FURRY ANIMALS

Molecular Allergology

ImmunoCAP®
ALLERGEN COMPONENTS

Resolve unclear case history of

allergy to furry animals

Use components to resolve multiple positivity to pet extracts

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Use components to resolve multiple positivity to pet extracts

The case history of pet allergic patients does not always clearly suggest which animal(s) is causing the symptoms. Furthermore, many patients allergic to furry animals are positive to several pet dander extracts such as cat, dog and horse.[1,2]

Complete natural extracts detect sensitization to pets with high efficiency and sensitivity:[3]

- Cat dander: e1
- Dog dander: e5
- Horse dander: e3

Components can help explain multiple positive pet extract tests and clarify:[1,2]

- True co-sensitization to cat, dog and horse
- Cross-reactivity between serum albumins

Specific pet components discriminate between true sensitization to one/several pets:[1,2]

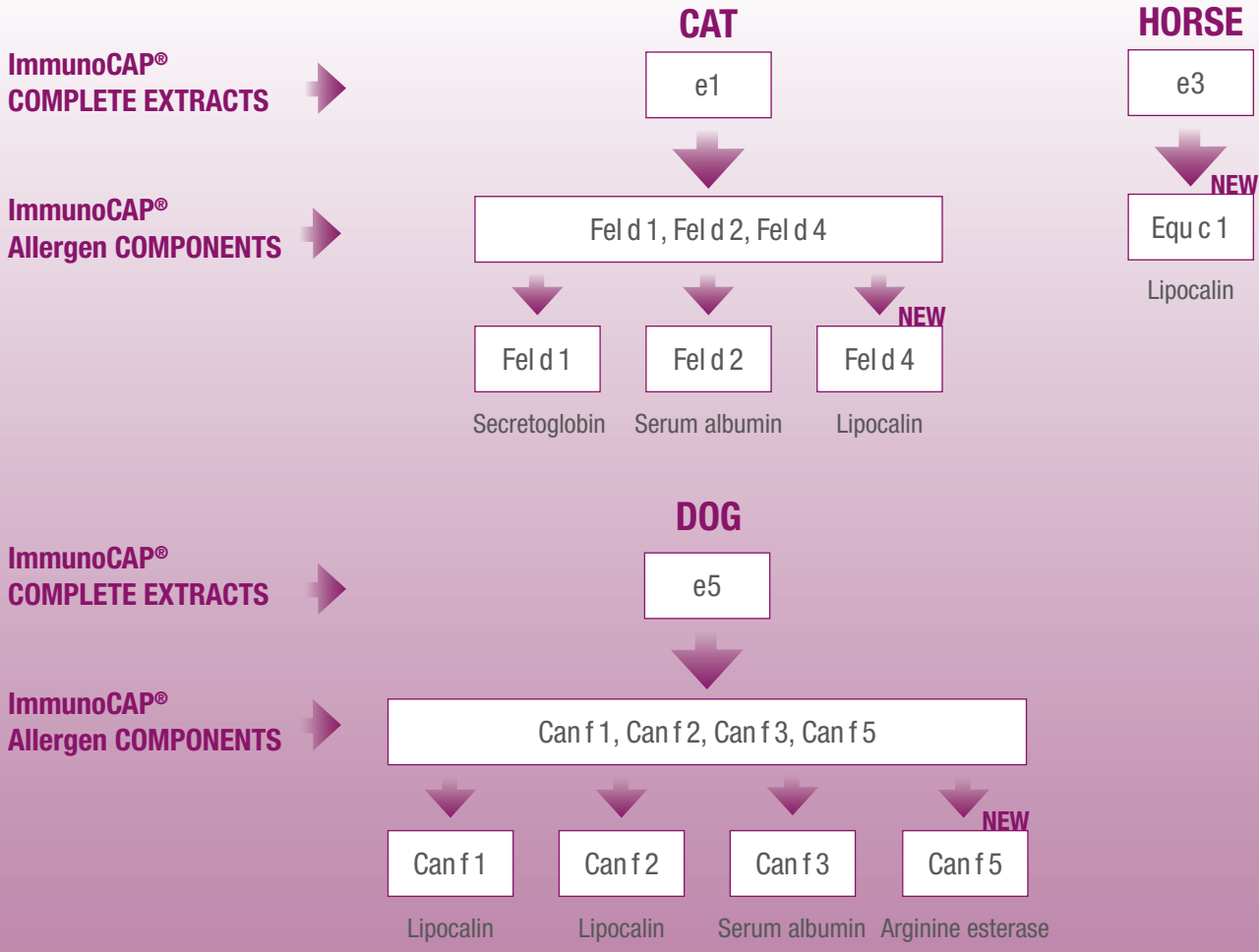
- Specific cat components: Fel d 1, Fel d 4*
- Specific dog components: Can f 1, Can f 2, Can f 5
- Specific horse component: Equ c 1

Cross-reactive pet components explain cross-reactivity:[1,2,4]

- Serum albumins: cat component Fel d 2, dog component Can f 3
- Serum albumins are present in all mammals and have similar protein structure between species

*See lipocalin explanation under "Did you know that?"

