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Anti-inflammatory Effect of Ethyl alcohol Roasted *Scutellaria baicalensis* Georgi on Croton Oil-induced Mice Ear Edema

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Scutellaria baicalensis Georgi (SB) has been widely studied to treat inflammatory diseases in east Asia. In the recent years, many studies have focused on modifying herbs to increase the pharmacological effects. Roasting alcohol absorbed SB is one of the traditional methods to increase the therapeutic effects. Currently there are no reports on the pharmacological effects of roasted SB. This study investigated the anti-inflammatory effects of roasted 30% ethyl alcohol absorbed SB extract (SR) on mice ear edema. After intra-gastric injection of dexamethasone (for positive control, 2 mg/kg) and SR (50, 100, 400 mg/kg), ear edema was provoked by croton oil (5% v/v in acetone, 10 ul/ear). Ear thickness was measured with a digital caliper to quantify the change in swelling. For histological study, we made paraffin sections and performed Phloxine-Tartrazine staining and Masson's trichrome staining to observe epidermis, dermis and subcutaneous region and collagen fiber of mice ear tissues. Ear thickness decreased dose-dependent manner in SR treated groups. Histological analysis compared with dexamethasone treated group, SR treated groups demonstrated a similar reduction in hypoplasia of epidermis and influx of inflammatory cells. Increase of subcutaneous layer and decrease of collagen fibers were significantly recovered in SR treated group (400 mg/kg) and dexamethasone treated group. In conclusion, treatment with SR ameliorates auricular inflammation induced with croton oil in mice. Experiments are now underway to understand the molecular mechanisms underlying anti-inflammatory activities of SR.

Key words: Scutellaria baicalensis, Inflammation, Croton oil, Ear edema

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