

**EFFECT OF EXTRACTION SOLVENTS ON  
ANTIOXIDANT ACTIVITY OF *Swietenia macrophylla*  
EXTRACTS**

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## ABSTRACT

### EFFECT OF EXTRACTION SOLVENTS ON ANTIOXIDANT ACTIVITY OF *Swietenia macrophylla* EXTRACTS

Antioxidant is defined as the substance that present at low concentration together with oxidizable substrate to delay or prevent the substrate to be oxidized. *Swietenia macrophylla* is a plant known to cure high blood pressure and also exhibit antioxidant properties. This study was conducted to evaluate the effects of extraction solvents on antioxidant activity of *Swietenia macrophylla* extracts. Solvents used in this study were distilled water, 70% ethanol and 70% methanol. Ground *Swietenia macrophylla* leaves were soaked with three different types of solvents with ratio 10 ml solvent : 1 g sample for 2 days. The extracts later were dried using rotary evaporator at 40°C. The crude extracts were tested in total phenolic content (TPC) and 1,1-diphenyl-2-picrylhydrazyl (DPPH) assay to evaluate the antioxidant activity. IC<sub>50</sub> value is the oxidation index used to measure the 50% depletion of DPPH radical scavenging activity. Lower IC<sub>50</sub> value indicate higher antioxidant activity. Extraction from 70% ethanol showed the lowest IC<sub>50</sub> value of 0.927 mg/ml followed by 70% methanol (0.968 mg/ml) and distilled water (2.278 mg/ml) when compared to BHT (0.811 mg/ml) and ascorbic acid (0.336 mg/ml) as the positive control and reference compound. Extraction from 70% ethanol showed the highest total phenolic content of 0.4467 ± 0.32 mgGAE/g of dry weight, followed by 70% methanol (0.3795 ± 0.01 mgGAE/g) and distilled water (0.1757 ± 0.04 mgGAE/g). However, three extraction solvents used in this study showed no significance difference in term of total phenolic content.