMID: 34265765.