ALLERG-O-LIQ

Specific IgE REAST for the quantitative determination of specific IgE in human serum or plasma with biotinylated allergens

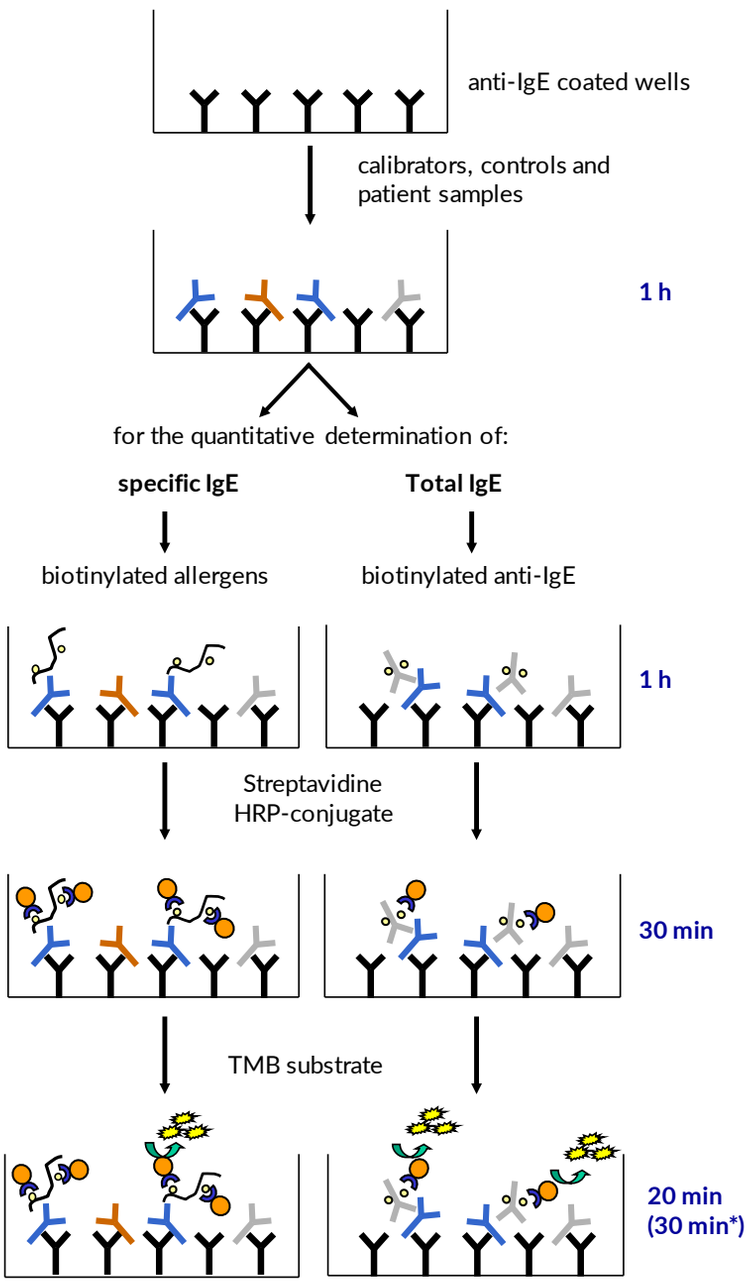
The ALLERG-O-LIQ is based on the "reversed enzyme allergo sorbent test (REAST)" and represents an innovative, flexible and highly accurate test system using anti-human IgE coated microtiter plates in combination with biotinylated reagents (Figure 1). Compared to conventional IgE detection systems all interfering serum components are removed from the system by washing. This leads to the advantage of just measuring allergen-specific IgE and finally to the high sensitivity and specificity of the test.

Allergen-specific IgE is the mediator of immediate hypersensitivity (Type I allergy), which is often accompanied by increased titers of total IgE. Therefore, the quantitative in-vitro determination of specific IgE and total IgE represents an important diagnostic tool for patients with suspected Type I allergy.

spec. IgE REAST REF 0520960FL	Σ	96
spec. IgE REAST REF 0524800FL	Σ	480

sIgE REAST Specifications

- „Reversed" ELISA technology
- Several hundred single allergens and allergen mixes incl. recombinant and nativ, highly-purified allergens are available
- Determination of specific and total IgE in the same test run
- Manual and fully automated test procedure possible
- Incubation time: 3 hours at RT
- Detection system: HRP/TMB ($OD_{450nm/\ 620nm}$)
- 6 point calibration according to WHO Standard
- Wide measuring range (0,35-100 IU/mL) according to RAST classes 0-6 for sIgE and 5-1000 IU/mL for total IgE



