



Molecular Allergy Diagnostics

Recombinant or Native Allergens in Type I Allergy Diagnostics

Historically, allergen extracts are used in Type I Allergy Diagnostics that contain the relevant major and minor allergens as well as non-allergic components. These extracts are excellent for a first screening of patients and are now complemented by recombinant or highly purified native allergens, the Molecular Allergy Diagnostics.

The use of recombinant or highly purified native allergens is a new tool in the field of Type I Allergy Diagnostics, which can provide more detailed information about sensitization and patients' treatment.

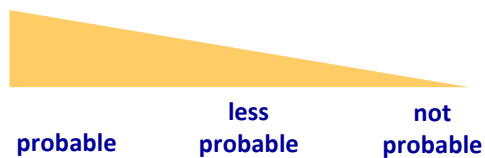
A) Probability of successful specific immunotherapy

Birch Pollen

Major Allergen: Bet v1

Minor Allergen: Bet v2 (Profilin)

Bet v1 pos	Bet v1 pos	Bet v1 neg
Bet v2 neg	Bet v2 pos	Bet v2 pos

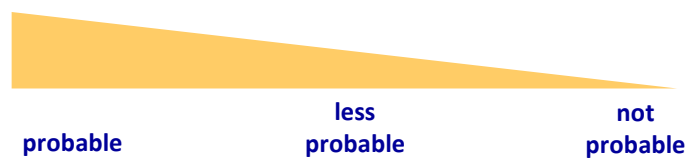


Timothy Grass Pollen

Major Allergen: Phl p1/Phl p5

Minor Allergen: Phl p7/Phl p12 (Profilin)

Phl p1/ Phl p5 pos	Phl p1/ Phl p5 pos	Phl p1/ Phl p5 neg
Phl p7/Phl p12 neg	Phl p7/Phl p12 pos	Phl p7/ Phl p12 pos



B) Risk Assessment

Risk	Allergen
Severe systemic reactions in patients with peanut allergy	Ara h2 peanut

Further „Risk-Markers“ are under investigation!

C) Determination of CCD specific IgE (sIgE) and cross-reactivities

Purpose	Allergen
Determination of sIgE to cross-reactive carbohydrate determinants (CCD)	HRP (strongly glycosylated)
Recombinant (non-glycosylated) allergens, for exclusion of sIgE to CCD	all relevant allergens
Determination of cross-reactivities based on protein families	Parvalbumin (fish); Tropomyosin (mites; shellfish; cockroach); Mal d1; Dau c1 (Bet v1 homologue); Profilins (Phl p12 and Bet v2)

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Available recombinant and highly purified allergens:

REF	Allergen	Allergen-Source		Application
ND11	Der p1	D. pteronyssinus	native	Major allergen
ND12	Der p2	D. pteronyssinus	native	Minor allergen
ND21	Der f1	D. farinae	native	Major allergen
ND22	Der f2	D. farinae	native	Minor allergen
RE11	Fel d1	Cat	recombinant	Major allergen
RF 180	Parvalbumin (Cyp c1)	Carp	recombinant	Cross-reactivity to fish species
NF 24	Tropomyosin	Shrimp	native	Cross-reactivity to mite, cockroach and shellfish
RF 311	Dau c1	Carrot	recombinant	Cross-reactivity (Bet v1 homologue)
RF 491	Mal d1	Apple	recombinant	Cross-reactivity (Bet v1 homologue)
NF 253	CCD	Horse Radish Peroxidase	native	Cross-reactivity based on CCD
RF 132	Ara h2	Peanut	recombinant	Risk of severe systemic reactions
RF171	Cor a1	Hazelnut	recombinant	Cross-reactivity (Bet v1 homologue)
RG 601	Phl p1	Timothy Grass	recombinant	Specific Immunotherapy
RG 605	Phl p5	Timothy Grass	recombinant	Specific Immunotherapy
RG 607	Phl p7	Timothy Grass	recombinant	Specific Immunotherapy
RG 612	Phl p12	Timothy Grass	recombinant	Specific Immunotherapy
RI 101	Api m1	Honey bee venom	recombinant	Specific marker for the sensitization against bee venom; Major allergen
RI102	Api m2	Honey bee venom	recombinant	Hyaluronidase; Cross-reactivity to different insect venoms
RI305	Ves v5	Wasp venom	recombinant	Specific marker for the sensitization against wasp venom; Major allergen
RW601	Art v1	Mugwort	recombinant	Major allergen
RT 301	Bet v1	Birch	recombinant	Specific Immunotherapy
RT 302	Bet v2	Birch	recombinant	Specific Immunotherapy
REF	Mixtures	Allergen-Source		Application
RG 620	Phl p1/Phl p5	Timothy Grass	recombinant	Specific Immunotherapy
RG 621	Phl p7/Phl p12	Timothy Grass	recombinant	Specific Immunotherapy