

Modulation of Oxidative Stress and Inflammatory Cytokines as Therapeutic Mechanisms of *Ocimum americanum* L Extract in Carbon Tetrachloride and Acetaminophen-Induced Toxicity in Rats

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Ocimum americanum L. is a natural specie used in local foods. The aqueous extract of the plant was assessed for its hepatoprotective activities in rats using biochemical parameters, histology, levels of liver antioxidants, and expression of some pro-inflammatory cytokines (NF-kb and IL-1) in the liver. The leaves and stem extracts, orally administered for 7 days at 250 mg/kg, effectively prevented CCl₄- induced elevation of serum biochemical parameters, prooxidants, as well as the expression of NFk-B and IL-1, which were comparable to Silymarin (standard drug). A comparative histopathological analysis of the liver exhibited virtually normal architecture compared with CCl₄- treated group. The findings showed that the hepatoprotective effect of *Ocimum americanum* was probably due to the inhibition of oxidative stress and down regulation of proinflammatory cytokines by the effective parts of the medicinal plant.

Biography

Afua Kobi Ampem Genfi has her expertise and passion in Biochemistry, drug discovery research for Hepatorenal disease and STEM education advocacy. She has years of experience in teaching/lecturing, research and administration in education institutions and hospital. Her research has led to the discovery of herbs, medicinal plants and spices with liver and kidney protective effects. She has from her research produced plant-based teas for liver and kidney protection. She is a certified Mentor and Coach for career development and a strong STEM education among girls especially in her country.