ALLERG-O-LIQ Insect venoms

For the quantitative determination of specific IgE against bee- (i1) and wesp venom (i3)

REF **i1-FL, i3-FL**

Background

Many species of arthropods are sources of potent allergens mainly found in venom and droppings potentially sensitizing and inducing IgE-mediated allergic reactions in humans. Most of these allergens are proteins. The allergic response mechanisms mediated by these allergens are comparable to those induced by allergens from other sources such as plant pollens, molds and foods. Related to arthropods humans have the most contact to insects and mites next to the ingestion of crustaceans like shrimps and lobsters. As a result allergies directed against these three groups of arthropods are most frequently reported. Because of the large number of people affected by allergic reactions to stinging insects, cockroaches and dust mites many allergens of these organisms were studied extensively, purified, and characterized immunobiochemically. For some species recombinant allergens were already produced. Bees and wasps cause insect venom allergy. These insects exhibit unique as well as common venom allergens. Vespides, including hornets, paper wasps and yellow jackets share common allergens. Bees and vespides produce one common allergen with hyaluronidase activity. They also produce unique allergens with different phospholipase activities. Fire ants and vespides show one common allergen, the antigen 5 of unknown biologic activity. The common venom allergens with < 70% sequence identity show barely detectable levels of antigenic cross-reactivity. In Europe, 2-3% of the population are affected by insect venom allergy. For the measurement of specific IgE a modern "*Reversed Enzyme Allergo Sorbent Test*" (REAST) has been developed and validated.

Intended use

The ALLERG-O-LIQ with biotinylated bee and wasp venom allergens is intended for the determination of specific IgE to bee and wasp allergens in human serum or plasma. The *in-vitro* determination of specific IgE is a further tool for the diagnosis of an allergy against insect venoms important for the therapy of the patients.

The allergens

- Purified native allergens exhibiting all relevant epitopes in biotinylated form
- Antigens characterized by SDS-PAGE and immunoblotting

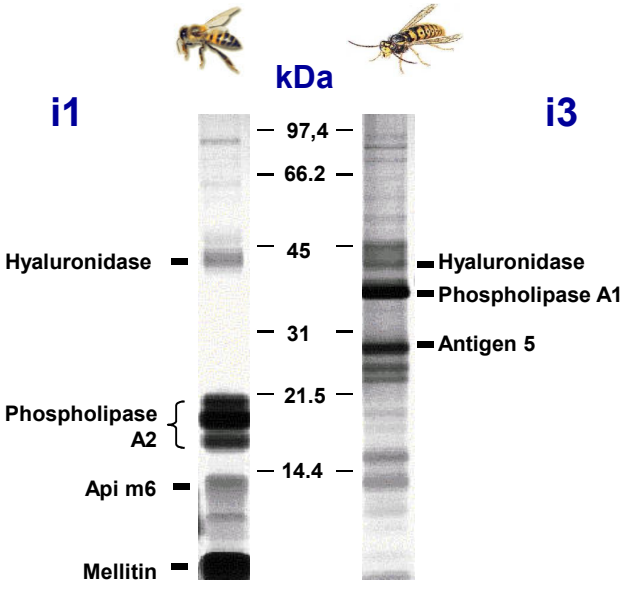
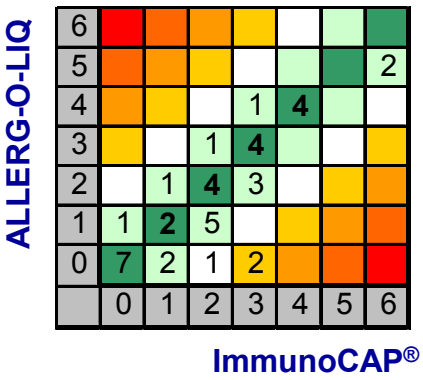


Figure 1
SDS Gelelectrophoresis of i1 and i3 extracts. Biotinylated extracts of i1 and i3 venom were size fractionated by SDS-PAGE. All important epitopes are present in the biotinylated extracts used in the ALLERG-O-LIQ as examined by immunoblot (data not shown).

DR. FOOKE LABORATORIEN GmbH

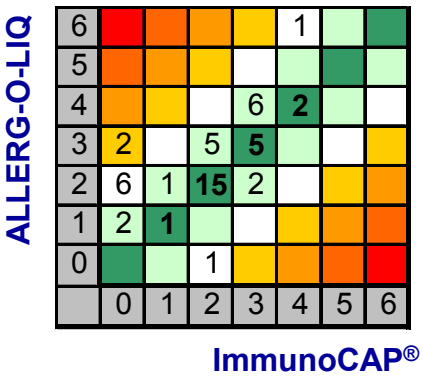


Correlation between ImmunoCAP® and ALLERG-O-LIQ

n = 40
n = 21
n = 37

i1

Concordance	53%
Concordance +/- 1 RAST Class	93%



Correlation between ImmunoCAP® and ALLERG-O-LIQ

n = 49
n = 23
n = 39

i3

Concordance	47%
Concordance +/- 1 RAST Class	80%

Figure 2
Concordance plot (ALLERG-O-LIQ vs. ImmunoCAP®). 40 (i1) and 49 (i3) samples from patients with diagnosed insect venom allergy were assayed by ALLERG-O-LIQ and ImmunoCAP® (Phadia). The results show a good agreement between the two systems.

Advantages

- Quantitative results
- Native antigens in biotinylated liquid form
- Highly correlated to the ImmunoCAP® system
- Wide measuring range (RAST 1 - RAST 6; 0.35 - 100 IU/mL)
- WHO calibrated
- Compatible for analysers

Literature

1. King TP, Spangfort MD: **Structure and Biology of Stinging Insect Venom Allergens**. *International Archives of Allergy and Immunology* 2000, **123**:99-106.
2. Incorvaia C, Senna G, Mauro M, Bonadonna P, Marconi I, Asero R, Nitti F: **Prevalence of allergic reactions to Hymenoptera stings in northern Italy.** *Allerg Immunol* 2004, **36**:372-374.

Related products

Specific IgE REAST-Conjugate Kit	REF	0520960FL / 0524800FL / 0529600FL
Quantitative Reference system with 6 Calibrators	REF	07050FL
Positive Control for specific IgE	REF	07005
Negative Control for specific IgE	REF	07006

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Dr. Fooke Laboratorien GmbH – Habichtweg 16 - 41468 Neuss - Germany
Phone: + 49 2131 2984-0 – Fax: + 49 2131 2984-184 - email: information@fooke-labs.de