Immunological Analyses of *Phl p V*

L.		Jäger
W.D.		Müller
B.	Barbel	Fahlbusch

Department of Clinical Immunology, University of Jena, Germany

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Correspondence to: Prof. Dr. L. Jäger, Institute of Clinical Immunology, Friedrich-Schiller-University, D-07743 Jena (Germany)

Timothy is one of the most important grasses in pollino-sis and among its allergens, Phlp V plays the most important role, being an allergen for > 90% of patients. In prior investigations, we established several monoclonal antibodies specific for Phi p V, among which three are obviously directed against conserved structures, common to other group V allergens.

With these antibodies, we developed a highly sensitive two-site binding assay. We could show that most temperate grasses contain group V allergens, however in quite different amounts, one possible reason for the fact, that hyposen-sitization with a single extract is inferior to a combination of three different extracts. There is a close correlation in different grasses between the group V content and the total al-lergenic potency (radioallergosorbent-test inhibition).

By means of immunochromatography, Phlp V could be highly purified and used for identification of epitopes. By blocking with monoclonal antibodies, two different IgE-binding epitopes could be identified, one of them obviously at the highly conserved N terminus. T cell clones could be divided into specific reactive (for Phi p V), oligoreactive (with other group V allergens in different patterns) and those reacting even with unreleated allergens (Lolp I). This pattern is different from that for IgE binding. The identification of relevant structures by means of oligopeptides is under way.

We conclude that (1) extracts from grass pollen should be characterized for their content of major allergens (especially group V), and (2) humoral and cellular sensitization by Phlp V cannot be expected to be identical at the epitope level.