

題名:Detection of Th1 or Th2 cytokine profiles and immunolocalization of the cytokine secreting cells in the cellular immunity induced by the implantation of porcine dermal collagen membrane.

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摘要:The present study was undertaken to investigate the anti-arthritic activity of hydroxychavicol (HC) a major phenolic compound isolated from the aqueous extract leaves of plant Piper betle (Piperaceae). The compound showed significant lowering of pro-inflammatory (Th1) cytokine levels in arthritic paw tissue homogenate supernatant viz. IL-2, IFN-gamma, and TNF-alpha with maximum inhibition at higher dose levels of 2 and 4mg/kg p.o. and enhanced the production of anti-inflammatory (Th2) cytokines IL-4 and IL-5 estimated by cytometric bead array immunoassay. Cytometric bead array uses the sensitivity of amplified fluorescence detection by flowcytometer to measure soluble analytes in a particle based immune assay. This assay can accurately quantitate five cytokines in a 50-mul sample volume. The T-helper (Th1) deviated cells produce detectable level of tumor necrosis factor (TNF-alpha), interleukin-2 (IL-2), and interferon-gamma (IFN-gamma), while the Th2 deviated cells produce significant amount of interleukin-4 (IL-4) and interleukin-5 (IL-5). HC at graded doses also significantly decreased the expression of IL-1beta, PGE(2), LTB(4), and nitric oxide levels showing significant inhibition of these parameters. Elevated levels of CD4(+) T cell specific interferon-gamma (IFN-gamma) in splenocytes of arthritic animals was also inhibited in treated animals. The oral LD(0) in both mice and rats was more than 1000mg/kg.