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Anti-inflammatory and anti-arthritic properties of naringenin via attenuation of NF-κB and activation of the heme oxygenase (HO)-1/related factor 2 pathway

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Abstract

Background: Naringenin a bioflavonoid present in various species of citrus fruit, tomatoes and grapes, has been shown to have various pharmacological effects. We evaluated the anti-arthritic potential of naringenin in formaldehyde-induced inflammation and complete Freund's adjuvant (CFA)-induced arthritis.

Methods: For both evaluations, rats were divided into groups of six. Different doses of naringenin (5, 10 and 20 mg/kg) were used in the models. Body weight and the arthritic index were assessed. Biochemical and antioxidant parameters were determined. Naringenin dose-dependently reduced joint inflammation, decreasing the joint diameter and inflammatory cell infiltration.

Results: Naringenin-treated rats showed an improvement in the synovium redox status (down-regulation of malondialdehyde and glutathione and up-regulation of Catalase (CAT)