

**Artocarpus tonkinensis, a Vietnamese herbal remedy, inhibits the development of Th17 cells in mice with collagen-induced arthritis.**

1)S. Adorisio 2)I. Muscari 3)TV. Sung 4)TT. Thuy 5)C. Riccardi 6)DV. Delfino

*Sect. of pharmacology, Dept. of Medicine, University of Perugia, Piazzale Severi, S. Andrea delle Fratte, 06132 Perugia*

*A. tonkinensis* A.Chev. ex Gagnep (Moraceae) is a tree found in northern Vietnam used in Vietnamese traditional medicine by the Hmong ethnic minority to treat arthritis and backache. Recent studies investigating the use of *A. tonkinensis* for arthritis treatment found that an n-butanol extract from the tree's leaves led to isolation of the auronol glycosides maesopsin 4-O-glucoside and alphononin-4-O-glucoside, both of which demonstrated in vitro lymphocyte inhibitory activity. Intraperitoneal injections of *A. tonkinensis* extract decreased both arthritis incidence and severity and delayed disease onset in rats with collagen-induced arthritis (CIA). In this study we investigated the anti-arthritis mechanism of *A. tonkinensis* decoction (ATD). We tested the efficacy of ATD in a mouse model of CIA and found that 1) the administration of 5 g/100 ml ATD inhibited the development of swelling, improved the cartilage destruction and decreased the inflammatory infiltration of affected joints. In the secondary immune organs (spleen and lymph nodes), a gene expression analysis performed by real-time PCR indicated that ATD induced a significant decrease of IL-17 and IL-2, both in spleen and lymph nodes. The decrease of IL-17 was associated to a decrease of the transcription factor ROR $\gamma$ c, specific of Th17 cells, whereas no changes were detected for IL-4 and GATA-3, a Th2-specific cytokine and transcription factor, respectively. In conclusion, ATD has showed efficacy in reducing of about 50% the clinical signs of CIA and this was associated with a decrease of Th17 cell development in spleen and lymph nodes.