

Clinically relevant (Co-)factors of allergy

Project Team

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Project Summary

Development of allergic disease is not only based on the interaction between (i) exposure (environment) and (ii) predisposition (genetic background of the individual), but multiple augmentation factors influence disease manifestation, including, also protective and suppressive factors: Not every allergen contact will lead to a sensitization in a predisposed individual, not every sensitized individual will develop clinical symptoms. Besides dose and structure of the allergen, adjuvants and the route of exposure (inhalant versus gastrointestinal versus epidermal) may be of distinctive importance for manifestation of allergic disease as well as time of exposure, climate and hormonal factors, microbiota and non-allergenic food ingredients. The current research focus is on systematic investigation of molecular (allergen-specific), individual (predisposing) and pathophysiological (patient-specific) aspects and environmental modulation factors which influence the clinical relevance of sensitizations in an individual.

Current projects include characterization of novel allergens which have caused severe clinical reactions, investigation of differences in epitope recognition in allergic individuals from Northern and Southern Europe sensitized to profilins from different species, differences in epitope recognition in profilin allergic individuals with mild versus systemic allergic reaction, differences in allergen recognition in silent versus symptomatic sensitization to model allergen sources, identification and characterization of relevant allergens in epidermal sensitization as well as relevance of specific allergens for successful treatment with allergen immunotherapy and applied costimulatory factors.

For these translational fields of research well characterized patient cohorts are essential provided by ongoing cooperation with our cooperation partners from academic research facilities as well as national and international academic clinical and research networks (e.g. German Contact Dermatitis research group (DKG), Information network departments of dermatology (IVDK), Anaphylaxis registry (NORA), COST Action TD 1206 Standerm, EuroPrevall Consortium).

Cooperation Partners

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