

## Pharmacological Evaluation of Resiquimod in Experimental Model of Arthritis in Rats

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**SUMMARY.** Resiquimod is a drug that acts as an immune response modifier, and has antiviral and antitumor activity. It is used as a topical gel in the treatment of skin lesions and as an adjuvant to increase the effectiveness of vaccines. The aim was to study the effect of Resiquimod (RA), against Freund's adjuvant-induced arthritis in rats. Arthritis was induced via sub-plantar injection of 1mg heat-killed *Mycobacterium tuberculosis* (complete Freund's adjuvant, CFA) into the left hind paw of rats. The experiment was designed and optimized based on previously published methods. At 100 µg/kg, the RA exerted potentially effective anti-arthritic effects by controlling inflammation in an adjuvant-induced experimental model. Considering experimental findings relating to pharmacological and biochemical parameters, we conclude that administration of the RA (100 µg/kg) exerts anti-arthritic effects and controls inflammation in an adjuvant-induced arthritis rat model. RA is therefore a promising anti-arthritic agent for the treatment of inflammatory disorders.

**RESUMEN.** Resiquimod es un fármaco que actúa como modificador de la respuesta inmune y tiene actividad antiviral y antitumoral. Se utiliza como gel tópico en el tratamiento de lesiones cutáneas y como coadyuvante para aumentar la eficacia de las vacunas. El objetivo fue estudiar el efecto del Resiquimod (RA), contra la artritis inducida por el adyuvante de Freund en ratas. Se indujo artritis mediante inyección subplantar de 1 mg de *Mycobacterium tuberculosis* muerto por calor (adyuvante completo de Freund, CFA) en la pata trasera izquierda de ratas. El experimento fue diseñado y optimizado en base a métodos publicados previamente. A 100 µg/kg, el AR ejerció efectos antiartríticos potencialmente efectivos al controlar la inflamación en un modelo experimental inducido por adyuvante. Teniendo en cuenta los hallazgos experimentales relacionados con los parámetros farmacológicos y bioquímicos, concluimos que la administración de AR (100 µg/kg) ejerce efectos antiartríticos y controla la inflamación en un modelo de rata con artritis inducida por adyuvante. Por tanto, la AR es un agente antiartrítico prometedor para el tratamiento de trastornos inflamatorios.

**KEY WORDS:** Freund's adjuvant-induced arthritis, histopathology, resiquimod.

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