The Potential Antioxidant Activity of N-Hexane Fraction of Mundar Leaves (*Garcinia forbesii* King.)

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Abtract

Mundar (*Garcinia forbesii* King.) is a native plant of South Kalimantan, Indonesia. This study was aimed to identify the compounds and evaluated the antioxidant activity of the n-hexane fraction and sub-fraction of *G. forbesii* leaves. The *G. forbesii* leaves were macerated with methanol. Liquid-liquid extraction of the methanol extract was performed using n-hexane- distilled water. The fraction obtained was then subjected to vacuum liquid chromatography using n-hexane:ethyl acetate gradient system with ratios of 25:1; 20:1; 15:1; 10:1; 8:2; 6:4; 4:6 and 2:8 v/v. Compound identification and qualitative antioxidant tests was done using thin-layer chromatography and then sprayed with specific reagents. The quantitative antioxidant tests were carried out using UV-Vis spectrophotometry. Maceration produced an extract with a yield of 20.4% and an n-hexane fraction of with a yeild of 29.0%. Fractionation with VLC resulted in 8 sub fractions (A-H). The qualitative test using specific reagents revealed that the 8 sub fractions (A-H) contained flavonoids and alkaloids, 2 fractions (B and C) contained terpenoids, 3 fractions (D-F) contained steroids, and 4 fractions (E-H) contained phenols and tannins. The qualitative antioxidant test showed that all sub fractions have potential antioxidant activity. Quantatively, the n-hexane fraction showed a strong antioxidant activity with an IC_{50} value of 26.07 ppm. The findings from this study shows that *G. forbesii* leaves have potential for use as a natural antioxidant agent.

Keywords: *Garcinia fobesii*; Mundar; Extraction; Chromatography; Secondary Metabolites.