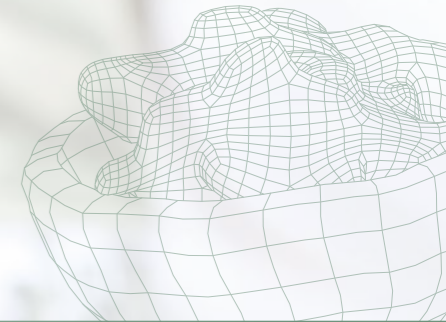


## WALNUT

Molecular Allergology



### 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

**References:** 1. Sicherer S. *Current reviews of allergy and clinical immunology*. J Allergy Clin Immunol 2001; 108(6): 881–890. 2. Sastre J. *Molecular diagnosis in allergy*. Clinical and exp. allergy 2010; 40: 1442–1460. 3. Teuber S et al. *Cloning and sequencing of a gene encoding a 2S albumin seed storage protein precursor from English walnut, a major food allergen*. J Allergy Clin Immunol 1998; 101(6): 807–814. 4. Roux K et al. *Tree nut allergens*. Int Arch Allergy Immunology 2003; 131: 234–244. 5. Pastorello E et al. *Lipid transfer protein and vicilin are important walnut allergens in patients not allergic to pollen*. J Allergy Clin Immunol 2004; 114(4): 908–914. 6. Egger M, et al. *The role of Lipid Transfer Proteins in Allergic Diseases*. Curr Allergy Asthma Rep 2010; 20: 326–335. 7. Romano A et al. *Lipid transfer proteins: The most frequent sensitizer in Italian subjects with food-dependent exercise-induced anaphylaxis*. Clin Exp Allergy 2012; 42: 11,1643–1653. 8. Masthoff L 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). 9. Pastorello E et al. *Sensitization to the major allergen of Brazil nut is correlated with the clinical expression of allergy*. J Allergy Clin Immunol 1998; 102(6): 1021–1027. 10. Pedrosa M et al. *Peanut seed storage proteins are responsible for clinical reactivity in Spanish peanut-allergic children*. Pediatr Allergy Immunol. 2012; 23(7): 654–9. 11. Robotham JM et al. *Ana o 3, an important cashew nut (Anacardium occidentale L.) allergen of the 2S albumin family*. J Allergy Clin Immunol. 2005; 115(6): 1284–90. 12. Rosenfeld L et al. *Walnut allergy in peanut-allergic patients: Significance of sequential epitopes of walnut homologues to linear epitopes of Ara h 1, 2, and 3 in relation to clinical reactivity*. Int Arch Allergy Immunology 2012; 157: 238–245. 13. Maloney J et al. *The use of serum-specific IgE measurements for the diagnosis of peanut, tree nut and seed allergy*. J Allergy Clin Immunol. 2008; 122(1): 145–151. 14. Crespo J F et al. *Frequency of food allergy in a pediatric population from Spain*. Pediatr Allergy Immunol 1995; 6: 39–43. 15. Cardona V et al. *Co-factor-enhanced food allergy*. Allergy. 2012 Oct; 67(10): 1316–8. 16. Pascal M et al. *Lipid transfer protein syndrome: clinical pattern, cofactor effect and profile of molecular sensitization to plant-foods and pollens*. Clin Exp Allergy. 2012 Oct; 42(10): 1529–39.

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## 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.<sup>1,2</sup> 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.<sup>3,4</sup>
- IgE antibodies to Jug r 3 (LTP) indicate cross-reactivity with other LTP-containing foods, often originating from a primary peach allergy.<sup>5-7</sup>

