The London Allergy & Immunology Centre

info@ukallergy.com

PATIENT CODE
Test

PATIENT NAME
Test

SAMPLE CODE
Test

QR-CODE
Test

ALLERGENS
300

TEST METHOD
ALEX³

DATE OF BIRTH
Test

DOCTOR INFORMATION

ANALYSIS DATE
27/01/2026

PRINT DATE
27/01/2026

ADDITIONAL INFORMATION

Total IgE result: 2104 kU/L

Reference range total IgE
Adults < 100 kU/L

LAB REPORT

Summary of detectable sensitisations

POLLEN
Grass Pollen
Tree Pollen
Weed Pollen

MITES
House Dust Mites & Storage Mites

DANDER & EPITHELIA
Farm Animals
Pets

MICROORGANISMS
Fungal Spores & Yeast

INSECTS
Cockroach

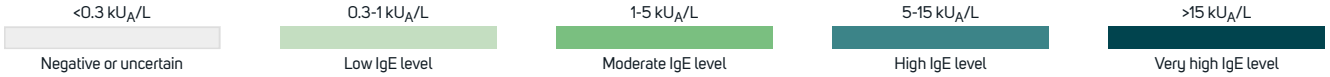
VENOMS
Ant, Bee, Wasp, Hornet

PLANT-BASED FOOD
Fruits
Grains
Legumes
Nuts & Seeds
Spices
Vegetables

ANIMAL-BASED FOOD
Egg
Fish & Seafood
Meat
Milk

OTHERS
CCD
Ficus
Latex
Parasite
Red meat

Measured IgE concentration ranges per allergen group



Summary of all results - be aware that components are not added to the respective extracts (i.e. extracts are not spiked)!

Pollen

Grass Pollen

Name	E/M	Allergen	Allergen family	kU_A/L
Timothy grass	⊙	Phl p 1	β-Expansin	25.40
	⊙	Phl p 12	Profilin	12.71
Maize pollen	⊙	Zea m 1	β-Expansin	9.11
Bermuda grass	⊙	Cyn d 1	β-Expansin	4.80
Rye pollen	⁘	Sec c_pollen		0.75
Bahia grass	⁘	Pas n		0.49
Timothy grass	⊙	Phl p 2	Expansin	Negative
	⊙	Phl p 5.0101	Grass Group 5/6	Negative
	⊙	Phl p 6	Grass Group 5/6	Negative
	⊙	Phl p 7	Polcalcin	Negative
Common reed	⁘	Phr c		Negative

Tree Pollen

Name	E/M	Allergen	Allergen family	kU_A/L
Oak	⊙	Que a 1	PR-10	36.41
Olive	⊙	Ole e 1	Ole e 1 Family	33.34
Silver birch	⊙	Bet v 1	PR-10	31.92
Alder	⊙	Aln g 1	PR-10	30.09
London plane tree	⊙	Pla a 3	nsLTP	9.74
Walnut	⁘	Jug r_pollen		5.03
Ash	⊙	Fra e 1	Ole e 1 Family	4.98
Olive	⊙	Ole e 7	nsLTP	0.25
Sugi	⊙	Cry j 1	Pectate Lyase	0.14
Acacia	⁘	Aca m		Negative
Tree of heaven	⁘	Ail a		Negative
Alder	⊙	Aln g 4	Polcalcin	Negative
Silver birch	⊙	Bet v 6	Isoflavon Reductase	Negative
	⊙	Bet v 7	Cyclophilin	Negative
Paper mulberry	⁘	Bro pa		Negative
Arizona cypress	⊙	Cup a 1	Pectate Lyase	Negative
Cypress	⁘	Cup s		Negative
Mountain cedar	⁘	Jun a		Negative
Olive	⊙	Ole e 9	β-1,3-Glucanase	Negative
London plane tree	⊙	Pla a 1	Plant Invertase	Negative
	⊙	Pla a 2	Polygalacturonase	Negative

Weed Pollen

Name	E/M	Allergen	Allergen family	kU_A/L
Wall pellitory	⦿	Par j 2	nsLTP	17.51
Hemp	⦿	Can s 3	nsLTP	6.52
Mugwort	⦿	Art v 3	nsLTP	5.60
Hemp	⁘	Can s		0.92
Ragweed	⁘	Amb a		0.28
Wall pellitory	⁘	Par j		0.21
Russian thistle	⁘	Sal k		0.17
Pigweed	⁘	Ama r		Negative
Ragweed	⦿	Amb a 1	Pectate Lyase	Negative
	⦿	Amb a 4	Plant Defensin	Negative
Mugwort	⁘	Art v		Negative
	⦿	Art v 1	Plant Defensin	Negative
Lamb's quarter	⁘	Che a		Negative
	⦿	Che a 1	Ole e 1 Family	Negative
Ribwort	⦿	Pla l 1	Ole e 1 Family	Negative
Russian thistle	⦿	Sal k 1	Pectin Methylesterase	Negative
	⦿	Sal k 5	Ole e 1 Family	Negative

