

# Antinociceptive, anti inflammatory and antiarthritic activity of ethanol root extract and fraction of *Aganosma dichotoma* (Roth) K. Schum

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*Aganosma dichotoma* (Roth) K. Schum, locally called Malati, has been traditionally used in the treatment of pain and inflammation in Ayurvedic system of medicine. In the present study, We investigated its antiarthritic potential. Qualitative and quantitative study through HPTLC was done in ethanolic root extract (EAD), petroleum ether fraction (PF) and chloroform fraction (CF) using quercetin, kaempferol, ursolic acid and lupeol as standard. EAD (100, 200 and 400 mg/kg, p.o.), PF and CF (100 and 200 mg/kg, p.o.) were evaluated for analgesic, anti-inflammatory and antiarthritic activities by Freund's complete adjuvant induced arthritis model (FCA). Arthritis was assessed on the basis of 'change in paw' volume and arthritis index. Hematological parameters, spleen and thymus index, cytokine level in serum, radiological and histological parameters were also evaluated. EAD possess a higher amount of ursolic acid (2.23%) and lupeol (5.81%). EAD 400 mg/kg, p.o. showed potent inhibition in paw volume and TNF- $\alpha$  (33.19, 57.32%) as compared to curcumin 100 mg/kg, p.o. (31.12, 44.09%), respectively. EAD, PF and CF possessed significant analgesic, anti-inflammatory and antiarthritic activities. EAD and PF at higher dose decreased the spleen index.

**Keywords:** Antiarthritic, Ayurvedic, Friends adjuvant induced arthritis, Inflammation, Madhumaalati, Pain, Rheumatoid arthritis