

E-E3-03

Immunomodulatory and anti-inflammatory effects of the extract of root bark from *Asparagus cochinchinensis* on acute and chronic skin inflammation

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Asparagus cochinchinensis Merrill (Liliaceae), a traditional oriental medicine, has been used for treatment of various diseases. In the present study, we report the characterization of 12-O-tetradecanoyl-phorbol-13-acetate (TPA)-induced acute and chronic ear inflammatory animal model and the inhibitory effects of *Asparagus cochinchinensis* bark extract (ACBE) on this inflammation. Interestingly, we observed that the ACBE significantly inhibited the TPA-induced acute ear edema as well as the increase of acetic acid-induced vascular permeability. Also, the ACBE prevented the induction of interleukin-1b and tumor necrosis factor-a, the pro-inflammatory cytokine proteins, in the acute inflammation induced mouse by the topical application of TPA. Furthermore, it also significantly inhibited TPA-induced chronic edema in mouse ears and reduced epidermal hyperplasia by histological comparison. From the results, it is suggested that ACBE inhibited key biomarkers up-regulated inflammatory response by TPA and may be beneficial against chronic inflammatory disorders including atopic dermatitis, psoriasis, rheumatoid arthritis, inflammatory bowel disease, and asthma.

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E-E3-04

Effect of *Achyranthes Radix* and *Cervi Cornu Parvum* aqua-acupuncture in monosodium iodoacetate-induced osteoarthritis rats

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Osteoarthritis(OA) is a degenerative joint disease characterized by fibrillation and erosion in cartilage tissue, chondrocyte proliferation and osteophyte formation at the joint margins, and sclerosis of subchondral bone. We investigated the effects of *Achyranthes Radix* administration and *Cervi Cornu Parvum* aqua-acupuncture in monosodium iodoacetate(MIA) induced experimental osteoarthritis model. Sprague-Dawley 60 rats of 7-8 weeks, weight 240 ± 10g were divided into two groups including the sham operation group(15 rats) and osteoarthritis group(45 rats). Histopathological examination, Mankin's score, and the measurement of inflammation factor were performed. Histological findings that are similar to those observed in human osteoarthritis, such as disorganization of chondrocytes, erosion and fibrillation of cartilage surface, and subchondral bone exposure were observed in a MIA-induced osteoarthritis model. Safranin-O fast green staining revealed that marked diffuse reduction of proteoglycans treated with MIA. The Mankin's score were closely correlated to the grade of histological findings. The level of prostaglandin E₂ and C-reactive protein were decreased experimental groups. We conclude that *Achyranthes Radix* administration and *Cervi Cornu Parvum* aqua-acupuncture, and combination treatment exerts a beneficial influence on the cartilage lesion in osteoarthritis rat.

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