



Recombinant allergens for TYPE I ALLERGIC DISORDERS



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Rekom Biotech also offers **recombinant proteins** for *in vitro* diagnosis of allergies (type I allergic disorders).

A wide variety of protean **allergens** from our environment are proteins coming from food, dust mites, pollens from trees and grasses; and other natural products. These environmental proteins come primarily from non-pathogenic eukaryotic organisms (animals and plants) and are essentially innocuous. However, in some cases, our immune system reacts to them, unintentionally causing damage to our tissues and vital organs that occasionally generates serious systemic pathologies.

The development of **recombinant allergens** provides new opportunities for the improvement of the diagnosis of immunoglobulin E (IgE) mediated allergies, given that they present capacity for binding these antibodies in a comparable way to natural allergens and generally show good reactivity in *in vitro* **diagnostic test**. For this reason, recombinant allergens are of a great interest to both the research field and the development of new diagnostic test for **IgE quantification** in the clinical routine. The measure of circulating IgE antibodies specific for a determined allergen provides information about the patient sensitisation to this allergen. In general, low IgE levels would indicate a low probability of developing a clinical disease, while high IgE levels would show a high correlation of developing disease.

Our recombinant allergens have been evaluated by means of an external study developed by a group of prestigious allergists at the Virgen de la Macarena Hospital in Seville (Spain), using samples from positive and negative patient sera. In these tests, specific IgE has been determined by the skin prick test (SPT) and the UniCAP® test. From these assays, we obtained incidence data for each antigen, which we later compared with that described in the literature, obtaining a very good correlation. Through an adequate diagnostic test incorporating our proteins, it would be possible to determine the allergen to which the patient is reacting and the levels of specific IgE to this allergen. This quantification will allow to predict more accurately the chance of the patient developing an allergy, and thus the need for appropriate treatment.





POLLEN

EUROPEAN WHITE BIRCH (*Betula verrucosa*)

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
Bet v 1	RAL0011	E. coli	WB, DB, IE, DE, CLIA, LF	Pathogenesis-related protein (PR-10)
Bet v 4	RAL0009	E. coli	WB, DB, IE, DE, CLIA, LF	Polcalcin

LONDON PLANE TREE (*Platanus acerifolia*)

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
Pla a 1	RAL0019	P. pastoris	WB, DB, IE, DE, CLIA, LF	Invertase inhibitor
Pla a 3	RAL0021	E. coli	WB, DB, IE, DE, CLIA, LF	Non-specific lipid transfer protein type 1 (LTP)

MUGWORT POLLEN (*Artemisia vulgaris*)

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
Art v 1	RAL0005	P. pastoris	WB, DB, IE, DE, CLIA, LF	Defensin-like protein
Art v 3	RAL0006	E. coli	WB, DB, IE, DE, CLIA, LF	Non-specific lipid transfer protein type 1 (LTP)
	RAL0048	P. pastoris	WB, DB, IE, DE, CLIA, LF	

OLIVE TREE (*Olea europaea*)

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
Ole e 1	RAL0012	P. pastoris	WB, DB, IE, DE, CLIA, LF	Proteins similar to Ole e 1
Ole e 2	RAL0010	E. coli	WB, DB, IE, DE, CLIA, LF	Profilin
Ole e 5	RAL0047	E. coli	WB, DB, IE, DE, CLIA, LF	Superoxide dismutase [Cu-Zn]

PELLITORY-OF-THE-WALL (*Parietaria judaica*)

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
Par j 2	RAL0020	P. pastoris	WB, DB, IE, DE, CLIA, LF	Phospholipid transfer protein (LTP)

RUSSIAN THISTLE (*Salsola kali*)

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
Sal k 1	RAL0018	E. coli	WB, DB, IE, DE, CLIA, LF	Pectin methylesterase

TIMOTHY GRASS POLLEN (*Phleum pratense*)

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
Phl p 1	RAL0001	E. coli	WB, DB, IE, DE, CLIA, LF	Beta-expansin
Phl p 5a	RAL0003	E. coli	WB, DB, IE, DE, CLIA, LF	Unknown
	RAL0003BIOT	E. coli	WB, DB, CE, NP, PO	Phl p 5a biotinylated
Phl p 5b	RAL0017	E. coli	WB, DB, IE, DE, CLIA, LF	Unknown
Phl p 7	RAL0002	E. coli	WB, DB, IE, DE, CLIA, LF	Polcalcin
Phl p 12	RAL0004	E. coli	WB, DB, IE, DE, CLIA, LF	Profilin

