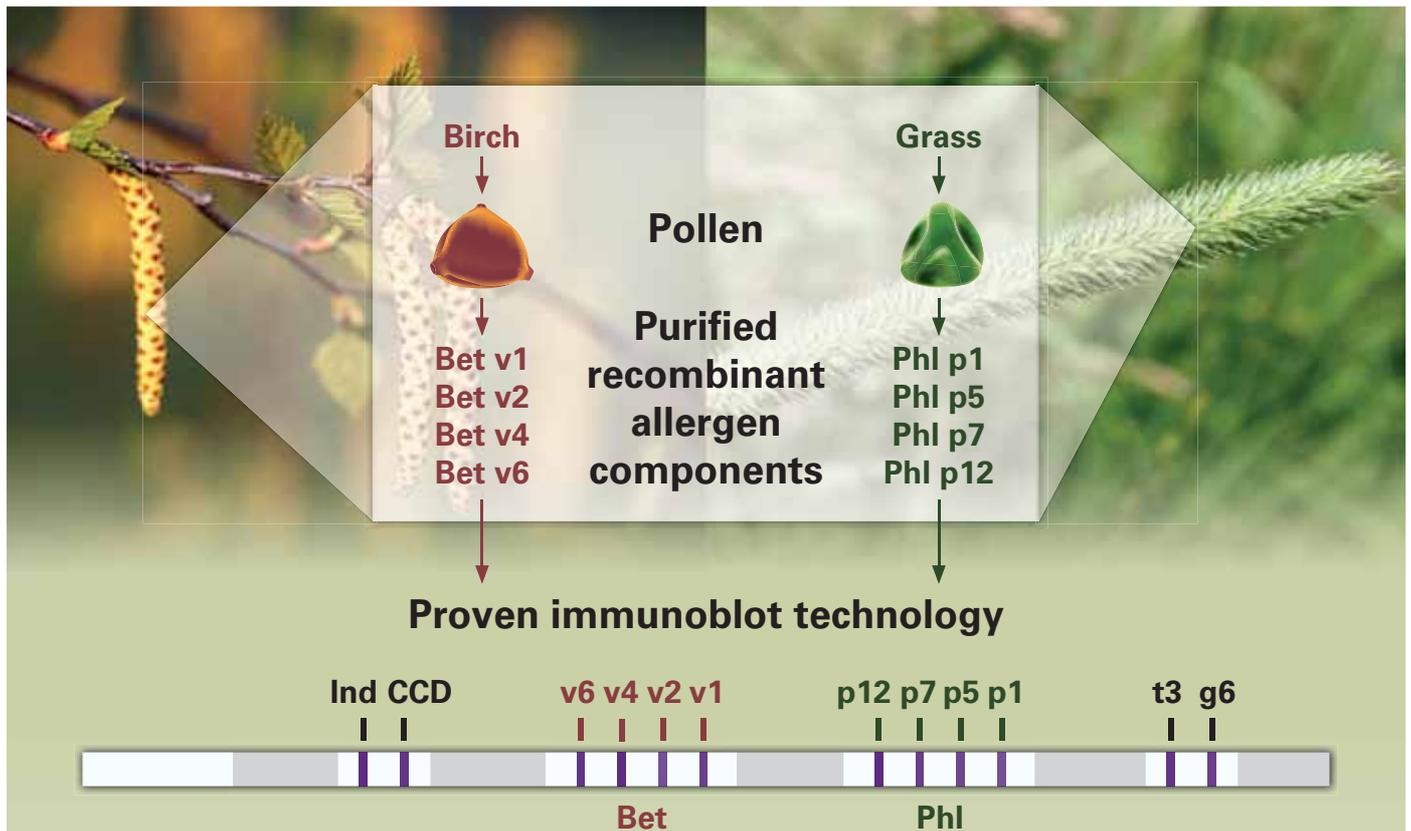




Molecular allergology: Component-resolved diagnostics



EUROLINE SPAC Pollen 1: DP 3210-1601-1 E

A new dimension in differential allergy diagnostics

In molecular allergology, single purified allergen components (SPAC*) are employed for IgE antibody detection in place of the usual whole extracts. The precise triggers of allergic reactions can be identified to a new level of detail by this cutting-edge approach.

A new component-resolved, multiparameter immunoblot test system from EUROIMMUN provides all major allergy-inducing proteins from birch and grass pollen on one test strip, allowing an in-depth characterisation of inhalation allergies against these pollens:

- **Identification of disease-causing allergens (e.g. Bet v1, Phl p1, Phl p5)**
- **Assessment of the risk of cross allergies**
- **Determination of patients' suitability for specific immunotherapy.**

The assay is based on established EUROLINE technology, which includes extensive automation options for incubation (**EUROBlotMaster**), digitalisation (**EUROBlotScanner** or **EUROBlotCamera**) and evaluation and archiving of results (**EUROLineScan software**).