Mites

House Dust Mites & Storage Mites

Name	E/M	Allergen	Allergen family	kU_A/L
European house dust mite	⦿	Der p 2	NPC2 Family	42.89
American house dust mite	⦿	Der f 2	NPC2 Family	41.62
European house dust mite	⦿	Der p 1	Cysteine Protease	35.61
	⦿	Der p 23	Peritrophin-like Protein Domain	32.97
	⦿	Der p 5	Mite Group 5/21	25.16
	⦿	Der p 21	Mite Group 5/21	6.33
American house dust mite	⦿	Der f 15	Chitinase	3.59
	⦿	Der f 1	Cysteine Protease	0.41
Blomia tropicalis	⦿	Blo t 5	Mite Group 5/21	0.31
Glycyphagus domesticus	⦿	Gly d 2	NPC2 Family	0.12
Acarus siro	⁘	Aca s		0.10
Blomia tropicalis	⦿	Blo t 2	NPC2 Family	Negative
	⦿	Blo t 10	Tropomyosin	Negative
	⦿	Blo t 21	Mite Group 5/21	Negative
American house dust mite	⦿	Der f 18	Chitinase-like Protein	Negative
European house dust mite	⦿	Der p 7	Mite Group 7	Negative
	⦿	Der p 10	Tropomyosin	Negative
	⦿	Der p 20	Arginine Kinase	Negative

Name	E/M	Allergen	Allergen family	kU_A/L	
Lepidoglyphus destructor	⦿	Lep d 2	NPC2 Family		Negative
Tyrophagus putrescentiae	⁘	Tyr p			Negative
	⦿	Tyr p 2	NPC2 Family		Negative
	⦿	Tyr p 10	Tropomyosin		Negative

Dander & Epithelia

Farm Animals

Name	E/M	Allergen	Allergen family	kU_A/L	
Horse	⦿	Equ c 1	Lipocalin		10.96
Cattle	⦿	Bos d 2	Lipocalin		Negative
Goat	⁘	Cap h_epithelia			Negative
Horse	⦿	Equ c 3	Serum Albumin		Negative
	⦿	Equ c 4	Latherin		Negative
Pig	⁘	Sus d_epithelia			Negative

Pets

Name	E/M	Allergen	Allergen family	kU_A/L	
Cat	⦿	Fel d 1	Uteroglobin		44.18
Dog	⦿	Can f 1	Lipocalin		42.76
	⦿	Can f 6	Lipocalin		41.07
	⦿	Can f 2	Lipocalin		40.83
	⦿	Can f 4	Lipocalin		40.08
	⦿	Can f Fel d 1 like	Uteroglobin		30.34
Cat	⦿	Fel d 7	Lipocalin		27.62
	⦿	Fel d 4	Lipocalin		6.72
Dog urine (incl. Can f 5)	⁘	Can f_male urine			6.27
Rabbit	⦿	Ory c 3	Uteroglobin		4.09
	⦿	Ory c 1	Lipocalin		1.36
Mouse	⦿	Mus m 1	Lipocalin		0.77
Dog	⦿	Can f 3	Serum Albumin		Negative
Guinea pig	⦿	Cav p 1	Lipocalin		Negative
Cat	⦿	Fel d 2	Serum Albumin		Negative
Golden hamster	⦿	Mes a 1	Lipocalin		Negative
Rabbit	⦿	Ory c 2	Lipocalin		Negative
Djungarian hamster	⦿	Phod s 1	Lipocalin		Negative
Rat	⦿	Rat n 1	Lipocalin		Negative

