

Antioxidant and hepatoprotective activities of *Elephantopus tomentosus* ethanol extract.

Abstract

The current study evaluated the antioxidant and hepatoprotective activities of *Elephantopus tomentosus* L. (Asteraceae) ethanol extract (ET). In the experiment, total antioxidant capacity, reducing capacity, DPPH* and hydrogen peroxide scavenging, and Fe³⁺-induced lipid peroxidation inhibiting activities of ET were determined. The results indicated that ET exhibited antioxidant (1 mg/mL ET was equal to 2.1 mM TEAC), lipid peroxidation inhibition, hydrogen peroxide, and free radical scavenging activities. The hepatoprotective activity of ET was studied using CCl₄-induced liver toxicity in rats. Oral administration of ET (500 mg/kg) significantly reduced CCl₄-induced hepatotoxicity in rats, as observed from the serum level of the liver enzyme aspartate aminotransferase (AST), alanine aminotransferase (ALT), and also from the histopathologic study. The total phenolic content in the lyophilized ethanol extract is approximately 10%. The results of the current study indicated that the hepatoprotective effect of *E. tomentosus* might be ascribable to its antioxidant and free radical scavenging properties.

Keyword: DPPH scavenging; *Elephantopus tomentosus*; H₂O₂ scavenging; Hepatoprotective effect; Lipid peroxidation; Reducing power; TEAC; Total phenolic content