



BIRCH

Molecular Allergology



Accurate birch pollen diagnosis and appropriate SIT selection

Resolve multiple positive pollen and food test results

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Take the diagnosis and management of birch pollen-allergic patients to a whole new level

Use components for a refined birch pollen diagnosis

Many birch pollen allergic patients are sensitized to several pollens, either due to multiple primary sensitizations or due to allergen cross-reactivity.¹⁻³ In addition, many of these patients have concomitant pollen-related food allergies.^{1,4}

Birch components can help to:

- Identify “true” birch pollen allergy (Bet v 1)^{1,5}
- Clarify sensitization due to cross-reactivity (Bet v 2, Bet v 4, Bet v 6)^{4,5}
- Explain birch pollen-related food allergies (Bet v 1, Bet v 6)^{1,4}

Identify patients for appropriate birch SIT treatment

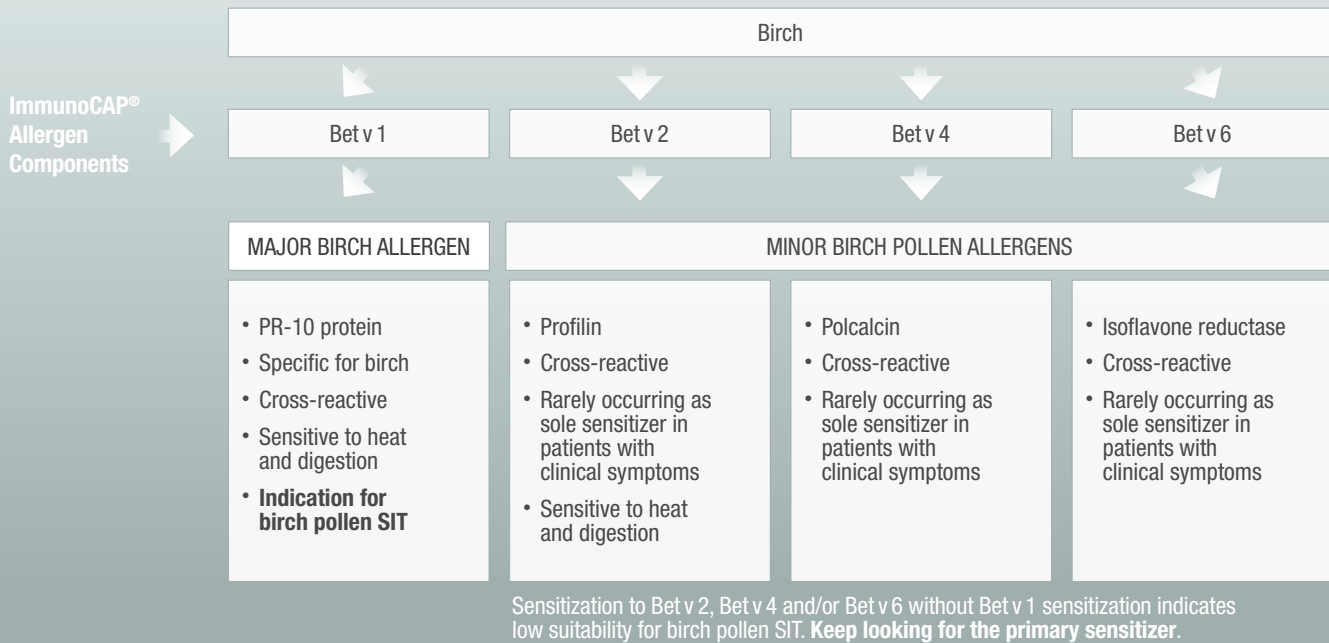
- Patients sensitized to the specific birch component Bet v 1 are likely to get symptom relief by birch pollen SIT.^{6,7}
- Patients sensitized to minor, cross-reactive birch components only, have less successful outcome of birch pollen SIT.^{6,7}

Improved management of patients with birch-related food allergy

- Due to PR-10 cross-reactivity, patients sensitized to Bet v 1 may react to various fruits, nuts and vegetables (e.g. apple, pear or hazelnut).^{1,4}
- In most cases, symptoms to the triggering food are restricted to oral reactions and the food is often tolerated when cooked.^{4,8}

