

## Evaluation of anti-inflammatory, antioxidant and anti-nociceptive activities of six Malaysian medicinal plants

### ABSTRACT

The anti-inflammatory, antioxidant and anti-nociceptive properties of six Malaysian medicinal plants, including *Carica papaya*, *Musa acuminata*, *Oenanthe javanica*, *Piper sarmentosum*, *Psophocarpus tetragonolobus* and *Sauropus androgynus* were investigated. The anti-inflammatory effects of the methanolic plant extracts were evaluated by using Griess assay on nitric oxide inhibitory activity upon IFN-g/LPS stimulated RAW 264.7 cells. The antioxidant property and total phenolic content of the plant extracts were determined by using DPPH radical scavenging assay and Folin-Ciocalteu's assay, respectively. Anti-nociceptive activity of the plant extracts were evaluated by measuring the number of writhing response of mice upon acetic acid induction. All plant species showed significant nitric oxide (NO) inhibitory activity ( $IC_{50} < 61 \mu\text{g/ml}$ ) without causing cytotoxicity to RAW 264.7 cells. Besides, all six plants exhibited different degree of antioxidant activities ( $IC_{50}$  value,  $86.74 \pm 2.92$  to  $192.92 \pm 2.60 \mu\text{g/ml}$ ). The antioxidant activity might be due to the present of phenolic compounds (34.20 to 50.01 mg GA/g DW samples). Moreover, all plant species suppress the writhing response of mice at different degree of inhibition (10.65 to 43.12% inhibition) at concentration tested of 200 mg/kg. Thus, this study validates the traditional medicinal uses of the evaluated plant species in management of inflammation and free radical related disorders.

**Keyword:** Malaysian medicinal plants; Anti-inflammatory; Antioxidant; Anti-nociceptive