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Hypoglycemic and antidiabetic activities of *Gynura procumbens* extract

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The Malaysian herb, *Gynura procumbens* (also locally known as ‘sambung nyawa’) was extracted with methanol and partitioned into ethyl acetate, hexane and butanol fractions in order to investigate its hypoglycemic and antidiabetic activities. Methanolic extract of this plant showed considerably good effect on hypoglycemic Type 1 and Type 2 diabetic rat models. Furthermore, the gut perfusion study using both crude methanolic extract and ethyl acetate fraction gave positive response, in which glucose absorption in the rat intestine was delayed. Insulin secretory study using rat pancreatic β -cell lines, BRIN-BD11, crude hexane and ethyl acetate fractions exhibited stimulatory response in insulin release. Glucose uptake assay using 3T3 mouse adipocytes cell lines indicated that the effect was dose dependent with crude hexane fraction giving highest stimulation to glucose uptake activity. However, the crude methanolic extract had the highest glucose uptake activity in L6 muscle cell lines. Initial analysis of the bioactive ethyl acetate fraction yielded mix of β - sitosterol and stigmasterol and kaempferol-3-O glucoside.

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