LJI Available Technologies

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Timothy Grass Antigens and T Cell Epitopes

Researchers at the La Jolla Institute for Immunology have identified novel Timothy grass proteins and peptides, subsequences, portions, homologs, variants, and derivatives. These proteins and peptides are useful for modulating an immune response, protecting against an allergic response, and inducing immunological tolerance to the Timothy grass allergens.

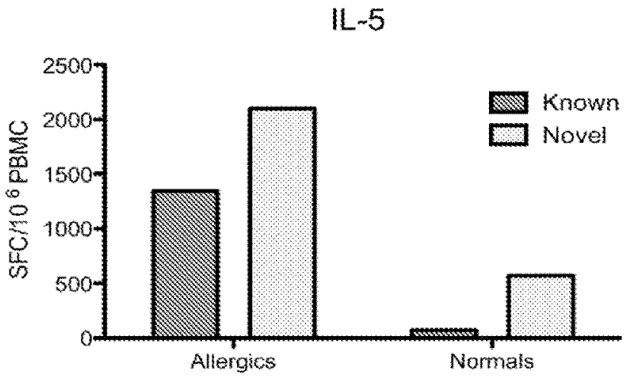
Allergic diseases such as rhinitis and asthma pose a significant health burden. Recent studies have estimated that up to 20% of the population in the US and Western Europe suffers from these diseases. Despite this high incidence, existing therapy is mostly symptomatic, and immunotherapy treatments are only successful in a fraction of patients. Consequently, much effort in allergy research has been devoted to the development of safer and more effective immunological treatments. T cells play an important role in the pathogenesis of allergic diseases. However, despite the importance of Th2 cells and their associated cytokines in the pathogenesis of allergic respiratory disease, studies of antigens considered as triggers of T cell responses have so far been mostly limited to those known to bind IgE antibodies. Timothy grass pollen is an inhaled allergen for which major IgE-reactive allergens have been shown to trigger Th2 responses.

As such, researchers at LJI have identified novel Timothy grass proteins and peptides that are recognized by Th2 responses independent of IgE reactivity, including IgG-reactive proteins. These proteins and peptides are useful for the treatment of allergies to Timothy grasses, especially for the use in allergy immunotherapy.

ADVANTAGES:

- **Novel proteins and peptides for use in allergy immunotherapy**
- **Useful for modulating an immune response, protecting against an allergic response, and inducing immunological tolerance**

Novel Timothy Grass Proteins and Peptides for Use in Allergy Immunotherapy



A majority of Timothy grass-specific T cells target novel antigens

Tech ID # 2012-03(01) Patent # 10,428,124

La Jolla Institute for Immunology | Business Development
+1 (858) 752-6500
bd@lji.org
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