

Role of Inflammatory Markers in Arthritic Rats Treated with Ethanolic Bark Extract of *Albizia procera*

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Abstract : Rheumatoid arthritis (RA) is a chronic, progressive, systemic inflammatory disorder affecting the synovial joints and typically producing symmetrical arthritis that leads to joint destruction, which is responsible for the deformity and disability. Despite improvements in the treatment of RA over the past decade, there still is a need for new therapeutic agents that are efficacious, less expensive, and free of severe adverse reactions. The present study aimed to investigate role of inflammatory markers in arthritic rats treated with ethanolic bark extract of *Albizia procera*. The protective effect of ethanolic bark extract of *Albizia procera* against complete Freund's adjuvant (CFA) induced arthritis in rats. Arthritis was induced by an intradermal injection of 0.1 ml FCA in the foot pad of left hind limb of rats. ETBE (100 and 200 mg/kg b.wt./p.o) and the reference drug diclofenac (25 mg/kg b.wt./p.o) were administered to arthritic rats. Paw volume was measured for all the animals before inducing arthritis and thereafter once in seven days by using plethysmometer for 42 days. Gene expression of inflammatory markers such as IL-1 β and IL-10 were investigated in paw tissues. Up regulation of IL-1 β and Down regulation IL-10 were observed in CFA injected rats when compared to normal rats. ETBE attenuated these alterations dose dependently when compared to the vehicle treated rats. These results provide insights into the mechanism of anti-arthritic activity, and unravel potential therapeutic use of *Albizia procera* in arthritis.

Keywords : CFA-Complete Freund's adjuvant, ETBE - ethanolic bark extract, IL- interleukins, RA-rheumatoid arthritis

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