Cat allergy

ImmunoCAP™ Specific IgE tests

More than 200 million people are allergic to cats, which represent one of the most important indoor allergen sources in the world. Cat-sensitised patients suffer from severe respiratory symptoms such as severe chronic rhinitis and asthma.[1,2]

ImmunoCAP™ Whole Allergen

Cat (e1)

ImmunoCAP™ Allergen Components

Primary sensitiser – Fel d 1 (e94)
Uteroglobin

- The major cat allergen[3]
- Cat-specific sensitisation marker[3]
- Produced in the salivary glands and skin
- Sensitisation to Fel d 1 during childhood has been shown to be a predictive marker of cat allergy in adolescence[3]
- Indicator for allergen immunotherapy (AIT) suitability[4,5]

Do you know?

The risk and severity of respiratory disease increases with the number of pet allergen components to which the patient is sensitised.

Sensitisation **to ≥ 3 pet allergen components** is more common in severe asthma.[4,7]

Fel d 2 (e220)
Serum albumin

- Minor allergen
- Present in dander and secretions.[3]
- High cross-reactivity with other serum albumins.[3]
- IgE to Fel d 2 can indicate cross-reactivity and is seldom of clinical importance, however Fel d 2 can be a primary sensitiser in pork-cat syndrome[7]

Fel d 4 (e228)
Lipocalin

- Major cat allergen[3]
- Synthesised in salivary glands and dispersed into the environment by saliva and dander.[3]
- Fel d 4 sensitisation is associated with severe asthma symptoms in cat allergic patients with Fel d 1 reactivity[6]
- Sensitisation to Fel d 4 but not Fel d 1 suggests cross-reactivity from other furry animal (e.g. with Can f 6 and Equ c 1 from dog and horse respectively)[3]

Fel d 7 (e231)
Lipocalin

- Minor allergen
- Moderate risk of cross-reactivity with Can f 1
- Together with Fel d 1 and Fel d 4, Fel d 7 is the most frequently recognised cat allergens in symptomatic patients, inducing also the maximal basophil activation at low doses[1]

Cross-reactive allergens

ThermoFisher SCIENTIFIC

Cat (e1)	Uteroglobin Fel d 1	Lipocalin Fel d 4 / Fel d 7	Serum albumin Fel d 2	Interpreting results*	Management considerations
+/−	+	+/−	+/−	**Primary allergy – suitable for AIT** Primary cat allergy is likely[3,8]	• Cat exposure reduction • Consider AIT, especially if the patient experiences symptoms of asthma with indirect exposure[3,8]
+/−	−	+	+/−	**Cross-reaction with other lipocalins, e.g. dog/horse is likely**[3,9]	• Consider cat exposure reduction • Patients with asthma are at increased risk of severe symptoms • Cross-reactivity with other furry animals is common • Consider further investigations and a wider exposure reduction plan[3,8]
+/−	−	−	+	**Cross-reaction** • Seldom of clinical importance • If mono-sensitised, this is likely a cross-reaction with other serum albumins e.g. dog/horse[3,9-10]	• Consider additional investigations in patients with moderate to high sIgE levels to exclude sensitisation to unboiled milk and raw or medium cooked meat such as sausages, ham and steaks. • Fel d 2 can be a primary sensitiser in pork-cat syndrome[3,7-10]
+	−	−	−	If all components in the algorithm are negative and e1 is positive, the patient might be sensitised to an untested allergen. As such, in the context of clinical history, exposure reduction may still be recommended.[3]	

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

References: 1. Trifonova D, et al. Int J Mol Sci 2023;24(23):16729. **2.** Asarnoj A, et al. Journal of Allergy and Clinical Immunology 2016;137(3):813-821. **3.** Dramburg S, et al. Pediatr Allergy Immunol 2023;34(Suppl 28):e13854. **4.** Davila I. et al. Allergy. 2018 Jun;73(6):1206-1222) **5.** Bonnet B, et al. Allergy Asthma Clin Immunol. 2018;14:14. **6.** Asarnoj A, et al. J Allergy Clin Immunol 2016;137(3):813-21 **7.** Konradsen JR, et al. J Allergy Clin Immunol. 2015;135:616-25. **8.** Nordlund B, et al. Allergy 2012;67:661-669. **9.** Kleine-Tebbe, J. and Jakob, T. Editors: Molecular Allergy Diagnostics. Springer International Publishing Switwerland 2017. **10.** Posthumous J, et al. J Allergy Clin Immunol 2013;131:924–925.

Official product names: ImmunoCAP Allergen e1, Cat dander; ImmunoCAP Allergen e94, Allergen component rFel d 1 Cat; ImmunoCAP Allergen e220, Allergen component rFel d 2, Cat serumalbumin; ImmunoCAP Allergen e228, Allergen component rFel d 4, Cat; ImmunoCAP Allergen e231, Allergen component rFel d 7, Cat

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