

# Allergy Relief Probiotics: Protect From Indoor and Outdoor Allergies

## What are allergy relief probiotics ●●●

Allergy relief probiotics are strains of bacteria that play an important role in the pathogenesis of allergic diseases, such as allergic rhinitis, atopic dermatitis, food allergy and gastrointestinal allergies.

## How do these probiotics relieve allergies? ●●●

- ① Suppress Th2 responses with shifts to Th1 and thereby prevent allergies
- ② Promote the activation of regulatory T cells (Tregs)
- ③ Decrease the antigen-specific IgE levels
- ④ Enhance epithelial barrier integrity and improve barrier function
- ⑤ Reduce the number of eosinophils

## What's the benefits of probiotics in allergy relief? ●●●

The beneficial effects of probiotics on allergies include a reduction in hyperreactivity and inflammation due to the presence of allergens, a decrease in interleukins and eosinophils, and a reduction in TNF and INF, etc.



### Great Safety

Less safety concerns



### Balance Gut Microbiota

Modify composition of gut microbiota



### Long-Term Efficacy

Control hypersensitivity responses



### Broadly Applicable

Suitable for all ages and different conditions

## Allergy Relief Probiotics

- ✓ *B.longum* HH-BL18    ✓ *L.paracasei* HH-LP58
- ✓ *B.lactis* HH-BA68    ✓ *P.acidilactici* HH-PA29

## Probiotics in Allergic Rhinitis

Allergic rhinitis(AR) is one of the most common allergic diseases globally. Typical symptoms include nasal itching, sneezing, rhinorrhea, and nasal congestion. In an animal experiment, probiotics treatment ( $1 \times 10^9$ CFU/day) could reduce nasal IL-4 and IL-5 in OVA-induced AR mice.

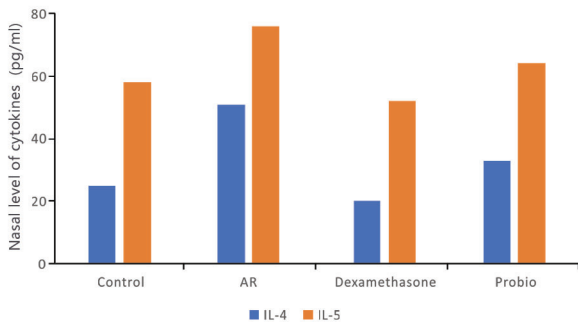


Fig 1. Effects of probiotics on nasal IL-4 and IL-5 levels

## Probiotics in Atopic Dermatitis

Atopic dermatitis(AD), also known as eczema, is a common, recurrent, chronic inflammatory skin disease. AD represents one's first allergic reaction encountered in childhood and is recognized as a precursor for the development of a series hypersensitivity reactions. In a calcipotriol-induced AD mice model, we found that oral administration with the probiotics ( $1 \times 10^9$ CFU/day) decreased ear thickness of mice, showing its preventive effects on AD.

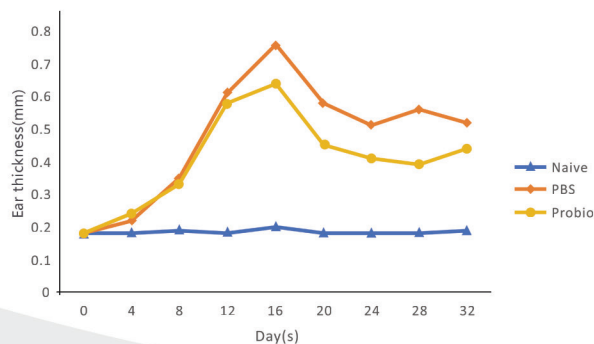


Fig 2. Effects of probiotics on ear thickness

## Probiotics in Asthma

Asthma is the most commonly diagnosed respiratory allergic disease in clinical trials, characterized by chronic airway inflammation. In an ovalbumin-induced mice model of asthma, we found that probiotics administration ( $1 \times 10^8$ CFU/ml) reduced the airway hyper-responsiveness, inflammation scores, and mucus production scores.

Table 1. Effects of probiotics on asthma

	Control	OVA	OVA+Probio
Rrs(cmH2O.s/ml)	3.8	6.5	4.5
Inflammation scores	0.65	2.85	1.5
mucus production scores	0.45	1.72	0.85

## Probiotics in Food Allergy

Food allergy is one of the pediatric age's most common allergic disorders and certain types of food allergy may be correlated with the subsequent development of other allergic symptoms. In an ovalbumin-induced mice model of food allergy, we found that probiotics administration ( $1 \times 10^8$ CFU/ml) decreased the levels of OVA-IgE and OVA-IgG1 in serum, suggesting that oral administration of the probiotics suppresses OVA-induced food allergy.

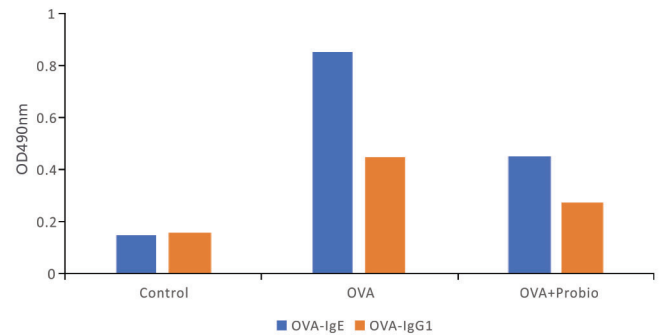


Fig 3. Effects of probiotics on OVA-induced food allergy

## Wide Applications

**Nutraceuticals:** Capsule, chewable tablet, chewing gum, powder

## Product Quality

