

Evaluation of Antidiabetic Activity of Flowers of Ranawara (*Cassia auriculata* L.)

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Cassia auriculata is a medicinal plant traditionally claimed to be a remedy against DM. Previous literature has revealed the antidiabetic potency of *C. auriculata* employing various animal models but not zebrafish. Thus, the present study intended to validate the traditional claim of *C. auriculata* as an antidiabetic remedy using the zebrafish diabetic model. Embryotoxicity assays were conducted by exposing zebrafish embryos at 2 hpf to aqueous (0.4375, 0.875, 1.75, 3.5 and 7.0 g/L), 80% ethanol (0.25, 0.5, 1.0, 2.0 g/L), and n-hexane (0.125, 0.25, 0.5, 1.0 g/L) extracts of *C. auriculata* flowers. The lethal concentration 50 (LC50) values at 96 hpf were 2.359 ± 0.234 , 0.824 ± 0.062 , and 0.670 ± 0.042 g/L for aqueous, 80% ethanol, and n-hexane extracts respectively. Non-glucose-induced zebrafish embryos exposed to aqueous 1.5g/L (63.38 ± 2.62 mg/dL, 12.43%), 80% ethanol 0.5 g/L (51.62 ± 0.815 mg/dL, 28.68%), and n-hexane 0.5 g/L (52.68 ± 2.68 mg/dL), 27.22%) extracts produced significant reductions in glucose concentrations compared to the negative control (72.38 ± 2.62 mg/dL) at 72 hpf. Glucose-induced zebrafish embryos treated with aqueous 1.5 g/L (89.40 ± 1.305 mg/dL, 16%), 80% ethanol 0.5 g/L (79.06 ± 8.93 mg/dL, 25.72%), and n-hexane 0.5 g/L (61.93 ± 0.45 mg/dL, 41.81%) extracts displayed significantly reduced glucose concentrations compared to 0.1% w/v D-glucose treatment (106.43 ± 2.62 mg/dL) at 72 hpf. Accordingly, the present study validates the traditional claim of antidiabetic potency of *C. auriculata*. Nevertheless, in-depth studies are recommended to deliver *C. auriculata* flowers as an effective antidiabetic remedy