

Mechanism of Action of Troxerutin in Reducing Oxidative Stress

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Abstract : Troxerutin, a trihydroxyethylated derived of rutin, is a flavonoid existing in tea, coffee, cereal grains, various fruits and vegetables have been conveyed to display radioprotective, antithrombotic, nephron-protective and hepato-protective possessions. Troxerutin, has been well-proved to utilize hepatoprotective assets. Troxerutin could upturn the resistance of hippocampal neurons alongside apoptosis by lessening the action of AChE and oxidative stress. Consequently, troxerutin may have advantageous properties in the administration of Alzheimer's disease and cancer. Troxerutin has been testified to have several welfares and medicinal stuffs. It could shelter the mouse kidney against d-gal-induced damage by refining renal utility, decreasing histopathologic changes, dropping ROS construction, reintroducing the activities of antioxidant enzymes and reducing DNA oxidative destruction. The DNA cleavage study clarifies that troxerutin showed DNA protection against hydroxyl radical persuaded DNA mutilation. Troxerutin uses anti-cancer effect in HuH-7 hepatocarcinoma cells conceivably through synchronized regulation of the molecular signalling pathways, Nrf2 and NF- κ B. DNA binding at slight channel by troxerutin may have donated to feature breaks leading to improved radiation brought cell death. Furthermore, the mechanism principal the observed variance in the antioxidant activities of troxerutin and its esters was qualified to equally their free radical scavenging capabilities and dissemination on the cell membrane outward.

Keywords : troxerutin, DNA, oxidative stress, antioxidant, free radical

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