

# Component resolved diagnosis with recombinant and natural allergens

## Project Team

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## Project Summary

We have generated a collection of pure recombinant plant and animal food allergens which represent almost complete allergen panels for several allergenic foods such as soybean, tomato or crustaceans. These allergen panels are applied in an approach called "component-resolved diagnosis (CRD)" which has been shown in several studies to lead to improved sensitivity of serological diagnosis and to provide refined information on the clinical status of the patients. We have been able to highlight differences in sensitisation patterns between allergic patients, and to differentiate between sensitisation against "mild" and "aggressive" food allergens. So far, available serological assays do not differentiate patients with clinical food allergy from those with cross-reactive sensitisation without clinical relevance.

Recombinant or purified natural allergens may be a tool to solve this problem. These highly purified and standardized allergen preparations are applied in conventional and novel assay formats such as protein biochips. Moreover our current research is aimed at investigating functional assays such as in vitro activation of basophilic cell lines, or avidity assays utilising recombinant allergens in order to improve correlation between in vitro test results and the clinical manifestation.