Quercetin

Among thousands of flavonoids, quercetin (QUE) is a prototype with significant antioxidant effects.

Quercetin sensitizes glioblastoma to t-AUCB by dual inhibition of Hsp27 and COX 2 in vitro and in vivo.

These results indicate that combination of t-AUCB and quercetin may be a potential approach to treating glioblastoma [1].

Combining quercetin treatment with delayed transplantation of HUMSCs after local cerebral ischemia significantly (i) improved neurological functional recovery; (ii) reduced proinflammatory cytokines (interleukin(IL)-1β and IL-6), increased anti-inflammatory cytokines (IL-4, IL-10, and transforming growth factor-β1), and reduced ED-1 positive areas; (iii) inhibited cell apoptosis (caspase-3 expression); and (iv) improved the survival rate of HUMSCs in the injury site. Altogether, our results demonstrate that combined HUMSC transplantation and quercetin treatment is a potential strategy for reducing secondary damage and promoting functional recovery following cerebral ischemia [2].

A two-level study was designed with 42 adult Wistar rats that were randomly assigned to different groups. In the first part, animals in sham, control, quercetin, morphine and gabapentine groups received chronic constriction injury to their sciatic nerves and received a single dose of QUE, morphine and gabapentine. In the second part, different dose regimens of QUE were administered to different groups of animals. Pre-injury and post-injury assessments for mechanical hypersensitivity, thermal sensitivity, locomotor activity and anxiety were recorded and statistical comparisons were performed between different groups.

Comparison of QUE with morphine and gabapentine has revealed significant effects of this agent in the current chronic constriction injury model. QUE was significantly superior to Gabapentine and morphine in terms of alleviating mechanical and thermal hypersensitivity. Additionally, pre-injury administration of QUE for 4 days demonstrated long-term effectiveness on mechanical hypersensitivity.

This preliminary report the on effects of QUE in a chronic constriction injury model proved significant effects of the agent, which should be supplemented with different studies using different dose regimens [3].

1)
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2)
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3)
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