



Preclinical Models of Asthma

Asthma

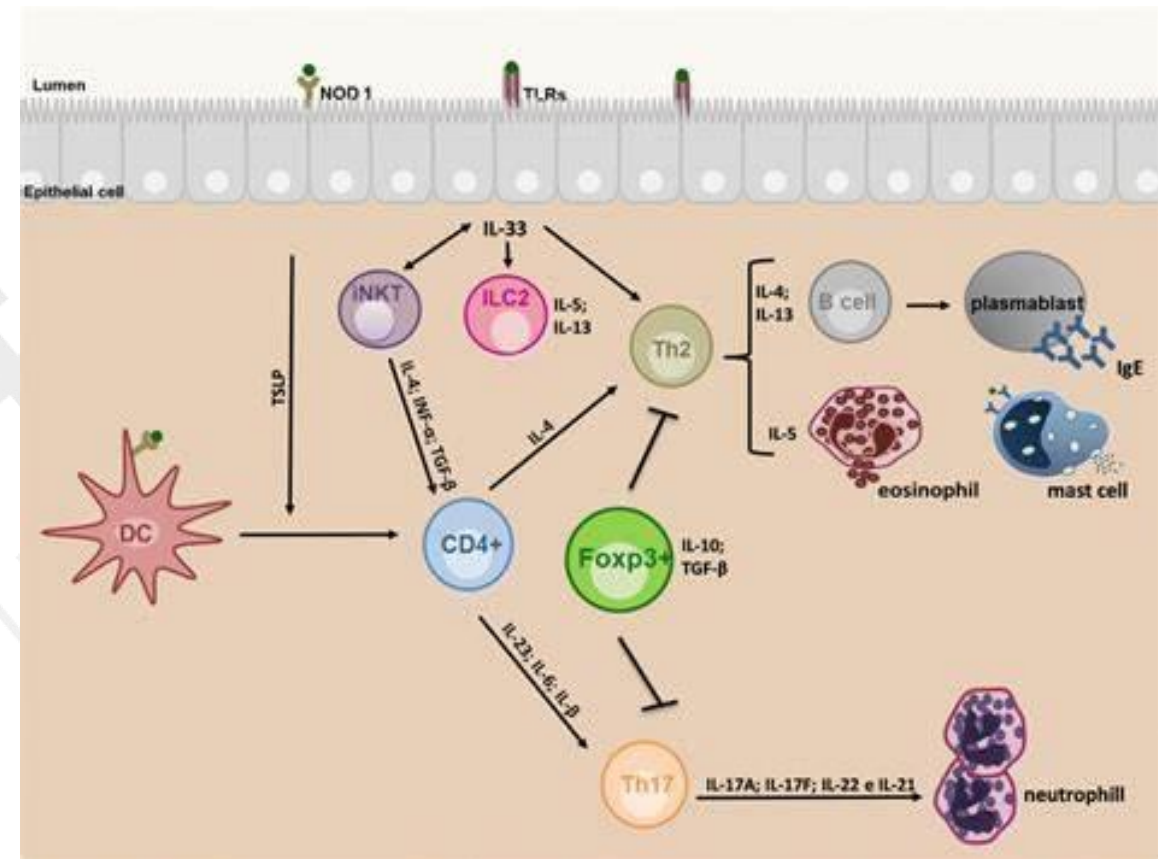
Symptoms and Causes

The main clinical symptoms of asthma are shortness of breath, wheezing, coughing, and increased mucus secretions upon exposure to allergens.

The pathogenesis of asthma is caused by complex interactions between genetic, epigenetic, and environmental factors. Pathologic changes are mediated by several types of airway cells and immune cells, including airway epithelial cells, eosinophils, and T cell subsets. In particular, Th2 cells have been thought to predominate in high eosinophilic asthma, which is characterized by increased levels of IL-4, IL-5, and IL-13.

