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Coptis chinensis inflorescence –derived from a kind of potential edible and medicinal plant with multiple functions

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In China, *Coptis chinensis* (C. chinensis) planting areas are mainly concentrated in the habitat of Tujia National Minority. Traditionally, *C. chinensis* inflorescence is made as tea drink among local indigenous people. Nowadays, some pharmacological activities of *C. chinensis* have been verified, such as antioxidative, anti-phototoxicity, hypoglycemic, and hepatoprotective effects. *C. chinensis* inflorescence extract (CE) is rich in phenolics, flavonoids, proanthocyanidins and isoquinoline alkaloids. The antioxidant activity was accomplished both in vitro and in vivo. For in vitro assay, CE could scavenge free radical and inhibit lipid peroxidation. For in vivo assay, the effects were accomplished in mice. The protective effect of CE against UVB-induced damage was also measured. The indicators of LOOH, CD, 4-HNE, GSH and MDA were used to prove such effect in mitochondria model. The skin of mice could also be treated with CE against the damage caused by UVB irradiation. For hyperglycaemia, CE could inhibit the α -amylase and α -glucosidase activities, increase glucose consumption in 3T3-L1 preadipocyte and ameliorate streptozotocin-induced diabetic mice by reducing the blood glucose level and increasing the insulin content. The hepatoprotective of CE was verified in HepG2 by increasing cell viability and reducing ALT and AST activities. The main mechanism is phosphorylation of MAPKs and activation of Keap1, Nrf2 and phase II detoxification enzymes. The acute and subacute toxicity was measured to prove the primary safety of CE. Above studies not only provide scientific foundation for using *C. chinensis* inflorescence, but also broaden its application.

Biography

Bingxin Ma is a PhD student from Wuhan University. The research mainly focuses on the quality control and pharmacological activity of traditional Chinese medicine. She has published 11 papers in reputed journals and the total impact factors are 31.042.

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