



Biomnis



**ALEX<sup>®</sup>**

Allergy explorer





**ALEX**  
ALLERGY EXPLORER

ALEX® is a next generation test that can be used in the diagnosis of type I allergies (linked to IgEs), based on an exclusive nano-bead technology that provides a broad exploration of the state of the individual patient's allergen sensitisation, with a panel of over 300 natural and molecular allergen extracts, combined with an assay of total IgEs.



## Benefits:

- Broad panel of allergens, individually optimised
- Integrated inhibition of CCDs (*cross-reactive carbohydrate determinants*)
- Simultaneous measurement of total and specific IgEs
- Multiplex test, with customisable panel composition

It can be difficult to obtain a complete sensitisation profile using standard monoplex systems. Often, several rounds of tests are needed to establish a clear diagnosis and the assay of total IgEs must be performed separately.

In order to streamline this fragmented approach, **ALEX® provides a comprehensive image of the patient's situation, including total IgEs.**

Included in the **molecular allergens exclusively available in this panel** are risk markers for each family of allergy-causing proteins, such as storage proteins, and other new markers (e.g. the yeast *Malassezia sympodialis*).

The ALEX® includes a powerful CCD inhibitor that activates while the serum is incubating and minimises interpretation errors for patients with positive IgE CCDs (responsible for significant *in vitro* cross-reactivity), increasing the specificity of the test results.



# Clinical benefits

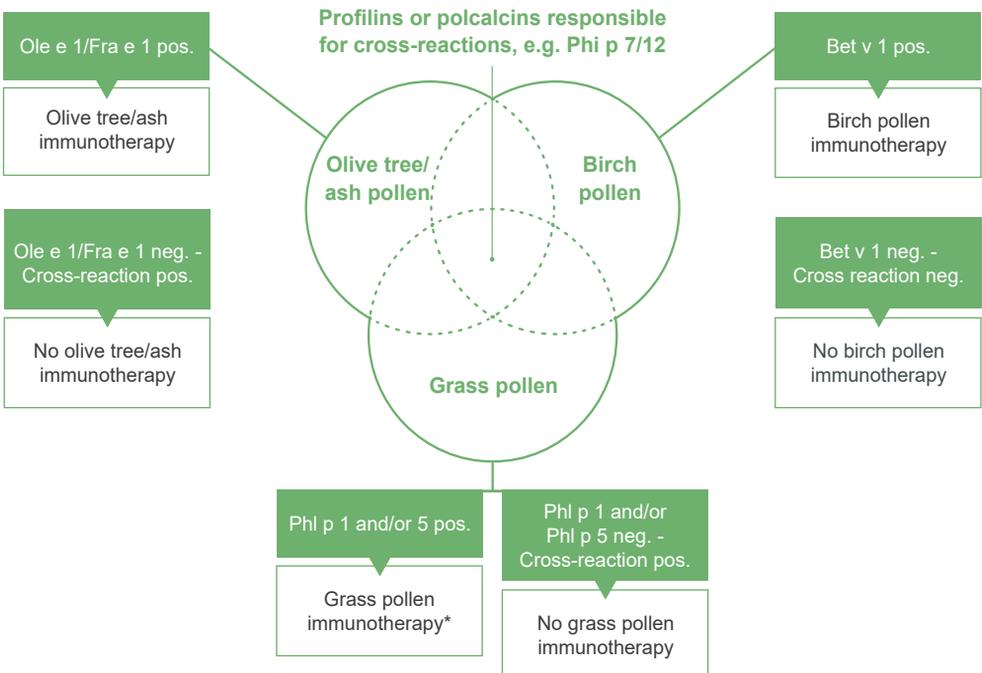
The purpose of the ALEX<sup>®</sup> test is to support the diagnosis of allergies alongside medical history and other additional tests (skin tests, etc.).

ALEX<sup>®</sup> provides information on:

- Potential indication of a specific immunotherapy
- Allergy risks so as to avoid severe allergic reactions to foods
- Cross-reactivities
- The presence of an allergen that was not suspected

## Indication for immunotherapy

Specific immunotherapy is a treatment strategy for allergies, in particular respiratory allergies and hymenoptera venom allergies. A diagnostic approach that uses only full extracts, sources of multiple allergens, may give a positive result. This result may indicate either a genuine co-sensitisation or a cross-sensitisation. The **use of molecular allergens means this ambiguity can be resolved.**



*\*look further for primary sensitiser*

Source: based on SIT indication (Molekulare Allergiediagnostik, Kleine-Tebbe&Jakob 2015, p.189)

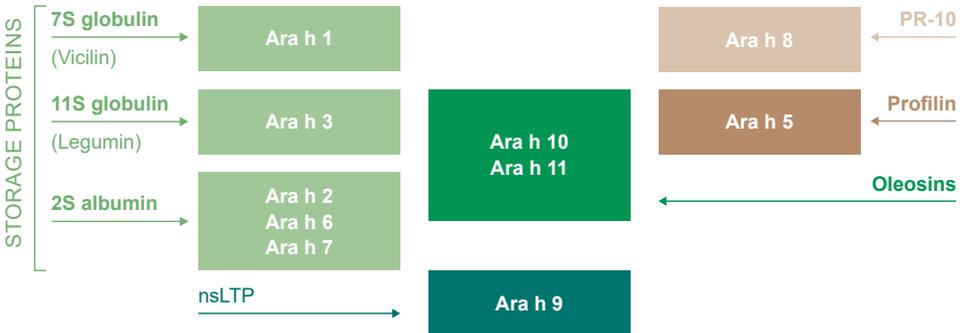
# Evaluation of risks and cross-reactivities



Allergy tests using full extracts have been shown to be useful for identifying the source of the allergen responsible. However, only an additional molecular approach can provide relevant information to complete the test results and make an optimal treatment decision.

For example, storage proteins such as: Ara h 1, 2, 3 or 6 can cause severe allergic symptoms including anaphylactic shock.

The PR-10 Ara h 8 protein however does not usually cause severe symptoms. It is often associated with a birch pollen allergy as the main allergen is Bet v1, which also belongs to the PR-10 family. This shows the advantage of detecting all of these molecular components. Similar cases are frequently encountered in a range of other food allergens, such as hazelnut, soy, peach...



Source: Risk assessment in peanut (Molekulare Allergiediagnostik, Kleine-Tebbe&Jakob 2015, p.207)



## Identification of an unexpected sensitisation

ALEX® is a tool that can identify allergens that are not suspected from questioning of the patient and/or skin tests.

**The Eurofins Biomnis laboratory is the first laboratory in France to offer the ALEX® microchip.**



### Practical details

- **Analysis code:** ALEX
- **Pre-analysis:** 1mL serum
- **Turnaround time for results:** 2 weeks

**Reference:**

*Extended IgE profile based on an allergen macroarray: a novel tool for precision medicine in allergy diagnosis  
Enrico Heffler, Francesca Puggioni, Silvia Peveri, Marcello Montagni, Giorgio Walter Canonica, and Giovanni Melioli,  
World Allergy Organization Journal 2018*





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