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In-vivo hepatoprotective efficacy of certain *Psidium* species extracts and their nano-formulated liposomes

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Genus *Psidium* (Family Myrtaceae) comprises approximately 150 species of small trees and shrubs in which only 20 species produce edible fruits and the rest are wild with inferior quality of fruits. Most commonly cultivated is the common guava, (*Psidium guajava L.*) and other cultivated species include; Cattely guava (*P. cattleianum Sabine*), the Brazilian guava (*P. guineense Sw.*) and Costa Rican guava (*P. friedrichsthalianum Ndz.*). The present study aims to evaluate antioxidant and hepatoprotective activities of chloroform: methanol (80: 20) extracts (CME) of both *Psidium guajava L.* and *Psidium cattleianum Sabine* leaves and their nano-formulated liposomes against paracetamol-induced liver damage in rats. The based nano-liposomes were prepared using thin film hydration method. Biochemical analysis was based on monitoring serum levels of AST, ALT, ALP and total bilirubin. The liver homogenate was used for determination of GSH, MDA. Histopathological alterations were also studied. Significant hepatoprotective effects were observed as evident from decreased levels of AST, ALT, ALP, MDA and total bilirubin as well as restoration of decreased GSH level in the two studied *Psidium* extracts pre-treated groups (250, 500 mg/kg.b.wt) and their respective nano-liposomes (500 mg/kg.b.wt) compared to the diseased group both *Psidium* nano-liposomes showed better activity relative to their extracts in the histopathological study, which was almost comparable to standard silymarin. On the other hand, secondary metabolites profile of *P. guajava L.* and *P. cattleianum Sabine* was also investigated using (UPLC-PDA-ESI-qTOF-MSn). These results provide a promising nutraceutical-approach for the usage of *P. guajava L.* and *P. cattleianum* as hepatoprotectives.

Biography

Maha M Salama is an expertise in Natural products and phytochemistry, and an Associate Professor in Pharmacognosy Department, Faculty of Pharmacy, Cairo University.

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