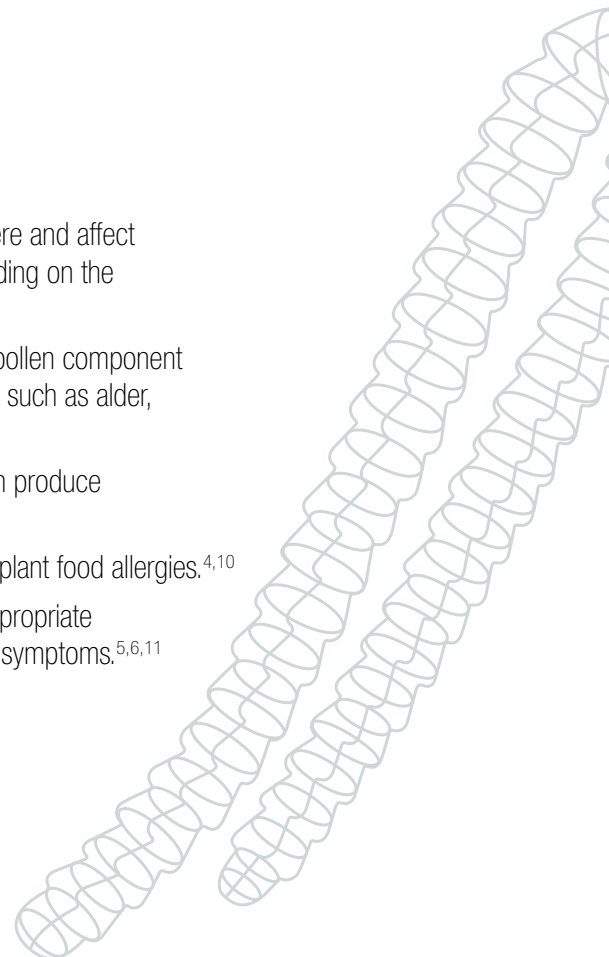


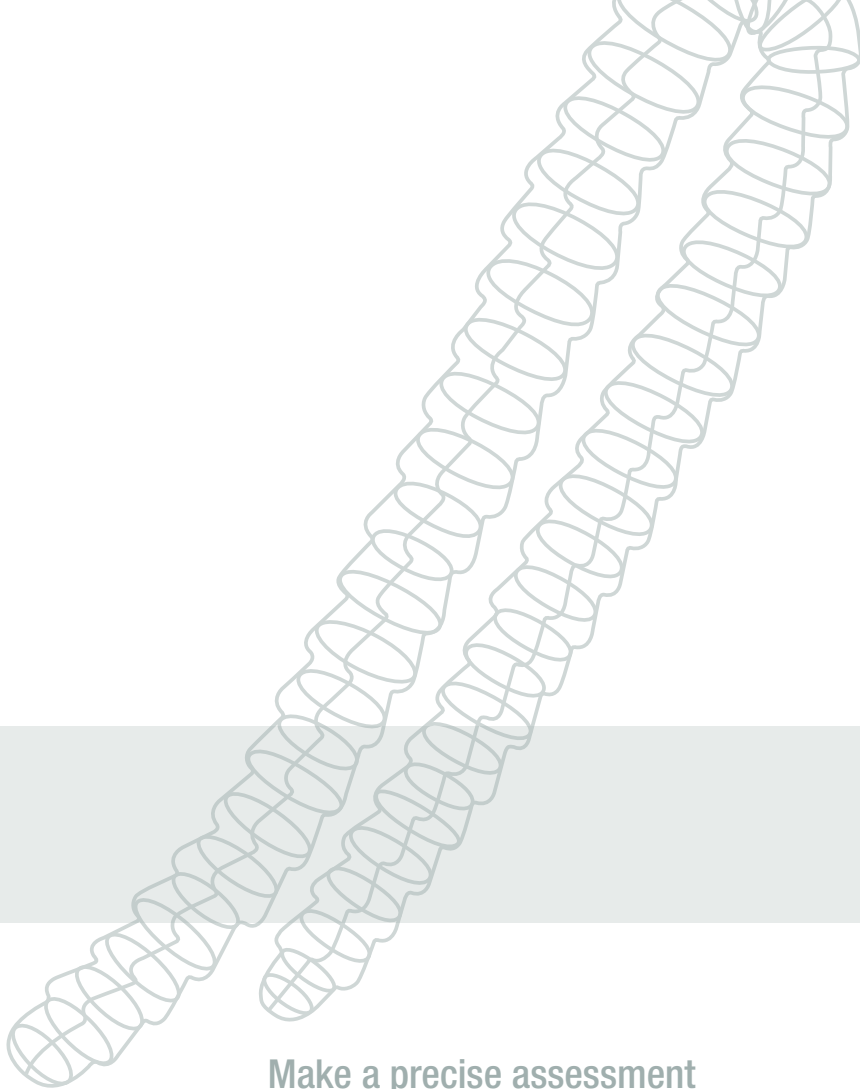
Recommended test profile



Did you know that?

- Birch trees, *Betula* spp. are endemic to the northern hemisphere and affect between 5–50 % of the population in Western Europe depending on the geographical region.^{4,5}
- Birches belong to the Fagales tree order and the major birch pollen component Bet v 1 is a marker also for sensitization to other Fagales trees such as alder, beech, chestnut, hazel, hornbeam and oak.^{1,3}
- Birch trees are potent pollen producers; a single birch tree can produce up to 100 million pollens per year.⁹
- Up to 80 % of birch pollen allergic patients have concomitant plant food allergies.^{4,10}
- The SIT extract chosen for treatment should ideally contain appropriate concentrations of the components indicated as triggers of the symptoms.^{5,6,11}
- SIT treatment is expensive and prescribed for several years. A correct diagnosis is therefore important.





Make a precise assessment

ImmunoCAP Allergen Components help you differentiate between "true" 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. Hauser M et al. Panallergens and their impact on the allergic patient. *Allergy, Asthma & Clinical Immunology*. 2010; 6–1. 2. Rossi RE et al. Sensitization profiles in polysensitized patients from a restricted geographical area: Further lessons from multiplexed component resolved diagnosis. *Eur Ann Allergy Clin Immunol*. 2011; 43(6): 171–175. 