BIONEXT
LABORATOIRE D'ANALYSES MÉDICALES

RESPIRATORY ALLERGIES
IN ADULTS AND CHILDREN

The WHO has categorised allergies as one of primary causes for chronic disease in the world. Depending on the country, 20 to 30% of the population is affected, and that figure could double by 2050.

Step 1: Clinical history taking

The major sources of respiratory allergens include, by order of prevalence, **mites**, **pollens** and **pets**.

Whether in winter, with the larger exposure to the allergens in our indoor environment, or in the springtime and summer with exposure to pollens, respiratory allergies can occur round the year.

The use of the pollen calendars published by the different monitoring bodies is indispensable

Luxembourg	France	Belgium	Germany
pollen.lu	pollens.fr	airallergy.sciensano.be	www.dwd.de

Away from these seasonal peaks, the atmosphere in our homes and exposure to pets, dust and moulds can be added to possible causes.

Step 2: Biological testing

1 Orientation test

If the clinical history does not help identify the triggering factor, an orientation test may be used with a mix of respiratory allergens.

If the result is positive, then the content of the mixes will have to be decomposed to find the component involved.
If the result is negative and/or there is a discrepancy in relation to the clinical history, the investigations must be continued. That is because the allergen involved may be absent or under-represented in the tested mixes.

To help you in your work, the composition of each mix is detailed in our reports.

First-line tests based on the clinical history:

Tree pollens	
January to March	tx5 (± tx6)
April to June	tx6 (± tx5)
July to December	tx7

Herbaceous pollens	
April to July	wx6 (± wx5)
August to December	wx5 (± wx6)

Grass pollens	g6
Mould	mx1
Pets	ex1
Mites	d1

2 Confirmation test

When the clinical history makes it possible to suspect the triggering factor or after a positive orientation test, an specific unit IgE test can confirm biological sensitisation.

Later on, molecular IgE tests specific to the allergen are useful in a number of situations:

- Providing information to help predict the clinical severity of the allergy
- Helping differentiate cross-allergies from primary sensitisation
- Helping differentiate sensitisation with no clinical expression from sensitisation with a risk of allergy
- Prescribing allergen immunotherapy (AI) if polyreactivity to respiratory allergens is found

Note

Multiple allergen tests with a quantitative response per allergen (CLA30®) must not be used as screening tests, since they lack sensitivity and specificity for some allergens, and are trickier to use.

In practice

Prescription procedure

Prescription algorithm:

1. Allergen mix
2. Breakdown into native unit IgE
3. Interpretation in the report recommending the performance of additional IgE tests (native, recombinant, cross-reactions)

Example of grass pollens

1	Clinical history taking	2	Confirmation using the pollen calendar
3	Prescription of first-line tests **Native allergen: g6**	4	Interpretation in the report indicating any possible additional prescription
5	If positive: prescription of confirmation tests **Recombinant allergens:** **g205 (rPhl p1), g215 (rPhl p5)** **g210 (rPhl p7) and g212 (rPhl p12)**	6	Overall interpretation

Key points

- ✓ Clinical history taking that is as precise and detailed as possible to target a category of respiratory allergens (house dust, pollen, pets etc.)
- ✓ Target the native allergen
- ✓ The use of a recombinant helps pinpoint the specificity of the sensitisation
- ✓ In the event of a discrepancy, remember to test **cross reactivity** (e.g.: grass pollens with other herbaceous or tree pollens)
- ✓ **CCD marker** (o214 (MUXF3)) in order to help rule out an allergy if there is a discrepancy between native and molecular allergenic reactivity or in case of polyreactivity

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