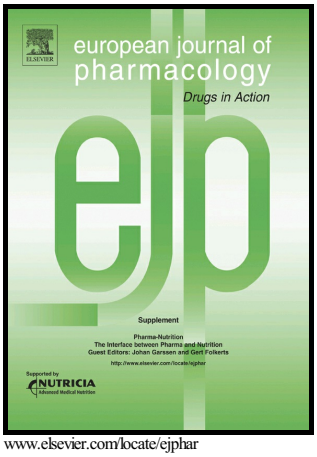

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Nicorandil and theophylline can protect experimental rats against complete Freund's adjuvant-induced rheumatoid arthritis through modulation of JAK/STAT/RANKL signaling pathway

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Abstract

Signaling pathways are interesting fields of study of pathogenesis and treatment trials. We elucidated the possible protective effects of nicorandil (15 mg/kg/day) and theophylline (20 mg/kg/day) on experimentally-induced RA, focusing on the role of JAK (Janus Kinase) / STAT (Signal Transducer and Activator of Transcription) / RANKL (Receptor Activator of Nuclear factor-Kappa B Ligand) / cytokine signaling pathway. Four sets of experiments were performed. First, effect of test agents on normal animals was evaluated. Second, effect of test agents was evaluated on Complete Freund's Adjuvant (CFA; 0.3 ml, s.c.)-induced RA to investigate anti-arthritic effect. Third, effect of test agents was evaluated on growth hormone (GH; 2 mg/kg/day, s.c.)-induced stimulation of JAK/STAT/RANKL/cytokine signaling pathway to investigate the role of this signaling pathway in their anti-arthritic effect. Fourth, the effect of test agents was

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