

YPFS Attenuating TH2 Cell-Mediated Allergic Inflammation by Regulating the TSLP Pathway

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Abstract : Introduction: Hypersensitivity disease is difficult to cure completely because of its recurrence, yupingfengsan (YPFS) is used to treat the diseases with the advantage of reducing the recurrence, but the precise mechanism is not clear. Previous studies of our laboratory have shown that the extract of YPFS can inhibit Th2-type allergic contact dermatitis (ACD) induced by FITC. Besides, thymic stromal lymphopoietin (TSLP) has been proved to be a master switch for allergic inflammation. Based on these studies, we want to establish a mouse model of TSLP production based on Th2 cell-mediated allergic inflammation to explore the regulating mechanisms of YPFS on TSLP in Th2 cell-mediated allergic inflammation. Methods: Th2-type ACD mouse model: The mice were topically sensitized on the abdomens (induction phase) and elicited on its ears skin 6 days later (excitation phase) with FITC solution, and the ear swelling was measured to evaluate the allergic inflammation. A mouse model of TSLP production based on Th2 cell-mediated allergic inflammation (TSLP production model): the skin of the ear was sensitized on two consecutive days with FITC solution causing the production of TSLP. Mice were treated with YPFS extract. ELISA, Real-time PCR and Western blotting were used to examine the mRNA and protein levels of TSLP, TSLPR and TLRs etc. Results: YPFS extract can attenuate Th2-type allergic inflammation in mice. In TSLP production model, YPFS can inhibit the expression of TSLP, TSLPR, TLRs and MyD88. So we deduce the possible mechanisms of YPFS to play a role of intervention is through TLRs- MyD88 dependent and independent pathway to reduce TSLP production.

Keywords : YPFS, TSLP, TLRs, Th2-type allergic contact dermatitis

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