

P-046: IMMUNOSUPPRESSIVE EFFECTS OF RHIZOMES OF SMALLER GALANGA (*ALPINIA OFFICINARUM* HANCE) IN VITRO AND IN VITRO

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Objects: To study the immunosuppressive activity of Rhizomes of smaller galanga (RSG), an Oriental medicine with antioxidative activity and anti-inflammatory effect, in vitro and in vivo.

Methods: Concanavalin A (ConA) or lipopolysaccharide (LPS) was used to induce the proliferation of spleenocytes, and XTT was used to evaluate the proliferation of spleenocytes. Cytokine production was promoted with ConA or LPS and was detected with the enzyme-linked immunosorbent assay. We evaluated whether RSG has immunosuppressive effects on activated lymphocytes was assessed by flow cytometry. Dinitrofluorobenzene (DNFB) was used to induce delayed-type hypersensitivity mouse model, as criteria for the evaluation of in vivo immune activity.

Results: RSG strongly inhibited the proliferation of spleenocytes induced ConA, or LPS, with IC₅₀ values of 70 µg/ml, and 65 µg/ml, respectively. RSG dose-dependently inhibited inflammatory cytokine production such as interleukins (IL)-12, tumor necrosis factor (TNF)-α, IL-6, interferon (IFN)-r, and IL-2. RSG strongly immune suppressed CD3, CD4, CD8, and CD19 in Con A or LPS stimulated lymphocytes. Also, RSG suppressed in DNFB induced delayed type hypersensitivity (DTH) reaction.

Conclusion: RSG had strong immunosuppressive activity in vitro and in vivo, suggesting a potential role for RSG as an immunosuppressive agent, and established the groundwork for further research on RSG.