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Aacacetin inhibits expression of matrix metalloproteinases in interleukin 1 β -stimulated fibroblast-like synoviocytes

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It is well known that Rheumatoid arthritis (RA) is an autoimmune joint disease in which fibroblast-like synoviocytes (FLSs) play a pivotal role. In the present study, it was investigated the anti-arthritic properties of acacetin in FLSs. The expression of matrix metalloproteinase (MMP)-1, MMP-3, and MMP-13 were investigated by quantitative real-time polymerase chain reaction (qRT-PCR) and western-blot at gene and protein levels. At the same time, the phosphorylation of mitogen-activated protein kinases (MAPK) was investigated. The DNA binding activity of NF- κ B was investigated by electrophoretic mobility shift assay. For the *in vivo* study, mouse received intragastric administration of acacetin, the symptoms of arthritis *in vivo* and the histopathological assessment of joints were performed. It was found that acacetin exerted anti-arthritic properties in an adjuvant-induced arthritis mouse model. Obtained data suggest that acacetin possess potential value in the treatment of RA.

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