

Antioxidative and hepatoprotective effects of *Antrodia camphorata* extract

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摘要

Abstract

Antrodia camphorata (*A. camphorata*) is well-known in Taiwan as a traditional Chinese medicine. The purpose of this study was to evaluate the ability of *A. camphorata* extracts to protect against oxidative stress in vitro and against carbon tetrachloride (CCl₄)-induced hepatic injury in vivo. An extract of *A. camphorata* inhibited nonenzymatic iron-induced lipid peroxidation in rat brain homogenates with an IC₅₀ value about 3.1 mg/mL. It also scavenged the stable free radical 1,1-diphenyl-2-picrylhydrazyl (DPPH). The dose of the *A. camphorata* extract resulting in a decrease of 0.20 in the absorbance of DPPH was about $31 \pm 0.7 \mu\text{g/mL}$. Furthermore, an *A. camphorata* extract dose-dependently (250–1250 mg/kg) ameliorated the increase in plasma aspartate aminotransferase (GOT) and alanine aminotransferase (GPT) levels caused by chronic repeated CCl₄ intoxication in mice. Moreover, *A. camphorata* extract significantly improved the CCl₄-induced increase in hepatic glutathione peroxidase, reductase, and CCl₄-induced decrease in superoxide dismutase activities. It also restored the decrement in the glutathione content and catalase activity of hepatic tissues in CCl₄-intoxicated mice. Furthermore, it also dose-dependently inhibited the formation of lipid peroxidative products during CCl₄ treatment. Histopathological changes of hepatic lesions induced by CCl₄ were significantly ameliorated by treatment with an *A. camphorata* extract in a dose-dependent manner. These results suggest that *A. camphorata* extract exerts effective protection against chronic chemical-induced hepatic injury in vivo, by mediating antioxidative and free radical scavenging activities.