DOMESTIC ANIMALS
AND INDOOR

ANIMAL

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
Fel d 1	RAL0023	P. pastoris	WB, DB, IE, DE, CLIA, LF	For Cat (<i>Felis domesticus</i>). Uteroglobin (chain 1)
Can f 1	RAL0016	E. coli	WB, DB, IE, DE, CLIA, LF	For Dog (<i>Canis familiaris</i>). Lipocalin
	RAL0026	P. pastoris	WB, DB, IE, DE, CLIA, LF	
Can f 5	RAL0014	P. pastoris	WB, DB, IE, DE, CLIA, LF	For Dog urine (<i>Canis familiaris</i>). Arginine esterase, prostatic kallikrein
Equ c 1	RAL0007	E. coli	WB, DB, IE, DE, CLIA, LF	For Domestic Horse (<i>Equus caballus</i>). Lipocalin
	RAL0022	P. pastoris	WB, DB, IE, DE, CLIA, LF	

DUST MITES

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
Der f 2	RAL0013	<i>P. pastoris</i>	WB, DB, IE, DE, CLIA, LF	For American house dust mite (<i>Dermatophagooides farinae</i>). NPC2 family
Der p 10	RAL0015	<i>E. coli</i>	WB, DB, IE, DE, CLIA, LF	For European house dust mite (<i>Dermatophagooides pteronyssinus</i>). Tropomyosin
Lep d 2	RAL0008 	<i>P. pastoris</i>	WB, DB, IE, DE, CLIA, LF	For Storage mite (<i>Lepidoglyphus destructor</i>). NPC2 family



FOOD

CEREAL

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
Tri a 19	RAL0053	<i>E. coli</i>	WB, DB, IE, DE	For Wheat (<i>Triticum aestivum</i>). Omega-5 gliadin, seed storage protein
	RAL0053BIOT	<i>E. coli</i>	WB, DB, CE, NP, PO	Tri a 19 biotinylated

FISH

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
Gad c 1	RAL0035	<i>E. coli</i>	WB, DB, IE, DE, CLIA, LF	For Baltic cod (<i>Gadus callarias</i>). Beta-parvalbumin

EGG

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
Gal d 1	RAL0033	<i>P. pastoris</i>	WB, DB, IE, DE, CLIA, LF	For Chicken egg (<i>Gallus domesticus</i>). Ovomucoid

MILK

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
αS1-casein	RAL0027	<i>E. coli</i>	WB, DB, IE, DE, CLIA, LF	For Caw milk (<i>Bos domesticus</i>). Casein, oka. Bos d 9
β-casein	RAL0029	<i>E. coli</i>	WB, DB, IE, DE, CLIA, LF	For Caw milk (<i>Bos domesticus</i>). Casein, oka. Bos d 11
β-lactoglobulin	RAL0032	<i>P. pastoris</i>	WB, DB, IE, DE, CLIA, LF	For Caw milk (<i>Bos domesticus</i>). Beta-lactoglobulin, oka. Bos d 5
α-lactalbumin	RAL0031	<i>E. coli</i>	WB, DB, IE, DE, CLIA, LF	For Caw milk (<i>Bos domesticus</i>). Alpha-lactalbumin, oka. Bos d 4
αS2-casein	RAL0028	<i>E. coli</i>	WB, DB, IE, DE, CLIA, LF	For Caw milk (<i>Bos domesticus</i>). Casein, oka. Bos d 10

PEANUT, GROUNDNUT

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
Ara h 9	RAL0049	<i>P. pastoris</i>	WB, DB, IE, DE, CLIA, LF	For peanut, groundnut (<i>Arachis hypogaea</i>). Nonspecific lipid-transfer protein type 1
Ara h 2	RAL0040	<i>P. pastoris</i>	WB, DB, IE, DE, CLIA, LF	For peanut, groundnut (<i>Arachis hypogaea</i>). Conglutin (2S albumin)

ROSACEOUS

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
Mal d 3	RAL0039	<i>E. coli</i>	WB, DB, IE, DE, CLIA, LF	For Apple (<i>Malus domestica</i>). Non-specific lipid transfer protein type 1 (nsLTP1)



MOLD

ALTERNARIA PLANT ROT FUNGUS (*Alternaria alternata*)

NAME	CAT NUMBER	SOURCE	APPLICATION	DESCRIPTION
Alt a 1	RAL0025	<i>P. pastoris</i>	WB, DB, IE, DE, CLIA, LF	Unknown

WB: Western Blot

DB: Dot Blot

IE: Indirect ELISA

DE: positive control in direct ELISA

CLIA: Chemiluminescent Immunoassay

LF: Lateral Flow

CE: Capture ELISA

DAS: Double antigen sandwich

NP: nanoparticles binding

PO: plate orientation

Pack size: 0.1 mg*; 1 mg; bulk

Format: liquid; lyophilised

*under availability



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