Dog allergy

ImmunoCAP™ Specific IgE tests



Allergic sensitisation to dogs is considered a risk factor for asthma and rhinitis and has increased significantly over recent decades for both children and adults. Dog allergen particles are tiny and easily become airborne, disperse effectively, and can enter small bronchioles to reach lower airways.1

ImmunoCAP™ Whole Allergen

ImmunoCAP™ Allergen Components



Primary sensitisers

- Major dog allergen
- · Specific marker for primary sensitisation to dog
- · Cross-reactivity with other lipocalins, like Fel d 7 (cat)
- · Indicator for allergen immunotherapy (AIT) suitability1-8
- Minor allergen
- Marker for primary sensitisation to dog
- · Can f 2 sensitisation is associated with severe asthma symptoms2
- · Indicator for AIT suitability, together with Can f 11-8

- · Major dog allergen
- · Most abundantly detected allergen in dog fur and a major allergen component of dog hair and dander extracts
- · Less suitable for AIT than Can f 1/Can f 21-8

- Major dog allergen
- · Can f 5 sensitisation is associated with male dogs.
- · Cross-reactivity with prostate-specific antigen of human seminal plasma
- Less suitable for AIT than Can f 1/Can f 24,9-12

Can f 3 (e221)

Can f 6 (e230) Lipocalin

Do you know?

Most children sensitised to dog are sensitised to more than one component, and co-sensitisation to Can f 5 and Can f 1 or Can f 2 has shown to be related with asthma.4

Serum albumin

Cross-reactive allergens

- Minor allergen
- · Seldom of clinical importance
- Extensive cross-reactivity and sequence homology with serum albumins from other mammals
- If mono-sensitised, this is likely a cross-reaction with other serum albumins4,8

- · Major dog allergen
- · Can f 6 is significantly associated with dog-related rhinitis and asthma, and can serve as a marker for clinically relevant dog allergy
- · Cross-reactive with Equ c 1 (horse) and Fel d 4 (cat), where the highest slaE level suggest the primary sensitiser1-8

Thermo Fisher

Whole extracts	Allergen components	Allergen family	Interpreting results*	Management considerations
Dog dander (e5)	Can f 1	Lipocalin	Primary sensitisation to dog is likely ¹⁻⁸	Patients with asthma are at increased risk of severe symptoms Consider dog exposure reduction
	Can f 2			 Consider AIT prescription Can f 1 and Can f 2 are indicators for successful AIT¹⁻⁸
	Can f 4	Lipocalin	Primary sensitisation to dog is likely ¹⁻⁸	 Primary sensitiser Patients with asthma are at increased risk of severe sympotoms Consider dog exposure reduction Can f 4 is cross-reactive with lipocalins from other specias (cat/horse). Further investigation should be considered and perhaps a broader animal avoidance plan¹⁻⁸
	Can f 6	Lipocalin	Primary sensitisation to dog is unlikely ¹⁻⁸	Not a primary sensitiser Patients with asthma are at increased risk of severe sympotoms Consider dog exposure reduction Can f 6 is cross-reactive with lipocalins from other specias (cat/horse). Further investigation should be considered and perhaps a broader animal avoidance plan¹-8
	Can f 5	Kallikrein	Primary sensitisation to male dog is likely ^{4,9-12}	If monosensitised, primary dog allergy to male dogs is likely (30% of patients are monosensitised to Can f 5) Dog exposure reduction (may be able to tolerate female dogs if monosensitised) Patients with asthma are at increased risk of severe symptoms Consider AIT prescription ^{4,9-12}
	Canf3	Serum albumin	Cross-reactive, seldom of clinical importance ^{4,8}	 If monosensitised, this is likely a cross-reaction with other serum albumins Consider additional investigations in patients with moderate to high slgE levels to exclude sensitisation to unboiled milk and raw or medium cooked meat such as sausages, ham and steaks^{4,8}

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

References: 1. Nordlund B, et al. Allergy 2012;67:661–9. 2. Nicholas C, et al. Ann Allergy Asthma Immunol 2010;105:228-33. 3. Konradsen JR, et al. Allergy Clin Immunol 2015;135:616-25. 4. Dramburg S, et al. Pediatr Allergy Immunol 2023;34(Suppl 28):e13854. 5. Canonica GW, et al. World Allergy Organization Journal 2013;6(1):17.7. 6. Asero, R. Eur Ann Allergy Clin Immunol 2012;44(5):183-7. 7. Schmid-Grendelmeier, P, et al. Der Hautarzt 2010;61(11):946-953. 8. Kleine-Tebbe, J. and Jakob, T. Editors: Molecular Allergy Diagnostics. Springer International Publishing Switzerland 2017. 9. Mattsson L, et al. J Allergy Clin Immunol 2009;123(2):362-368. 10. Basagana, M. Allergy Int Arch Allergy Immunol 2012;159:143-146. 11. Koffer L, et al. Eur Ann Allergy Clin Immunol 2012;44(2):89-92. 12. Schoos AM, et al. J Allergy Clin Immunol Pract 2017;5(6):1754-1756. Official product names: ImmunoCAP Allergen e5, Dog dander; ImmunoCAP Allergen e101, Allergen component rCan f 1, Dog; ImmunoCAP Allergen e226, Allergen component rCan f 2, Dog; ImmunoCAP Allergen e226, Allergen component rCan f 3, Dog serum albumin; ImmunoCAP Allergen e229, Allergen component rCan f 4, Dog; ImmunoCAP Allergen e226, Allergen e226



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