

## **Astragaloside IV Inhibits Type2 Allergic Contact Dermatitis in Mice and the Mechanism Through TLRs-NF-kB Pathway**

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**Abstract :** Objective: Mice Type2 allergic contact dermatitis was utilized in this study to explore the effect of AS-IV on Type 2 allergic inflammatory. Methods: The mice were topically sensitized on the shaved abdomens with 1.5% FITC solution on abdominal skin in the day 1 and day 2 and elicited on the right ear with 0.5% FITC solution at day 6. Mice were treated with either AS-IV or normal saline from day 1 to day 5 (induction phase). Auricle swelling was measured 24 h after the elicitation. Ear pathohistological examination was carried out by HE staining. IL-4\IL-13, and IL-9 levels of ear tissue were detected by ELISA. Mice were treated with AS-IV at the initial stage of induction phase, ear tissue was taken at day 3. TSLP level of ear tissue was detected by ELISA and TSLPmRNA\NF-kBmRNA\TLRs\TLR2\TLR3\TLR8\TLR9 mRNA were detected by PCR. Results: AS-IV induction phase evidently inhibited the auricle inflammation of the models; pathohistological results indicated that AS-IV induction phase alleviated local edema and angiectasis of mice models and reduced lymphocytic infiltration. AS-IV induction phase markedly decreased IL-4\IL-13, and IL-9 levels in ear tissue. Moreover, at the initial stage of induction phase, AS-IV significantly reduced TSLP\TSLPmRNA\NF-kBmRNA\TLR2mRNA\TLR8 mRNA levels in ear tissue. Conclusion: Administration with AS-IV in induction phase could inhibit Type 2 allergic contact dermatitis in mice significantly, and the mechanism may be related with regulating TSLP through TLRs-NF-kB pathway.

**Keywords :** Astragaloside IV, allergic contact dermatitis, TSLP, interleukin-4, interleukin-13, interleukin-9

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