Pet allergy

ImmunoCAP™ Specific IgE tests*

Allergen component characteristics and cross-reactivity[1]

ImmunoCAP™ Whole Allergens*	ImmunoCAP™ Allergen Components*
Cat (e1) Dog (e5) Horse (e3)	**Fel d 1** (e94) **Can f 5** (e226) **Can f 2** (e102) **Can f 4** (e229) **Fel d 4** (e228) **Can f 6** (e230) **Equ c 1** (e227) **Fel d 7** (e231) **Can f 1** (e101) **Fel d 2** (e220) **Can f 3** (e221)
Key	Primary sensitiser; Not a primary sensitiser; Cross-reactive

Protein family characteristics[1,2]

Uteroglobin/Secretoglobin

- Major cat allergen
- A cat-specific sensitisation marker
- Produced in sebaceous and salivary glands, present in fur and dander

Prostatic Kallikrein

- Major dog allergen
- Produced in prostate gland, present in male dog urine, hair and dander

Lipocalins

- Most are major allergens
- Produced in salivary glands, present in saliva and dander

Serum albumins

- Highly cross-reactive
- Considered minor allergens
- Abundant in saliva and dander

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Whole allergen extracts can contain several allergen components.
A positive whole allergen result in combination with negative allergen component results can have several reasons. For example, the patient can be sensitised against a component not yet available for testing. Consider the patient's history, cross-reactivity, and referral to a specialist.[1]

Management considerations

- **Elevated Fel d 1:**
  Introduce targeted exposure reduction to cat and consider allergen immunotherapy (AIT) with a specialist.[3,4]
- **Elevated Can f 1 and/or Can f 2 and/or Can f 4:**
  Introduce targeted exposure reduction to dog and consider AIT with a specialist.[1,3,5,6]
- **Elevated Can f 5 monosensitisation (up to 30%):**[2]
  May tolerate female dogs.[1,3] Consider AIT with specialist.[3,4]
- **Can f 3/Fel d 2 sensitisation indicates cross-reactivity** and is seldom of clinical importance.[1] However, Fel d 2 can be a primary sensitizer in pork-cat syndrome.[7]
- **Elevated Equ c 1:** Introduce targeted exposure reduction to horse and consider AIT with a specialist.[8]

Disease severity

The risk for and severity of respiratory diseases increase with the number of pet allergen components the patient is sensitised to.

- 3 — Sensitisation to ≥ 3 pet allergen components is more common in severe asthma.[3,9,10]
- The higher the specific IgE levels of Fel d 1/Fel d 4/Can f 1/ Can f 2/Can f 5, the higher the risk for asthma.[11–13]
- Co-sensitisation to Fel d 1 and Fel d 4 is associated with asthma symptoms.[12]
- Co-sensitisation to Can f 1, Can f 2, and Can f 5 is associated with asthma symptoms.[12]
- Polysensitisation to pet components at age 4 predicts risk for rhinitis, conjunctivitis and asthma at age 16.[14]

References: 1. EAACI Molecular Allergology User 's Guide 2.0. Dramburg S, et al. PAI. 2023;34 (28):e13854. **2.** Schoos AM, et al. The Journal of Allergy and Clinical Immunology: In Practice. 2017;5(6):1754-6. **3.** Davila I, et al. Allergy. 2018;73(6):1206-1222. **4.** Bonnet B, et al. Allergy Asthma Clin Immunol. 2018;14:14. **5.** Liccardi G, et al. Hum Vaccin Immunother. 2018;14(6):1438-1441. **6.** Curin M, et al. Int Arch Allergy Immunol. 2011;154:258-263. **7.** Konradsen JR, et al. J Allergy Clin Immunol. 2015;135:616-25. **8.** Fernandez-Tavora et al. J Invest Allergol Clin Immunol 2002,12(1):29-33. **9.** Nordlund B, et al. Allergy. 2012;67:661-9. **10.** Konradsen JR, et al. Pediatr Allergy Immunol. 2014;25:187-92. **11.** Patelis A, et al. Clin Exp Allergy. 2016;46:730-40. **12.** Bjerg A, et al. Pediatr Allergy Immunol. 2015;26(6):557-63. **13.** Perzanowski M, et al. J Allergy Clin Immunol 2016;138:1582-90. **14.** Asarnoj A, et al. J Allergy Clin Immunol. 2016;137:813-21.
* Official product names: ImmunoCAP Allergen e94, Allergen component rFel d 1 Cat; ImmunoCAP Allergen e220, Allergen component rFel d 2 Cat serum albumin; ImmunoCAP Allergen e228, Allergen component rFel d 4, Cat; ImmunoCAP Allergen e231, Allergen component rFel d 7 Cat; ImmunoCAP Allergen e101, Allergen component rCan f 1 Dog; ImmunoCAP Allergen e102, Allergen component rCan f 2 Dog; ImmunoCAP Allergen e221, Allergen component nCan f 3 Dog serum albumin; ImmunoCAP Allergen e229, Allergen component rCan f 4 Dog; ImmunoCAP Allergen e226, Allergen component rCan f 5 Dog; ImmunoCAP Allergen e230, Allergen component rCan f 6 Dog; ImmunoCAP Allergen e227, Allergen component rEqu c 1, Horse

Note: As in all diagnostic testing, any diagnosis or treatment plan must be made by the clinician based on test results, individual patient history and symptoms, the clinician's knowledge of the patient, as well as their clinical judgement. Patients can be sensitised to more than one allergen component.[1]

Learn more at **thermofisher.com/allergencomponents**

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