

## Anti-inflammatory and anti-hyperalgesic activities of *Acanthopanax trifoliatum* (L.) Merr leaves

### ABSTRACT

**Context:** *Acanthopanax trifoliatum* is a ginseng-like plant, which has been widely used to treat various diseases including inflammatory-related diseases. **Aims:** The present study has been designed to investigate the anti-inflammatory and anti-hyperalgesic effects of various fractions of *Acanthopanax trifoliatum* leaves ethanolic extract in rats. **Materials and Methods:** Anti-inflammatory activity was studied by using carrageenan-induced edema on rat paw whilst anti-hyperalgesic was assessed by using carrageenan-evoked thermal hyperalgesia on plantar test. **Statistical Analysis Used:** Data were analyzed using Student t-test to compare with control. Multiple comparisons for difference between control and extract-treated groups were evaluated by Tukey HSD (Honestly Significant Difference) test. P values less than 0.05 ( $P < 0.05$ ) is considered significant. **Results:** Among three different fractions i.e., hexane, dichloromethane, and methanol tested, methanolic fraction displayed the most potent fraction amongst those three. It gave significant anti-inflammatory effect at highest dose, 500 mg/kg, with 77.24% of inhibition. Whilst for anti-hyperalgesic activity, methanolic fraction showed the highest efficacy at 375 mg/kg. Administration of methanolic fraction of *Acanthopanax trifoliatum* inhibited paw edema in a dose-dependent manner. The inhibition for both activities might be due to possible composition of polar compounds, which are flavonoids and phenolics content. **Conclusions:** Methanol fraction of *Acanthopanax trifoliatum* leaves has potential effect as anti-inflammatory and anti-hyperalgesia in acute inflammation model.

**Keyword:** *Acanthopanax trifoliatum*; Anti-hyperalgesic carrageenan-evoked thermal hyperalgesia; Plantar test