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**Trifoliate orange extract decrease the blood IgE level
in Atopic dermatitis induced mice model**

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Allergy is a common immune disorder underlying atopy, asthma, eczema and rhinoconjunctivitis, and is characterized by raised serum IgE level. We have studied the inhibition of developing pathway of allergen mediated dermatitis (Atopy). To make a atopy dermatitis model mice, we treated DNCB (1-Chloro-2, 4-dinitrobenzene) on the skin, and induced a severe skin disorder. Treatment of DNCB also significantly increased the blood IgE level. Blood IgE concentration was increased by 7-fold at day 11 of post treatment of DNCB, and remained constant during the entire period of experiments. To decrease the blood IgE level, we administered Trifoliate orange extracts by injection, oral, and topical routes. Injection of trifoliate orange immediately decreased the blood IgE level, and it returned to the normal level after 2 weeks treatment. Topical application rapidly lowered blood IgE level up to the normal, and remained 2 weeks. However, oral administration of trifoliate orange extracts showed a slow decrease of blood IgE level compared to the topical routes. Most of the commercially available anti-allergic drugs target histamine activities, the efficiency of these drugs are transient, and there is recurrence. In this study, we have shown an anti-allergy effect of trifoliate orange extracts on atopic dermatitis by the decrease of blood IgE concentrations. Although the regulation of Interleukin-4, Interferon gamma, and histamine on atopic dermatitis by treatment of trifoliate orange remain to be clarified, this study would considerably help in the fundamental control of allergenic disease by inhibition of IgE release from mast cells.

Keywords: *atopic dermatitis, DNCB(1-Chloro-2, 4-dinitrobenzene), trifoliate orange*