Journal of Ethnopharmacology
Volume 139, Issue 1, 6 January 2012, Pages 98-103

Inhibitory effects of the root extract of *Dipsacus asperoides* C.Y. Cheng et al T.M.Ai on collagen-induced arthritis in mice

Hyo Won Jung [a], Jin Ki Jung [b], Kun Ho Son [c], Dong Hwa Lee [c], Tae Min Kang [c], Young Shik Kim [d], Yong-Ki Park [a, b]

Show more

https://doi.org/10.1016/j.jep.2011.10.020

Abstract

Ethnopharmacological relevance

Dipsaci radix, the dried root of *Dipsacus asperoides* C.Y. Cheng et al T.M.Ai is used as a medicinal plant in oriental clinics for the treatment of bone diseases and functions by strengthening bone and healing bone fractures.

Aim of the study

This study investigated the therapeutic efficacy of Dipsaci radix in treating rheumatoid arthritis using a type II collagen (CII)-induced arthritis (CIA) mouse model.

Materials and methods

Arthritis was induced in male DBA/1 mice by immunization with CII. Dipsaci radix water (DR-W) extract at 50 mg/kg and 100 mg/kg was orally administered from days to after the induction of arthritis. Arthritic score, serum levels of anti-CII IgG2a, the inflammatory mediator prostaglandin E_2 (PGE_2), and inflammatory cytokines (TNF-α, IL-1β and IL-6), and histological changes in the ankle joint were analyzed in CIA mice.

Results

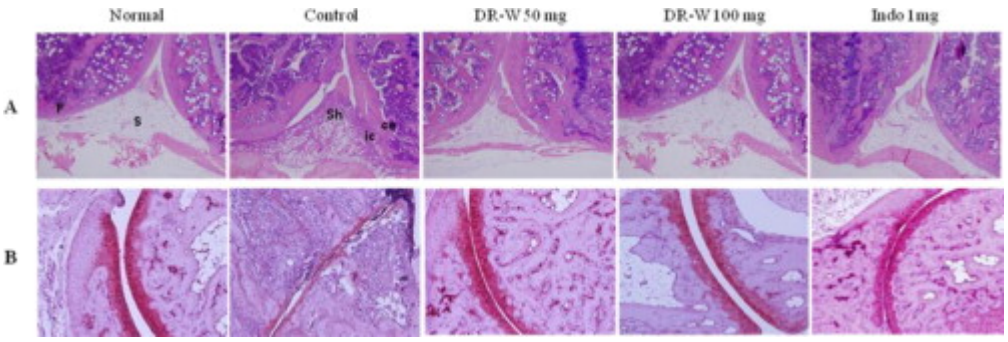
Arthritic induction increased the arthritic score, as well as serum levels of anti-CII IgG2a antibody, PGE_2, TNF-α, IL-1β and IL-6 in mice. However, administration of DR-W extract in CIA mice significantly reduced arthritic scores and serum levels of anti-CII IgG2a antibody, PGE_2, TNF-α, IL-1β and IL-6 compared with those in vehicle-treated CIA mice. Furthermore, histopathological improvement in joint architecture was also observed in DR-W extract-treated CIA mice.

Conclusions

DR-W extract has anti-inflammatory and anti-arthritic effects in arthritic mice. This suggests that Dipsaci radix might be used as a therapeutic agent for the treatment of human arthritis.

Graphical abstract

A water extract of Dipsaci radix suppressed histopathological changes of joint architecture of mice induced arthritis by type II collagen immunization.



Download : Download high-res image (391KB) Download : Download full-size image

Previous Next

Abbreviations

CAM, complementary and alternative medicine; CIA, collagen-induced arthritis; CII, type II collagen; DR, Dipsaci radix; RA, rheumatoid arthritis

Keywords

Dipsacus asperoides C.Y. Cheng et al T.M.Ai; Dipsaci radix; Anti-arthritis; Collagen-induced arthritis; Inflammation

Recommended articles Citing articles (38)

View full text