



Screening of the Phenolic content and DPPH-scavenging activity of *Gynostemma pentaphyllum* and *Gymnema inodorum* Extracts

Titi Phanjaroen¹, Muhammad Hassnain Haideri¹, Wiritphon Khiaolaongam¹, Voravuth Somsak², Kongsak Boonyapranai³, and Sakaewan Ounjaijean^{1,*}

¹School of Health Sciences Research, Research Institute for Health Sciences, Chiang Mai University, Chiang Mai, Thailand

²School of Allied Health Sciences, Walailak University, Nakhon Si Thammarat, Thailand

³Research Institute for Health Sciences, Chiang Mai University, Chiang Mai, Thailand

*Corresponding author, E-mail: sakaewan.o@cmu.ac.th

Abstract

Gynostemma pentaphyllum (GP) and *Gymnema inodorum* (GI) are indigenous edible plants and functional foods in Northern Thailand that possess potential efficacy in treating diabetes mellitus, possibly due to their antioxidant properties. This research aimed to determine the total phenolic content and antioxidant activities of combined GP and GI extracts. Aqueous extracts of GP and GI were prepared, and their total phenolic content was quantified using the Folin-Ciocalteu method, while the DPPH assay was used to evaluate their antioxidant activity. Combined GP: GI formulas at 1:1 and 2:1 (w/w) ratios exhibited total phenolic contents of 4.16 ± 0.21 and 3.59 ± 0.19 mg Gallic acid equivalent/g extract, respectively, significantly higher than individual GP or GI extracts ($p < 0.05$). Moreover, their DPPH radical scavenging activities of 1.38 ± 0.05 and 1.28 ± 0.05 mg Trolox equivalent/g extract were also significantly greater than GP extract alone ($p < 0.05$). These results indicate that combining GP and GI aqueous extracts enhances their antioxidant potential compared to individual extracts, providing promising preliminary data for further investigation of their antioxidant and biological activities.

Keywords: *Gynostemma pentaphyllum*, *Gymnema inodorum*, Phenolic content, DPPH-scavenging activity, Antioxidant