

# *Dermatophagoides farinae* allergenic profiles in atopic cats and horses: differences between species.

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## BACKGROUND

House dust mites (HDM) allergens have already been reported as a main cause of allergic reactions in cats<sup>1</sup> and horses<sup>2</sup>, but there are not studies about the main proteins involved in their sensitization.

## OBJECTIVE

To investigate the allergenic sensitization profile of cats and horses with atopic dermatitis against *Dermatophagoides farinae*.

## MATERIAL AND METHODS

Nineteen cats and 15 horses sensitized to *D. farinae* (clinical diagnosis confirmed with positive specific IgE levels by ELISA test; Greer, Lenoir, USA), four control healthy cats and two control healthy horses were included in the study.

Allergenic profiles were investigated by immunoblot. Briefly, *D. farinae* extract (Laboratorios LETI, Barcelona, Spain) was electrophoretically separated by SDS-PAGE, transferred and incubated with the serum samples. Membranes were incubated with the corresponding secondary antibody (anti-IgE) and developed by chemiluminescence.

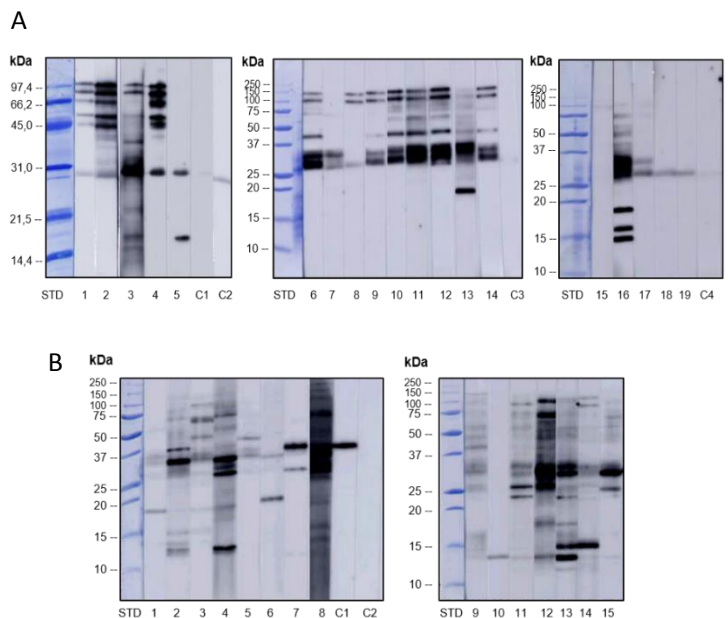
## REFERENCES

- 1, Bexley J, Hogg JE, Hammerberg B, Halliwell RE. Vet Dermatol. 2009;20(5-6):562-568.
- 2, Forsyth J, Halliwell RE, Harrand R. Vet Dermatol. 2019;30(6):544-e165.

## RESULTS

Results showed that the majority of the cats recognized high MW allergens as showed in figure. However, most of them also revealed strong recognition of proteins around 30 kDa, and only three cats showed recognition of lower MW allergens. Regarding control feline sera, a unique band of 30 kDa in one control was observed.

Different allergenic profiles were found among positive horses and all sera recognized allergens of a broad MW range (from 14 to >100 kDa). Nonetheless, proteins between 25 -37 kDa were recognized for the majority. Horse controls did not show any band recognition, except for one control with a 37 kDa band.



**Figure:** Immunoblots of 10 µg protein of *D. farinae* extract incubated with feline and equine sera. A: positive cat sera (1-19) and negative feline controls (C1-C4). B: positive horse sera (1-15) and negative equine controls (C1 and C2). STD: Precision Plus standard as molecular weight (MW) marker.

## CONCLUSION

Different sensitization profiles were observed between species. Cats recognized mainly medium and high MW proteins but horses did not present an specific HDM sensitization allergenic pattern.