Addition of stop solution and reading of the optical density at 450 nm
* Incubation time of the substrate for manual procedure is 30 min

Figure 1
Principle of the ALLERG-O-LIQ

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Performance against IVD methodes

Agreement between ALLERG-O-LIQ and ImmunoCAP® (ThermoScientific) was investigated using 495 specific IgE values to Dermatophagoides pteronyssinus (d1), Dermatophagoides farinae (d2), timothy grass pollen (g6), birch pollen (t3) and hazel pollen (t4), cat dander (e1) and mugwort pollen (w6). Receiver Operating Characteristic (ROC) analysis and spearman correlations were performed for all seven allergens together. An excellent area under the curve (AUC) value was found at 0.97 (Confidence interval, CI 0.96-0.98) for all seven different allergens (see figure 2) compared to ImmunoCAP® results.

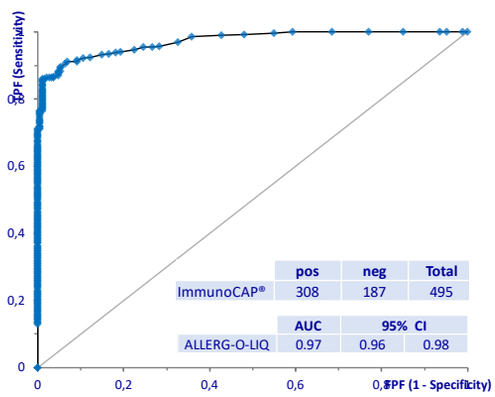

Figure 2
ROC analysis for ALLERG-O-LIQ vs. ImmunoCAP® for seven different allergens (d1, d2, g6, t3, t4, e1 and w6) with n=495 results.

Spearman correlation between ALLERG-O-LIQ und ImmunoCAP® for all seven allergens reveals a correlation coefficient of 0.91 (CI 0.90-0.93, see figure 3).

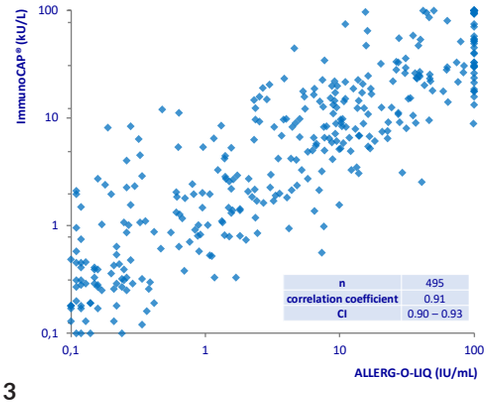

Figure 3
Spearman correlation between ALLERG-O-LIQ and ImmunoCAP for seven different allergens (d1, d2, g6, t3, t4, e1 and w6) with n=495 results.

Performance against skin prick test and nasal Provocation

Skin Prick test (SPT) results combined with nasal provocation (NP) results were compared to the ALLERG-O-LIQ. AUC value of ALLERG-O-LIQ compared to 287 SPT and NP results were found at 0.96 (CI 0.94-0.98). Compared to SPT and NP results ALLERG-O-LIQ shows a sensitivity of 0.88 (CI 0.83-0.92) and specificity of 0.90 (CI 0.84-0.95).

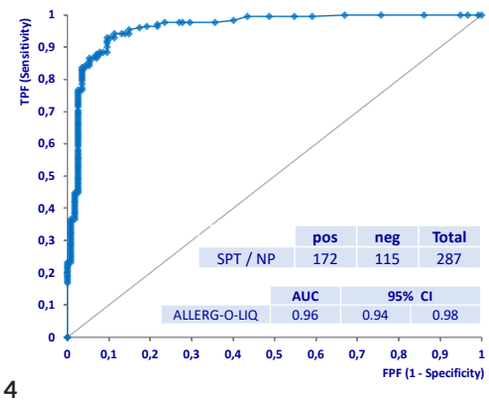

Figure 4
ROC analysis for ALLERG-O-LIQ vs. in-vivo results for seven different allergens (d1, d2, g6, t3, t4, e1 and w6) with n=287 results.

Literature

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