Models in place:

- **OVA Induced C57BL/6 Asthma Model**
- **OVA Induced BALB/c Asthma Model**



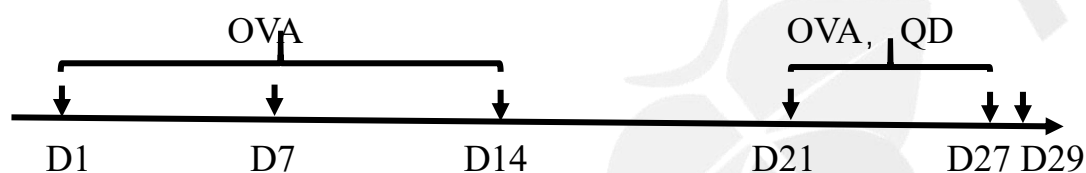
OVA Induced mice Asthma Model

■ Mechanism

Ovalbumin (OVA) is the main protein found in egg white, which is not intrinsically immunogenic and therefore needs to be injected systemically in the presence of adjuvants, typically aluminum hydroxide (alum), to induce Th2 sensitization in mice.

Sensitized mice are challenged with OVA, resulting in many of the features seen in asthmatic individuals, including eosinophilic inflammation, production of Th2 cytokines, increases in serum IgE, and airway hyperreactivity.

■ OVA Induced Murine Asthma Model



Animal	C57BL/6, BALB/c
Evaluation	Clinical: Body weight
	Cytokine:
	Pathology: NA

