

# Precision Allergy Molecular Diagnosis Applications in Food Allergy

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Due to the high prevalence of food allergic diseases globally there are increasing demands in clinical practice for managing IgE-mediated conditions. During the last decade molecular diagnosis in other words component-resolved diagnostics has been introduced into the field of clinical allergology, providing information that cannot be obtained from extract-based tests. Component-resolved data facilitate more precise diagnosis of allergic diseases and identify sensitizations attributable to cross-reactivity. Studies regarding structural similarity between food allergens help to explain cross-reactivity between allergens which may be clinically relevant. Certain pan allergen molecules such as PR-10 or profiling can indicate broad cross-sensitization and underlie particular pollen-food or plant food syndrome. Furthermore it assists risk assessment in clinical practice as sensitization to some allergenic molecules is related to persistence of clinical symptoms and systemic rather than local reactions. We have already identified useful molecules such as ovomucoid (hen's egg), casein (cow's milk), omega-5 gliadin (wheat), Ara h 2 (peanut), Gly m 8 (soy), Ses i 1 (sesame), Fag e 3 (buckwheat) and more molecules in tree nuts. Jug r 1 and Ana o 3 were shown to be useful in the diagnosis of walnut and cashew allergies, respectively. The use of allergen components is rapidly evolving and increases our possibility to treat food allergic patients with a more individual approach. Using molecular allergology, we can already now better diagnose, prognose and grade the food allergy.

In summary, daily routine molecular allergy diagnostics offers a number of benefits that give us a higher diagnostic precision and allow for better management of the patient.