LABOKLIN
Labor für klinische Diagnostik GmbH & Co. KG

Status: Food allergy

For 2 years Laboklin performed the Sensitest,® established by Prof. Richard Halliwell (University of Edinburgh/SCO), to detect allergen specific antibodies (IgE und IgG). The aim of this test is to diagnose food allergies and, with the knowledge about relevant allergens, to ameliorate the clinical symptoms with a specific elimination diet.

Symptoms of food allergy
Almost no other disease has as many different symptoms as food allergy, so a clincal diagnosis can be difficult to perform. The symptoms are not specific to food allergy and are seen in a number of other diseases. The **dermatological symptoms** lead often to the allergic cause, but searching for the allergen is difficult. **Gastrointestinal tract allergies** can have symptoms similar to those of other chronic-inflammatory diseases of the intestinal tract. In addition to an immediate allergic reaction, a late-phase reaction of food allergy seems to exist.

Benefits of measuring food allergen specific IgE- and IgG-antibodies
The classical allergy (IgE mediated; immediate reaction) can be relatively easy to diagnose as the symptoms often occur a short time after feeding. Late-phase reactions (IgG mediated) are much more difficult to diagnose because the symptoms can occur days after the challenge. Higher levels of IgE and IgG are clearly correlated with food allergies while most healthy dogs have lower levels; these data trends were considered in the development of the test.

Results of laboratory food allergen testing
In 2004 we evaluated 1600 test results from the Sensitest® of dogs, and in 900 cases we sent out questionaires about history, clinical symptoms, and progression of the disease. The most important results follow:

Positive reactions
The ratio of positive dogs was **64 %**. 45% of these dogs were IgG- and 36% were IgE-positive**.**

Main reason for test implementation
In 68% of cases the animals showed only dermatological symptoms, in 17% only gastrointestinale. In 13% of the tested animals both symptoms were seen.

Success rate with eliminations diet
The therapy of choice in food allergic or intolerant animals is a diet change. The owner compliance is much better if the change is made directly according to the test results because it is easier to delete the positive food ingredients than to adhere strictly to the feeding of only one single food (classical elimination diet). In 83% of the cases, a strict food change was performed based on Sensitest® results; this therapy had a 70% success rate.

Definite improvement in total	**70%**
- only dermatological symptoms	65%
- only gastrointestinale symptoms	86%
- both symptoms	69%

The timespan from the implementation of a diet change therapy until the significant improvement of symptoms was clearly shorter for dogs with only gastrointestinale symptoms.

Accuracy of the test
The quality of test results generally depends on the comparison to a golden standard. For food allergy the golden standard is a sequential combination of (1) the success of the elemination of the offending substance from the food and (2) a relapse after provocation (feeding the causative substance).

Unfortunately we received the provocation test results from only 13 animals who demonstrated a clear improvement after the elimination diet therapy. In 12 of these 13 cases (92%) a relapse occured after feeding the food that had been eliminated from the regular diet based on the Sensitests® results.

Dog owner reactions to the Sensitests®

Altogether the allergy test and the specific food change is quite simple and successful for the owner. The allergen identification is much faster when the serological test is used compared to the time needed for the classical elimination diet. Less discipline is required to exclude food that has been tested positive; thus, owner compliance with the diet is much better with the Sensitests®.

Typical cases from our entry forms

Chow-Chow, male, 12 years.

- For several years he suffered from skin problems (pruritus, secondary lesions) and chronic relapsing otitis.
- Sensitest® result: only IgG: beef RC*5, lamb RC5, rice RC2 and corn RC2.
- A food change according to the test results led to a dramatic improvement without any further medication. The causative food was tried as provocation diet, and pruritus and skin lesions developed again.

Great Dane, male, 7 years.

- For 2 years the dog was treated for skin diseases with pruritus and recurrent otitis and diarrhoea.
- Sensitest® result: only IgE-positive: egg RC3, wheat RC3, soja RC2 and poultry RC2.
- The diet was changed and Biotin was fed. The dog became free of symptoms and showed significant improvement in general health. After feeding bread (wheat) a bloody-mucous diarrhoea started.

Husky/Schnauzer Mix, **male, 3 years.**

- The dog was examined with gastrointestinale problems (chronical vomitus, diarrhoea). The symptoms had occurred for 6 months prior to testing.
- Sensitest® result: IgE beef RC5, IgE milk RC5, IgG soja RK2 and IgG corn RC2.
- The diet was changed based on the test results. In a significantly short time the vomitus and diarrhoea stopped. Provocation with the old food induced vomitus again.

American Bulldog, female, 9 months.

- She sufferd from skin disease for months and was known to be lactose intolerant. From time to time diarrhoea was observed.
- Sensitest® result: IgE poultry RC 2, IgE soja RC2 and IgG soja RC 3.
- After a food change a significant improvement of symptoms was observed. Challange with the causative food resulted in pruritus, pustules, and diarrhoea.

*RC: reaction class in the Sensitest®

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