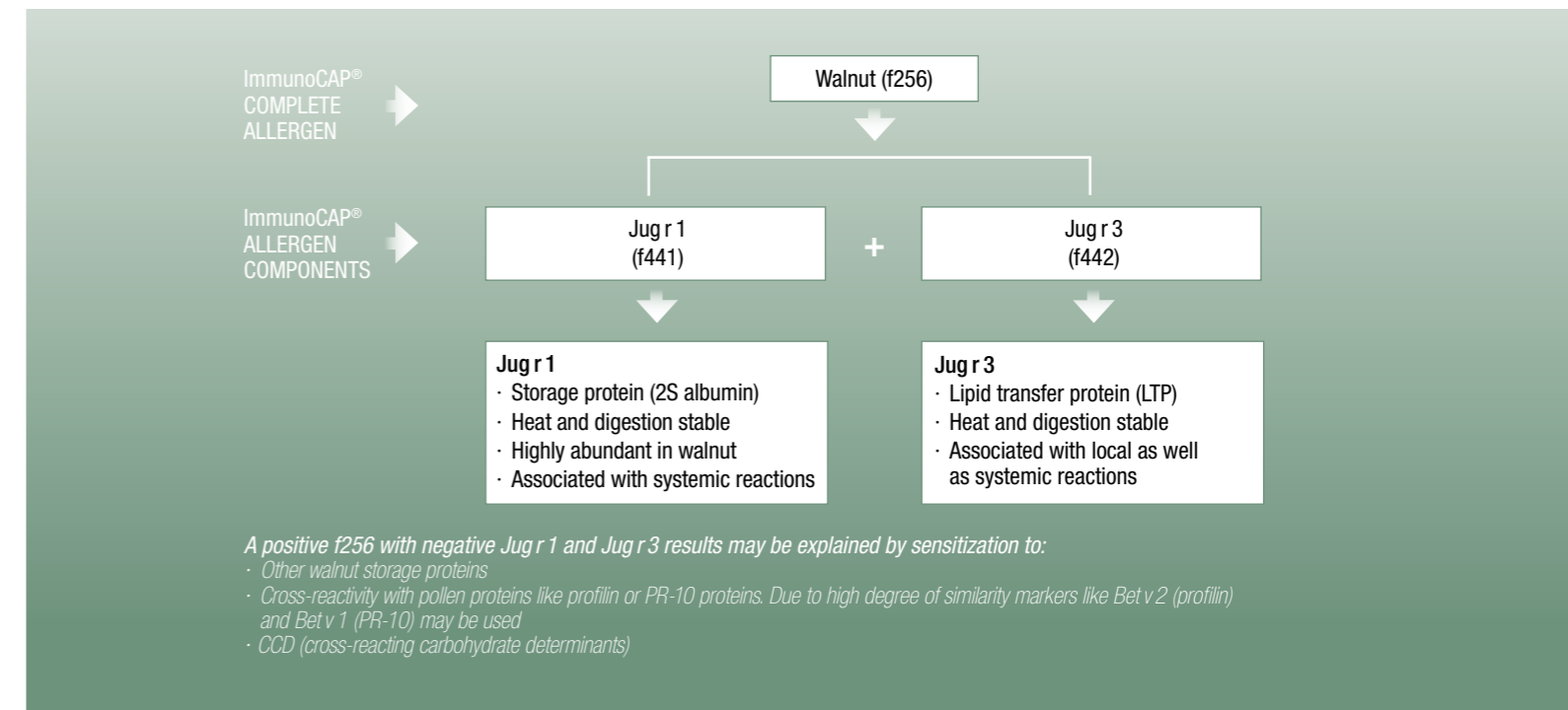
## Improve the risk assessment using allergen components

- Sensitization to 2S albumin proteins such as Jug r 1 is known to be associated with systemic food reactions.<sup>2,8-11</sup>
- The presence of IgE antibodies to Jug r 3 indicates that local symptoms as well as systemic reactions can occur.<sup>5-7</sup>

## 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.<sup>2,4</sup>
- 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.<sup>1,12,13</sup>
- Walnut allergic patients sensitized to Jug r 3 may react to other LTP-containing foods, such as peach, other nuts, apple or grapes.<sup>5,6</sup>

## Suggested test profile



## Did you know that?

- Walnut is one of the most common causes of allergic reactions to tree nuts.<sup>4,5</sup>
- The estimated prevalence of walnut allergy in the general population is up to 0.5 % and in food allergic children up to 4 %.<sup>5,14</sup>
- Walnut and pecan nut are botanically closely related and show extensive cross-reactivity.<sup>2,13</sup>
- Walnut allergy is potentially life-threatening, increasing in prevalence and rarely outgrown.<sup>5,12,13</sup>
- Walnut allergy can appear early in life, symptoms can be elicited upon first known exposure and the dose can be very low.<sup>5,12,13</sup>
- Walnut can induce food-dependent anaphylaxis elicited by exercise or other co-factors such as NSAID drugs or alcohol.<sup>7,15,16</sup>

