In vivo and in vitro anti-inflammatory activity of Mangifera indica L. extract (VIMANG®)

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A standard aqueous extract of Mangifera indica L., used in Cuba as an antioxidant under the brand name of VIMANG®, was tested in vivo for its anti-inflammatory activity using commonly accepted assays. M. indica extract, administered topically (0.5-2 mg per ear), reduced ear edema induced by arachidonic acid (AA) and phorbol myristate acetate (PMA, ED50=1.1 mg per ear) in mice. In the PMA model, M. indica extract also reduced myeloperoxidase (MPO) activity. This extract p.o. administered also inhibited tumor necrosis factor alpha (TNF?) serum levels in both models of inflammation (AA, ED50=106.1 mg kg-1 and PMA, ED 50=58.2 mg kg-1). In vitro studies were performed using the macrophage cell line RAW264.7 stimulated with pro-inflammatory stimuli (LPS-IFN? or the calcium ionophore A23187) to determine PGE2 or LTB4 release, respectively. The extract inhibited the induction of PGE2 with IC50=64.1 ?g ml-1 and LTB 4 IC50=22.9 ?g ml-1. M. indica extract also inhibited human synovial secretory p