

# **Cytokine expressing adenovirus modulated dendritic cells alleviate eosinophilia and airway hyperresponsiveness in an animal model of asthma**

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摘要

## **Abstract**

Background: It has been found that T(H)1-related cytokines can decrease the accumulation of eosinophils in lung tissue and relieve airway constriction. Objective: Dendritic cells( DCs) have been found to prime naive T-helper cells efficiently. In this study, DCs infected with T(H)1 cytokine -expressing adenovirus can be used to induce antigen-specific T( H)1 cells for treatment in an animal model of asthma. Methods: Cytokine gene-modulated DCs pulsed with ovalbumin antigen (OVA) were injected intravenously into naive mice 1 week before sensitization with OVA antigen . The mice were then monitored for OVA-specific IgE, airway inflammatory cell infiltration, and airway hyperresponsiveness in the study. Results: Significant levels of IL-12 or IL-18 were expressed by Ad-IL-12 or Ad-IL - 18 infected, bone marrow-derived DCs. Ad-IL-12 and Ad-IL-18 co-infected DCs effectively, decreasing sera anti-OVA IgE antibody levels, lung eosinophilia, and airway hyperresponsiveness. Conclusion: We concluded that DCs modulated by T(H)1-prone cytokine-expressing adenoviruses can alleviate T(H)2-type airway inflammation in a murine model and can provide possible therapeutic application for DCs in asthma.