The Hepatoprotective Effects of Solanum alatum Moench. on Acetaminophen-induced Hepatotoxicity in Mice

林松洲

Song-chow Lin;Tsao-Chuen Chung;Tzuu-Huei Ueng;Yun-Ho Lin;Shih-Hsein Hsu;Chia-Lien Chiang and Chun -Chuing Lin

摘要

Abstract

Solanum alatum Moench. has been shown to have a protective effect against carbon tetrachloride (CCl4)-induced liver injury. Solanum alatum treatment (100 mg/kg, p.o.) decreased the elevation of serum alanine aminotransferase (ALT; GPT) and aspartate aminotransferase (AST; GOT) induced by acetaminophen (paracetamol) (600 mg/kg, i.p.) administration. It also decreased the extent of visible necrosis in liver tissue. In addition, Solanum alatum treatment restored hepatic glutathione (GSH) depletion induced by acetaminophen (600 mg/kg, i.p.) administration. Microsomal enzyme levels such as P-450, reductase, and aniline hydroxylation enzyme were also restored to normal levels after Solanum alatum administration. The hepatoprotective mechanism may function through direct binding with acetaminophen toxic metabolites, decreasing the attraction of acetaminophen metabolites for other cellular GSH or thiol protein. Additionally, Solanum alatum treatment increased the concentration of hepatic GSH and maintained a high level activity of GSTase, which led to acceleration of the excretion of toxic acetaminophen metabolites..