OVA Induced Asthma Model in C57BL/6 Mice

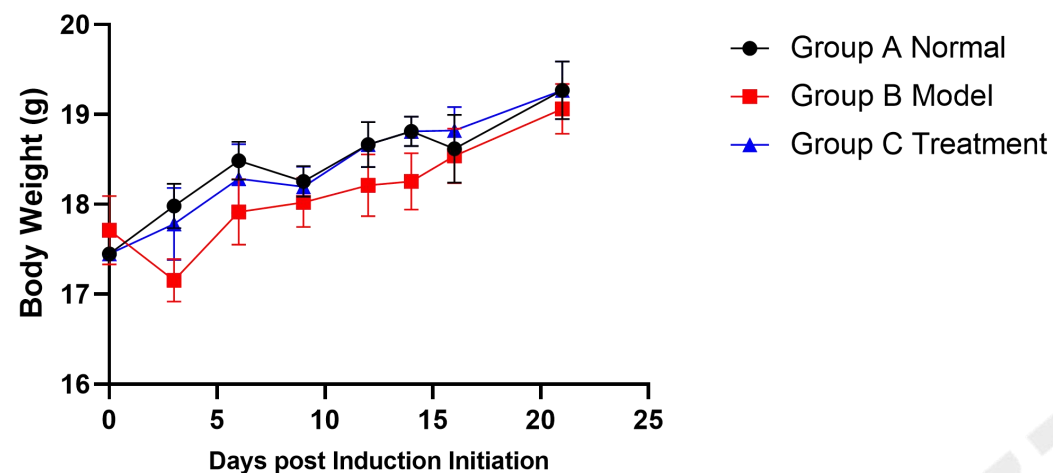


Fig 1 Body Weight

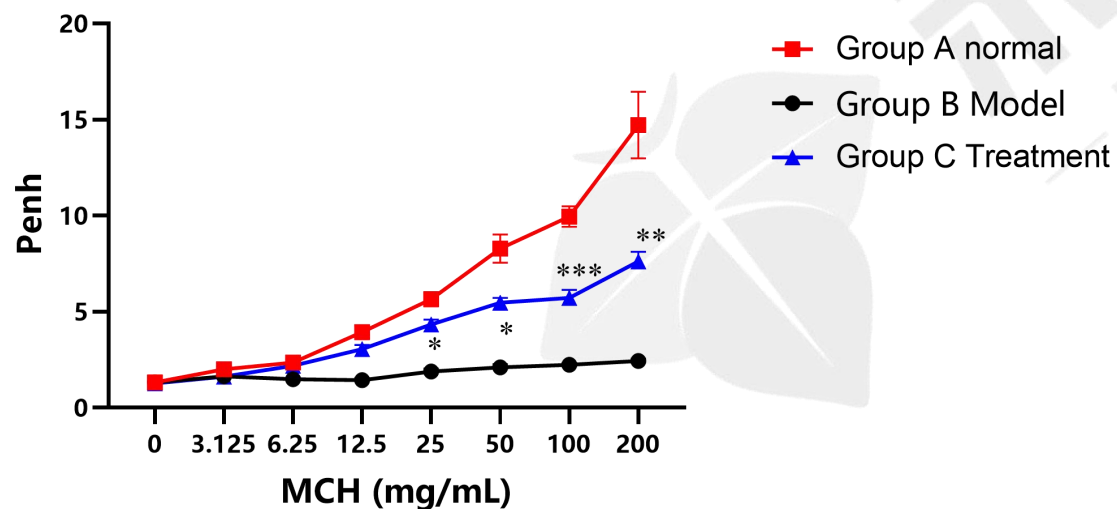


Fig 3 Airway resistance

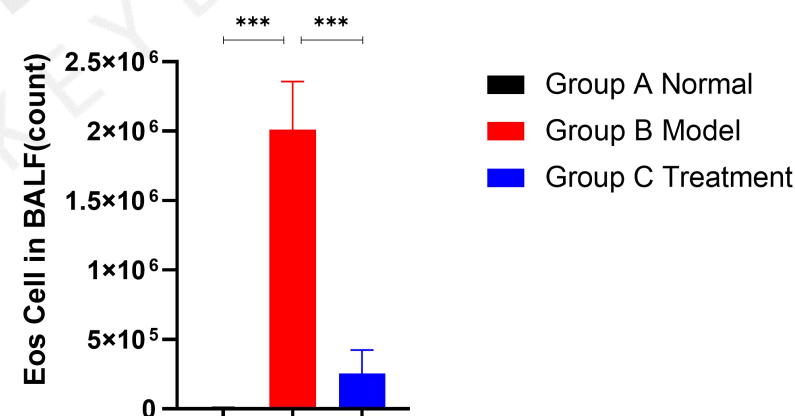
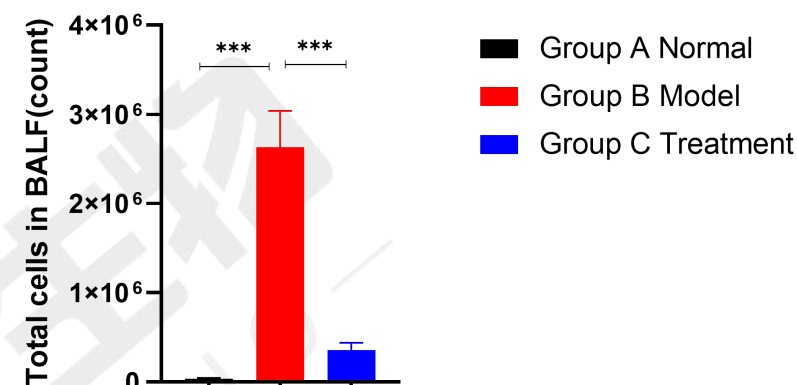


