Modulation of established murine collagen-induced arthritis by a single inoculation of short-term lipopolysaccharide-stimulated dendritic cells

Salazar, L.

Aravena, O.

Abello, P.

Escobar, A.

Contreras-Levicoy, J.

Rojas-Colonelli, N.

Catalán, D.

Aguirre, A.

Zúñiga, R.

Pesce, B.

González, C.

Cepeda, R.

Cuchacovich, M.

Molina, M. C.

Salazar-Onfray, F.

Delgado, M.

Toes, R. E.

Aguillón, J. C.

Background: The use of regulatory or immature dendritic cells (DCs) as tools for modulating experimental rheumatoid arthritis is very recent. Tumour necrosis factor (TNF)-stimulated DCs have been shown to restore tolerance in experimental autoimmune encephalomyelitis and collagen-induced arthritis (CIA). Objective: We investigated the capacity of short-term lipopolysacchahde (LPS)-stimulated DCs pulsed with type II collagen (CII) to induce tolerance against established CIA. Methods: Bone marrow-derived DCs were generated in the presence of

granulocyte monocyte colony-stimulating factor (GM-CSF). After CIA induction, mice were injected at day 35 with a single dose of 4- or 24-h LPS-stimulated DCs that had been loaded with CII (4hLPS/CII/DCs or 24hLPS/CII/DCs). Arthritis progression was monitored by clinical and histological evaluations. Results: Flow cytometry of 4hLPS/CII/DCs showed intermediate CD40 and CD86 expression, lower than that of 24hLPS/CII/DCs (fully mature) and higher than