3. Hauser M et al. Bet v 1-like pollen allergens of multiple Fagales species can sensitize atopic individuals. *Clinical & Exp Allergy*. 2011; 41: 1804–181. 4. Vieths S et al. Current understanding of cross-reactivity of food allergens an pollen. *Ann N.Y Acad Sci*. 2002; 964: 47–68. 5. Sekerková A et al. Detection of Bet v 1, Bet v 2 and Bet v 4 specific IgE antibodies in the sera of children and adult patients allergic to birch pollen: evaluation of different IgE reactivity profiles depending on age and local sensitization. *Int Arch Allergy Immunol*. 2011; 154: 278–285. 6. Valenta R et al. Component-Resolved Diagnosis to Optimize Allergen-Specific Immunotherapy in the Mediterranean area. *J Invest Allergol Clin Immunol*. 2007; Vol 17, supplement 1: 88–92. 7. Schmid-Grendelmeier P. Recombinant allergens. For routine use or still only science? *Hautarzt*. 2010; 61(11): 946–53. 8. Schmidt-Andersen MB et al. Identification of European allergy patterns to the allergen families PR-10,LTP and profiling from Rosaceae fruits. *Clin Rev Allerg Immunol*. 2009; 41(1): 4–19. 9. http://www.dmi.dk/eng/index/research_and_development/pollen-4.htm. (Homepage of Danmarks Meteorologiske Institut, DMI) 10. Geroldinger-Simic M et al. Birch pollen-related food allergy: clinical aspects and the role of allergen-specific IgE and IgG4 antibodies. *J Allergy Clin Immunol*. 2011; 127 (3): 616–622. 11. Walker S.M et al. BSACI Guidelines: Immunotherapy for allergic rhinitis. *Clin Exp Allergy*. 2011; Sep; 41(9): 1177–200.

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