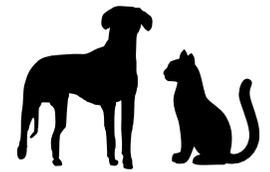


The Heska Flea Saliva ELISA test



Despite of modern flea control products, Flea Allergic Dermatitis (FAD) remains one of the most frequent dermatitis in dogs and cats. Flea control products do not prevent the flea bite which in most cases becomes a chronic problem.

During the bite, the flea saliva which contains the offending allergens is deposited in the epidermis and penetrates the dermis triggering major reactions in hypersensitive animals.

The diagnosis of FAD remains a matter of clinical experience, but it is challenging to diagnose.

The Heska Flea saliva test is unique:

- Uses purified flea saliva collected in the Heska Flea insectary
- Contains recombinant protein Cte f1 a major flea saliva allergen for increased test sensitivity
- Employs the Fc-epsilon receptor to detect specific IgE anti-Flea saliva allergens

Flea Saliva test compared to IDST in dogs:

Sensitivity: 78% - Specificity: 91%



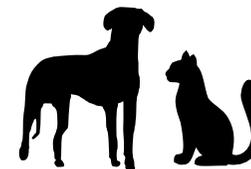
The artificial “dog”, where fleas are grown to collect flea saliva

Heska’s proprietary technology

Protected by US patent Nos. 5,646,115; 5,795,862; 5,840,695 and 5,945,294



Heska flea experimentally sensitized dog colony



Positive IDST
to flea saliva

Intermittent exposure of naïve dogs to flea bite induces immediate-type hypersensitivity to flea salivary allergens.

Fleas confined in chambers were placed on the shaved lateral thorax for 15 minutes, once a week for up to 40 weeks.

The monosensitized dog sera obtained is used for the control of the Heska's Flea Saliva test.

REFERENCES

Salivary allergens of *Ctenocephalides felis*: collection, purification and evaluation by intradermal skin testing in dogs. G.R. Frank et al., *Advances Veterinary Dermatology*, 201-212, 1998.

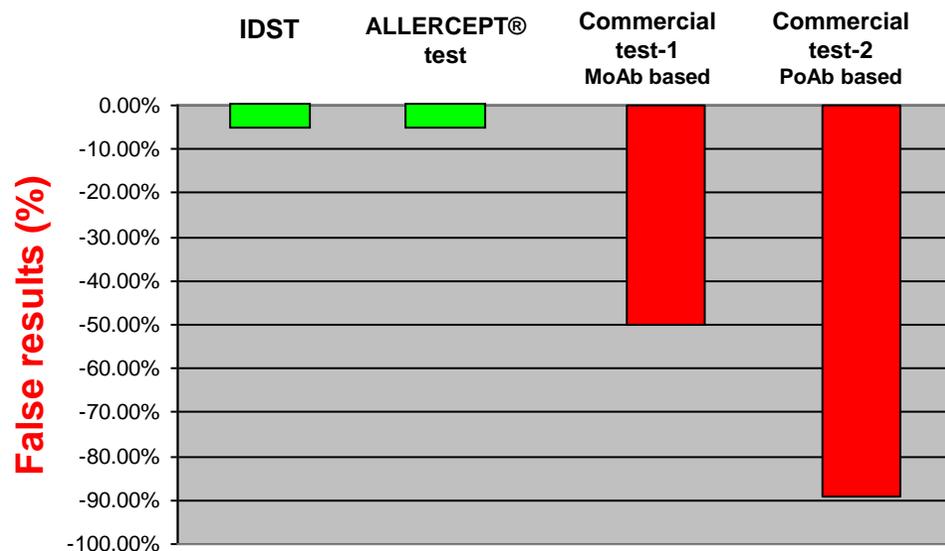
Cloning of a family of serine protease genes from the cat flea *Ctenocephalides felis*. P.J. Gaines et al., *Insect Molecular Biology*, 11-22, 1999.

Identification, Cloning and characterization of major cat flea salivary allergen (Cte f 1). M.J. McDermott et al., *Molecular Immunology*, 361-375, 2000.

Diagnosis of flea Allergy dermatitis: comparison of intradermal testing with flea allergens and a FcεRI α-based IgE assay in response to flea control. C. Laffort-Dassot et al., *Veterinary Dermatology*, 321-330, 2004.

Comparative study

Clinically normal dogs were tested using IDT, ALLERCEPT and two commercial in vitro tests.



- Results of the Flea Saliva test and IDST matched the known sensitization status of the dogs.
- The polyclonal and monoclonal antibody-based tests produced “false positive” results which did not agree with the sensitization status of the dog.