

Spring pollinosis

ImmunoCAP™ Specific IgE tests

ThermoFisher
SCIENTIFIC

Spring pollinosis is primarily caused by tree pollen. Tree pollen season starts in winter already, typically lasting from January to May. It often overlaps with grass pollen in the late spring and summer, as well as with perennial allergens.

ImmunoCAP™
Whole Allergens

Birch (t3)

Olive (t9) / Ash (t25)

ImmunoCAP™
Allergen Components

Bet v 1 (t215)
PR-10

Ole 1 (t224)
Common olive group 1

Primary sensitiser



- Major allergen
- Likely to cross-react with other PR-10 allergens, e.g. fruits, nuts, vegetables¹⁻¹²
- Indicator for allergen immunotherapy (AIT) suitability

Primary sensitiser



- Major allergen
- Good marker also for the diagnosis of ash pollen allergy (high cross-reactivity between Fra e 1 and Ole e 1)^{4,13-17}

Minor allergens

Bet v 2 (t216)
Profilin

Bet v 4 (t220)
Polcalcin










Bet v 6 (t225)
Isoflavone reductase like

Ole e 7 (t227)
LTP

Ole e 9 (t240)
1,3-beta-glucanase

- Cross-reactive allergens
- May not be available in sufficient amounts in AIT extracts^{1,3-12}
- Sensitisation to cross-reactive minor allergens only – not suitable for AIT^{1,3-12}

Specific to olive, associated with a more severe phenotype in areas with heavy olive pollen exposure^{1,14-17}

Whole extract Birch	Primary sensitiser Bet v 1	Cross-reactive allergens Bet v 2 [#] / Bet v 4 [#] / Bet v 6	Interpreting results*	Management considerations
			<ul style="list-style-type: none"> • Primary birch sensitisation is likely • Likely cross-reaction with other PR-10 allergens, e.g., in fruits, nuts, vegetables¹⁻¹² 	<ul style="list-style-type: none"> • Consider prescription of AIT • Birch pollen exposure reduction • Consider targeted antihistamines around birch season • Consider assessing risk of reaction to fruits, nuts and vegetables¹⁻¹²
			<ul style="list-style-type: none"> • Sensitisation to cross-reactive minor allergens^{1,3-12} • The primary allergen source should be identified⁴ 	<ul style="list-style-type: none"> • Not suitable for AIT • Consider further investigations to identify the primary allergen • Consider targeted antihistamines around birch season^{1,3-12}
			If all components of the algorithm are negative and t3 is positive, the patient could be sensitised to an untested allergen. As such, in the context of clinical history, exposure reduction may still be recommended. ⁴	



* Results should always be interpreted in the context of the clinical history. # Profilin (Bet v 2, Phl p 12) and polcalcin (Bet v 4, Phl p 7) from birch and Timothy grass can be used as marker for almost all pollen due to structural similarity.¹⁶

Allergen immunotherapy










The success of AIT depends largely on whether a patient is sensitised to major allergens such as Bet v 1.¹⁻¹²



Pollen food allergy syndrome

Proteins structurally related to the major birch allergen (Bet v 1) are found in trees of Fagales order, fruits, nuts, and vegetables. Sensitisation to tree pollen can lead to allergic symptoms of the lips and mouth (swelling, redness, tingling) when eating raw fruits, nuts, and vegetables.¹⁷



Whole extracts Olive / Ash	Primary sensitiser Ole e 1	Cross-reactive allergens Ole e 7 / Ole e 9	Interpreting results*	Management considerations
			Primary olive/ash allergy is likely ^{4,13-17}	<ul style="list-style-type: none"> Consider prescription of AIT Tree pollen exposure reduction^{4,13-17}
			Sensitisation to minor allergens associated with a more severe respiratory phenotype in areas with heavy olive pollen exposure ^{1,14-17}	<ul style="list-style-type: none"> Not suitable for AIT (the allergen composition of olive pollen extracts for AIT may vary significantly, especially with respect to Ole e 7 and Ole e 9¹) Olive exposure reduction^{1,14-17}
			If all components of the algorithm are negative and t9 or t25 is positive, the patient could be sensitised to an untested allergen. As such, in the context of clinical history, exposure reduction may still be recommended. ⁴	

* Results should always be interpreted in the context of the clinical history.

References: 1. Barber D, et al. Allergy 2008;63(11):1550–1558. 2. Andersson K, et al. International Archives of Allergy & Immunology 2003;130(2): 87–107. 3. Hatzler L, et al. J Allergy Clin Immunol 2012;130(4):894–901 e5. 4. Dramburg S, et al. Pediatr Allergy Immunol 2023;34(Suppl 28):e13854. 5. Sekerkova A, et al. Allergol Int 2012;61(2):339–346. 6. Tripodi S, et al. J Allergy Clin Immunol 2012;129(3): 834–839 e8. 7. Cipriani F, et al. Allergy 2017. 8. Hauser M et al. Allergy Asthma Clin Immunol 2010;6(1):1. 9. Schmid-Grendelmeier P. Der Hautarzt 2010;61(11):946-953. 10. Focke M, et al. Clin Exp Allergy 2008;38(8):1400–1408. 11. Walker SM, et al. Clin Exp Allergy 2011;41(9): 1177– 1200. 12. Valenta R, et al. J Investig Allergol Clin Immunol 2007;17 Suppl 1:36–40. 13. Gadermaier G, et al. Methods 2014;66:55-66. 14. Asero R, et al. Ann Allergy Asthma Immunol 2014;113:307-313. 15. Santos AF, et al. Allergy 2019. 16. Alonso, et al. J Investig Allergol Clin Immunol 2023. 17. Manzanares, et al. Front. Allergy 2023. 18. Akdis CA, Agache I (Eds.). Global atlas of allergy 2014.

Official product names: ImmunoCAP Allergen t3, Common silver birch; ImmunoCAP Allergen t215, Allergen component rBet v 1 PR-10, Birch; ImmunoCAP Allergen t216, Allergen component rBet v2 Profilin, Birch; ImmunoCAP Allergen t220, Allergen component rBet v 4, Birch; ImmunoCAP Allergen t225, Allergen component rBet v 6, Birch; ImmunoCAP Allergen t9, Olive; ImmunoCAP Allergen t25, European ash; ImmunoCAP Allergen t224, Allergen Component rOle e 1, Olive; ImmunoCAP Allergen t227, Allergen component nOle e 7 LTP, Olive; ImmunoCAP Allergen t240, Allergen Component rOle e 9, Olive

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