Horse allergy

ImmunoCAP™ Specific IgE tests

Horse allergy occurs among people who are in contact with horses regularly, either professionally or for recreational purposes. It can result in the induction or exacerbation of asthma, allergic rhinitis, allergic conjunctivitis and occupational asthma. Horse allergens have the potential to cause severe allergic reaction, but are often overlooked.[1-3]

ImmunoCAP™ Whole Allergen

Horse (e3)

ImmunoCAP™ Allergen Components

Equ c 1 (e227)
Lipocalin

Primary sensitiser

- Major and specific horse allergen[4]
- Most prevalent allergen (50% to 76%) among the horse-allergic patients.
- Present in saliva, hair and to some extent, in the urine of horses
- Associated with severe asthma in children and adults and significantly associated with moderate-to-severe rhinitis among horse-sensitised patients[5,6]
- Cross-reactivity with other lipocalins such as Can f 6 (dog) and Fel d 4 (cat)[4]
- Indicator for allergen immunotherapy (AIT) suitability[7]

Equ c 3[#]
Serum albumin

Cross-reactive allergen

- Minor allergen
- Seldom of clinical importance
- Potential cross-reactivity between serum albumins of different mammalian species[4]

[#] Available only on ImmunoCAP ISAC$_{E112i}$ test

Do you know?

Polysensitisation to several furry animals is common.

Horse holders are frequently exposed to more common airborne allergens (grass, mold, mite). This is important to consider in differential diagnosis.[8]

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Horse (e3)	Lipocalin Equ c 1	Serum albumin Equ c 3#	Interpreting results*	Management considerations
+/−	+	+/−	**Primary allergy – suitable for AIT** Primary horse allergy is likely	• Horse exposure reduction[3,4] • Consider AIT[7]
+/−	−	+	**Cross-reaction** • Seldom of clinical importance • If mono-sensitised, this is likely a cross-reaction with other serum albumins from e.g. dog or cat	• 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.
+	−	−	If all components in the algorithm are negative and e3 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.[4]	

* Results should always be interpreted in the context of the clinical history. # Available only on ImmunoCAP ISAC$_{E112i}$ test.

References: 1. Gawlik, et al. WAO Journal 2009;2:185–189. **2.** Cosme-Blanco W, et al Pediatr Allergy Immunol 2017;28(6):608-610. **3.** Roberts G and Lack G. Horse allergy in children BMJ 2000;321: 286 –287. **4.** Dramburg S, et al. Pediatr Allergy Immunol 2023;34(Suppl 28):e13854. **5.** Schoos A-MM, et al. Journal of Allergy and Clinical Immunology 2021;147(4):1164-1173. **6.** Nwaru BL, et al. The journal of allergy and clinical immunology in practice 2019;7(4):1230-1238.e4. **7.** Asero, et al. Eur Ann Allergy Clin Immunol 2012;44(5):183-187. **8.** Mańkowska A, Witkowska D. Animals 2024;14, 2062.

Official product names: ImmunoCAP Allergen e3, Horse dander; ImmunoCAP Allergen e227, Allergen component rEqu c 1, Horse

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