References:

4. Roux K et al. Tree nut allergens. Int Arch Allergy Immunology 2003; 131: 234 – 244.
8. Pastorello E et al. Sensitization to Cor a 9 and Cor a 14 is highly specific for a severe hazelnut allergy in Dutch children and adults. J Allergy Clin Immunol 2013 (in press).

Make a precise assessment
ImmunoCAP Allergen Components help you differentiate between primary allergies and cross-reactivity

Make a substantiated decision
A better differentiation helps you give relevant advice and define the optimal treatment

Make a difference
More informed management helps you improve the patient’s well-being and quality of life

Improved risk assessment in walnut allergy
– use components for better management of nut allergic patients

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Take the diagnosis and management of walnut allergic patients to a whole new level

Identify primary walnut sensitization
Diagnosing nut allergy and identifying the trigger allergen(s) may be difficult. Molecular allergy diagnostics can help to identify primary walnut (Juglans regia) sensitization in nut allergic patients.
- Sensitization to the storage protein Jug r 1 (2S albumin) indicates a primary walnut allergy.
- IgE antibodies to Jug r 3 (LTP) indicate cross-reactivity with other LTP-containing foods, often originating from a primary peach allergy.

Improve the risk assessment using allergen components
- Sensitization to 2S albumin proteins such as Jug r 1 is known to be associated with systemic food reactions.
- The presence of IgE antibodies to Jug r 3 indicates that local symptoms as well as systemic reactions can occur.

Improve management of walnut allergic patients
- Walnut allergic patients sensitized to Jug r 1 and/or Jug r 3 should avoid raw as well as roasted/heated walnuts.
- Walnut allergic patients with sensitization to Jug r 1 should also be investigated for allergy to other nuts or seeds, e.g., pecan nut, hazelnut and cashew nut, as co-existing allergies may occur.
- Walnut allergic patients sensitized to Jug r 3 may react to other LTP-containing foods, such as peach, other nuts, apple or grapes.

**Suggested test profile**

| ImmunoCAP® COMPLETE ALLERGEN |  
| ImmunoCAP® ALLERGEN COMPONENTS |  
| Walnut (f256) |  
| Jug r 1 (f441) |  
| Jug r 3 (f442) |  

A positive f256 with negative Jug r 1 and Jug r 3 results may be explained by sensitization to:
- Other walnut storage proteins
- Cross-reactivity with pollen proteins like profilin or PR-10 proteins. Due to high degree of similarity markers like Bet v 2 (profilin) and Bet v 1 (PR-10) may be used
- CCD (cross-reacting carbohydrate determinants)

Did you know that?
- Walnut is one of the most common causes of allergic reactions to tree nuts.
- The estimated prevalence of walnut allergy in the general population is up to 0.5% and in food allergic children up to 4%.
- Walnut and pecan nut are botanically closely related and show extensive cross-reactivity.
- Walnut allergy is potentially life-threatening, increasing in prevalence and rarely outgrown.
- Walnut allergy can appear early in life, symptoms can be elicited upon first known exposure and the dose can be very low.
- Walnut can induce food-dependent anaphylaxis elicited by exercise or other co-factors such as NSAID drugs or alcohol.