Fig2. Cells in BALF

OVA Induced Asthma Model in BALB/c Mice

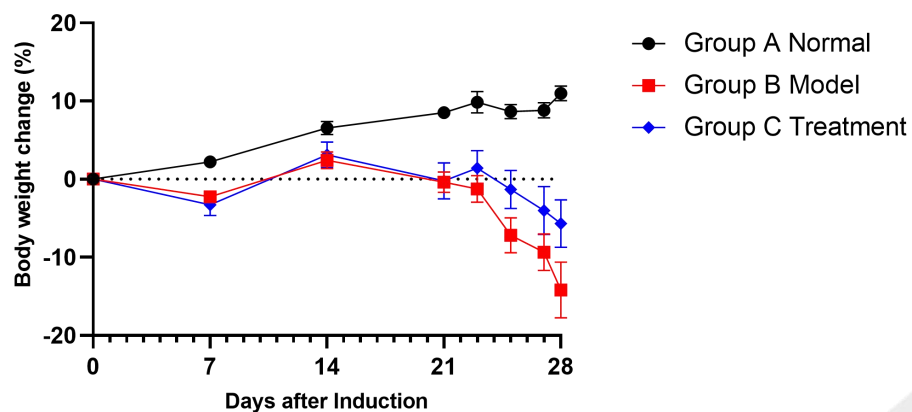


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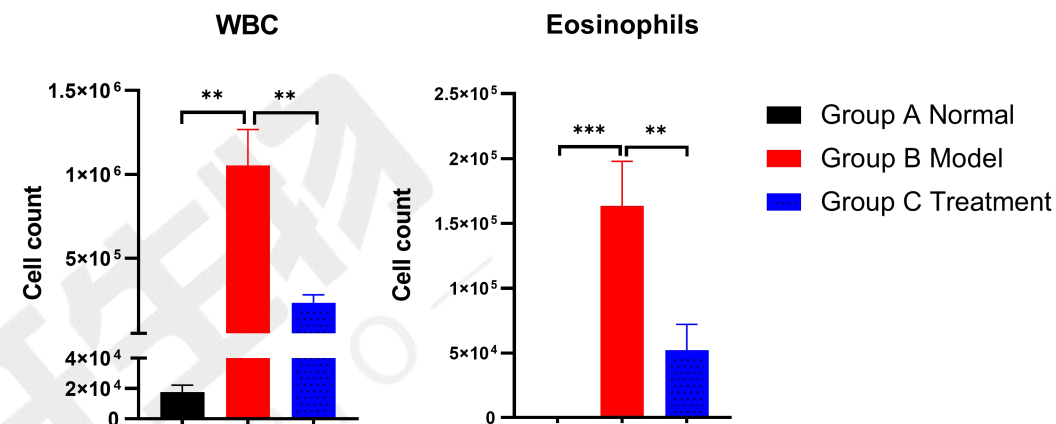


Fig2. Cells in BALF

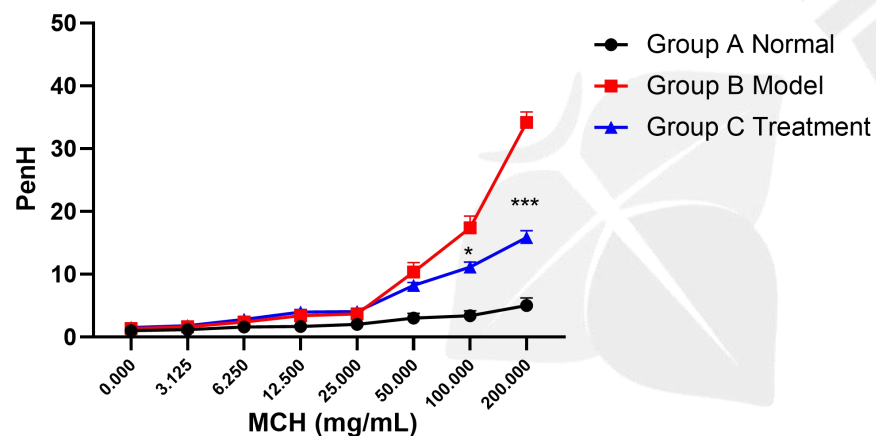


Fig 3 Airway resistance

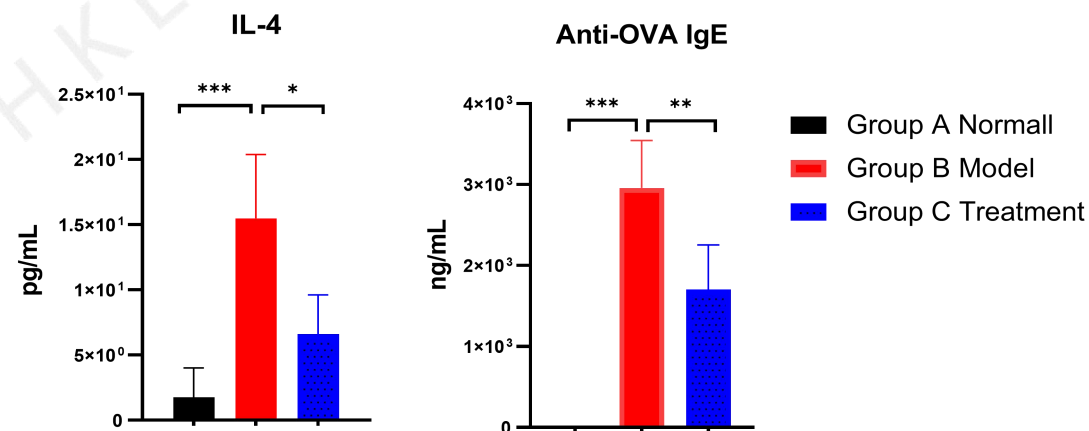


Fig4. Cytokine in BALF



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