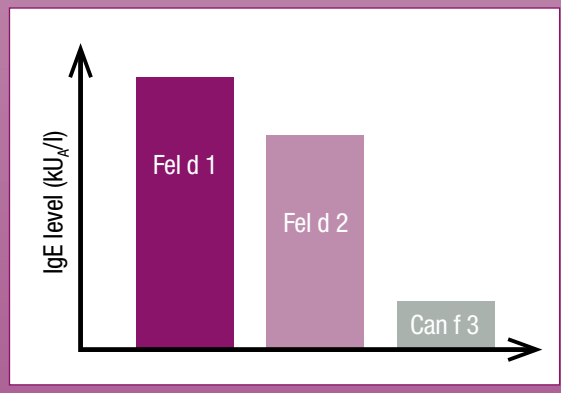
Suggested test profiles



IgE levels indicate primary sensitization

When IgE antibodies to two or more cross-reacting components are detected, the primary sensitizer is generally indicated by the highest IgE levels.

In this case, IgE antibodies to both cat Fel d 2 and dog Can f 3 serum albumins are detected. Here, the cat is most likely the primary sensitizer driving the symptoms, since the levels of IgE to Fel d 2 is much higher than the IgE levels to Can f 3.



Did you know that?

Pet allergy

- Cat and dog allergens are among the most important indoor allergens[8, 9]
- Pet allergic subjects present mainly with rhinitis and asthma symptoms[8, 9]
- As many as about 60–70 % of animal allergic patients are co-sensitized to several pets such as cat, dog and horse, suggesting strong comorbidity and/or prevalent cross-reactivity[1]

Cat allergy

- Fel d 1 is the major cat allergen component and about 60–90 % of cat allergic subjects have IgE antibodies to Fel d 1[9–11]
- High IgE levels to Fel d 1 is a risk factor for development of asthma[10]
- Fel d 4 IgE antibodies are detected in about 60 % of cat allergic subjects, often at low IgE levels[9, 12]
- Fel d 2 is a cross-reactive serum albumin regarded as a minor cat allergen, and about 15–40 % of cat allergic patients are sensitized to Fel d 2[2, 9, 11, 13, 14]

Dog allergy

- Can f 1, Can f 2 and Can f 5 are all specific dog allergen components[2,15–17]
- About 50–90 %, 20–30 % and up to 70 % of dog allergic subjects are sensitized to Can f 1, Can f 2 and Can f 5, respectively[2,15–17]
- Can f 3 is the cross-reactive dog serum albumin. IgE to Can f 3 is detected in about 15–50 % of dog allergic patients[2, 4, 14]

Horse allergy

- Equ c 1 is a major horse allergen component. About 75 % of horse allergic subjects are sensitized to Equ c 1[19]
- Generally lipocalins are of low protein similarity. However, certain lipocalins share significant sequence similarity and display some level of cross-reactivity, for example horse Equ c 1 and cat Fel d 4[12, 20]

Find out more about allergy to furry animals to improve patient management

Define primary sensitizer(s) and understand cross-reactions to pets to:[1, 2]

- Improve pet allergen avoidance advice
- Facilitate identification of patients and selection of appropriate extracts for immunotherapy

Benefits in patient management[5–7]

Well-founded pet allergen avoidance and proper immunotherapy can:

- Reduce allergic symptoms
- Relieve the patient from fear of unexpected severe reactions in social life and daily activities
- Improve the quality of life of pet-allergic patients

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. Borres MP et al. Ped Allergy Immunol 2011; 22: 454–461. **2.** Sastre J. Clin Exp Allergy 2010; 40: 1442–1460. **3.** Paganelli R et al. Allergy 1998; 53(8): 763–768. **4.** Liccardi G et al. Curr Allergy Asthma Rep 2011; 11(5): 421–426. **5.** Platts-Mills TA. J Allergy Clin Immunology 2004; 113: 388–391. **6.** Nanda AM et al. J Allergy Clin Immunol 2004; 114(6): 1339–1344. **7.** Lent AM et al. J Allergy Clin Immunol 2006; 118(6): 1249–1256. **8.** Simpson A et al. J Allergy Clin Immunol 2005; 116: 744–749. **9.** Grönlund H et al. Int Arch Allergy Immunol 2010; 151: 265–274. **10.** Grönlund H et al. Clin Exp Allergy 2008; 38: 1275–1281. **11.** van Ree R et al. J Allergy Clin Immunol 1999; 104: 1223–1230. **12.** Smith W et al. Clin Exp Allergy 2004; 34: 1732–1738. **13.** Cabanas R et al. Invest Allergy Clin Immunol 2000; 10(2): 71–77. **14.** Spitzauer S et al. J Allergy Clin Immunol 1995; 96: 951–959. **15.** Mattsson L et al. J Allergy Clin Immunol 2009; 123: 362–368. **16.** Kamata Y et al. Int Arch Allergy Immunol 2007; 142: 291–300. **17.** Saareleinen S et al. Clin Exp Allergy 2004; 34: 1576–1582. **18.** Mattsson L et al. Clin Exp Allergy 2010; 40: 1276–1287. **19.** Saareleinen S et al. Clin Exp Allergy 2008; 38(2): 374–381. **20.** Mattsson L et al. Abstract #1382, 29th EAACI Congress, 2010, London.

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