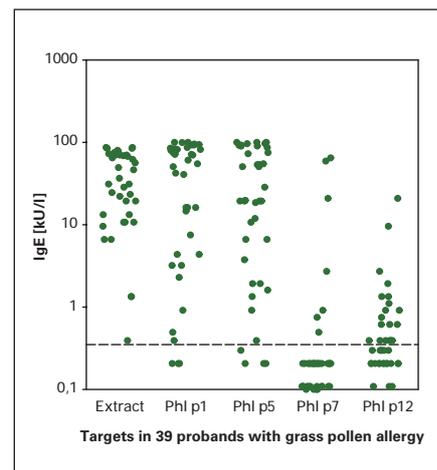
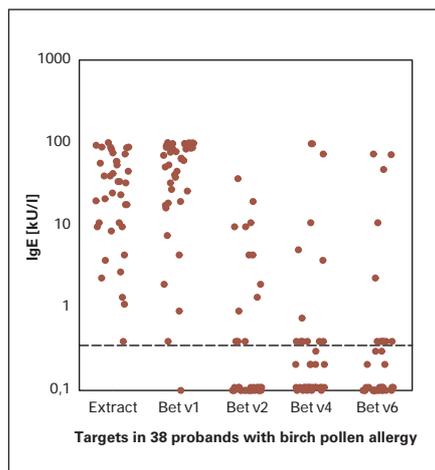
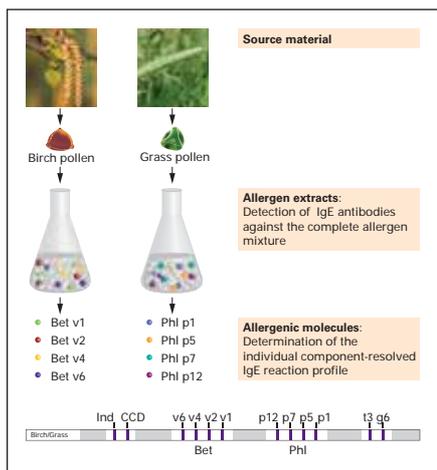
*Single purified allergen components



Component-resolved multiparameter assays for the diagnosis of birch pollen and grass pollen allergy

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Introduction

The in vitro diagnosis of allergies against pollen is generally performed using raw pollen extracts as antigenic targets. In recent years, specific IgE detection has been improved using isolated allergenic proteins from pollen instead of raw extracts. The related test systems are easier to standardise and provide exact sensitisation profiles of each proband, as established in this study on the example of birch and grass pollen allergy.

Methods

Levels of specific IgE against recombinant birch pollen allergens Bet v1, Bet v2, Bet v4, Bet v6 and grass pollen allergens Phl p1, Phl p5, Phl p7, Phl p12 were measured in sera from clinically and anamnestically confirmed birch (n=38) and grass (n=39) pollen allergic probands using EUROIMMUN EUROLINE (EU), Phadia ImmunoCAP Allergy (CAP), and Phadia ImmunoCAP ISAC (ISAC). All investigated probands exhibited specific IgE against native birch or grass pollen total extract with reactivities between EAST classes 1 and 6 (enzyme allergosorbent test classes).

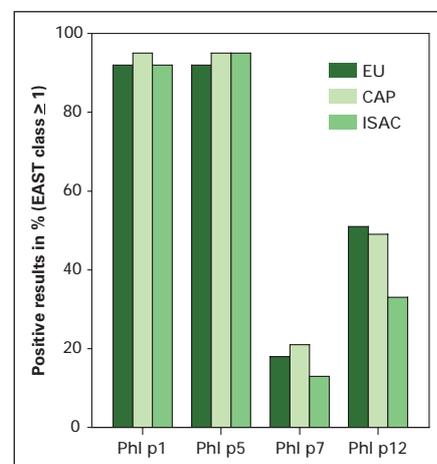
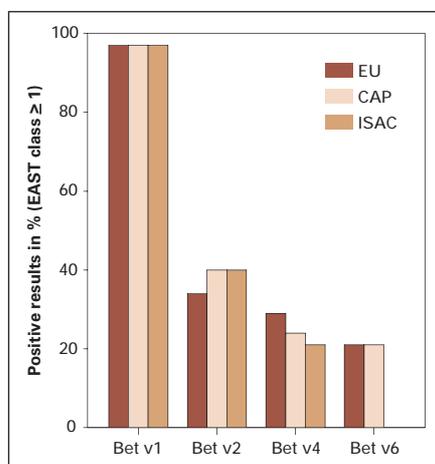
Results

For all probands, the sensitisation could be verified using the combination of Bet v1, Bet v2 and Bet v4 for birch pollen and of Phl p1, Phl p5, Phl p7 and Phl p12 for grass pollen allergy as target allergens. For all three test systems the prevalence of specific IgE against the tested allergens was nearly comparable, and also the EAST classes showed a good correlation. In case of birch pollen allergens, EAST class correlation was acceptable only between EU

and CAP (95% to 97%), but not between ISAC and the other two test systems (66% to 97%).

Conclusion

Component-resolved multiparameter tests are reliable and efficient in the diagnosis of pollen allergy. These assays provide an advanced basis for successful specific immunotherapy using defined proteins instead of raw allergen extracts.



Scientific presentation at the 30th Annual Congress of the European Academy of Allergy and Clinical Immunology (EAACI), Istanbul, Turkey, June 2011