Microorganisms

Fungal Spores & Yeast

Name	E/M	Allergen	Allergen family	kU_A/L	
Malassezia sympodialis	⦿	Mala s 13	Thioredoxin		38.55
Alternaria alternata	⦿	Alt a 1	Alt a 1 Family		15.72
Aspergillus fumigatus	⦿	Asp f 8	Ribosomal Protein P2		5.37
Penicilium chrysogenum	⁘	Pen ch			0.16
Alternaria alternata	⦿	Alt a 6	Enolase		Negative
Aspergillus fumigatus	⦿	Asp f 1	Mitogillin Family		Negative
	⦿	Asp f 3	Peroxysomal Protein		Negative
	⦿	Asp f 4	Unknown		Negative
	⦿	Asp f 6	Mn Superoxide Dismutase		Negative
Cladosporium herbarum	⁘	Cla h			Negative
	⦿	Cla h 8	Mannitol Dehydrogenase		Negative
Malassezia sympodialis	⦿	Mala s 5	Unknown		Negative
	⦿	Mala s 6	Cyclophilin		Negative
	⦿	Mala s 11	Mn Superoxide Dismutase		Negative

Insects

Cockroach

Name	E/M	Allergen	Allergen family	kU_A/L	
German cockroach	⦿	Bla g 1	Nitrile Specifier		Negative
	⦿	Bla g 2	Aspartic Protease		Negative
	⦿	Bla g 4	Lipocalin		Negative
	⦿	Bla g 5	Glutathione S-Transferase		Negative
	⦿	Bla g 9	Arginine Kinase		Negative
American cockroach	⁘	Per a			Negative
	⦿	Per a 6	Troponin C		Negative
	⦿	Per a 7	Tropomyosin		Negative

Venoms

Ant, Bee, Wasp, Hornet

Name	E/M	Allergen	Allergen family	kU_A/L	
Honey bee	⁘	Api m			Negative
	⦿	Api m 1	Phospholipase A2		Negative
	⦿	Api m 2	Hyaluronidase		Negative
	⦿	Api m 10	Icarapin Variant 2		Negative
Bald-faced Hornet	⦿	Dol m 2	Hyaluronidase		Negative
	⦿	Dol m 5	Antigen 5		Negative
Paper wasp	⁘	Pol d			Negative
	⦿	Pol d 5	Antigen 5		Negative
Fire ant	⁘	Sol spp			Negative
Common wasp	⦿	Ves v 1	Phospholipase A1		Negative

Name	E/M	Allergen	Allergen family	kU_A/L	
	⦿	Ves v 5	Antigen 5		Negative

Plant-Based Food

Fruits

Name	E/M	Allergen	Allergen family	kU_A/L	
Muskmelon	⦿	Cuc m 2	Profilin		25.59
Strawberry	⦿	Fra a 3	nsLTP		20.72
Peach	⦿	Pru p 3	nsLTP		15.75
Kiwi	⦿	Act d 2	Thaumatin-like Protein		14.93
Apple	⦿	Mal d 1	PR-10		9.96
Kiwi	⦿	Act d 10	nsLTP		9.58
Cherry	⦿	Pru av 3	nsLTP		5.39
Grape	⦿	Vit v 1	nsLTP		5.23
Apple	⦿	Mal d 3	nsLTP		4.35
Kiwi	⦿	Act d 1	Cysteine Protease		2.86
Pear	⁘	Pyr c			1.53
Fig	⁘	Fic c			0.15
Kiwi	⦿	Act d 5	Kiwellin		Negative
Papaya	⁘	Car p			Negative
Coconut	⦿	Coc n 1	7/8S Globulin		Negative
Mango	⦿	Man i 1	Class 4 Chitinase		Negative
Banana	⦿	Mus a 2	Class 1 Chitinase		Negative
	⦿	Mus a 5	β-1,3-Glucanase		Negative
Avocado	⁘	Pers a			Negative
	⦿	Pers a 1	Class 1 Chitinase		Negative
Peach	⦿	Pru p 7	Gibberellin-regulated Protein		Negative

Grains

Name	E/M	Allergen	Allergen family	kU_A/L	
Buckwheat	⦿	Fag e 2	2S Albumin		18.13
Maize	⦿	Zea m 14	nsLTP		16.88
Lupine seed	⁘	Lup a			8.01
Wheat	⦿	Tri a 14	nsLTP		2.72
Millet	⁘	Pan m			1.60
Buckwheat	⁘	Fag e			1.09
Barley	⁘	Hor v			0.69
Oat	⁘	Ave s			0.17
Maize	⁘	Zea m			0.11
Quinoa	⁘	Che q			0.10
Cultivated rye	⁘	Sec c_flour			Negative
Wheat	⦿	Tri a aA_TI	α-Amylase Trypsin-Inhibitor		Negative

Name	E/M	Allergen	Allergen family	kU$_A$/L
	⊙	Tri a 19	Ω-5-Gliadin	Negative
	⊙	Tri a 36	Low Molecular Weight Glutenin	Negative
	⊙	Tri a 37	α-Purothionin	Negative
Spelt	⁘	Tri s		Negative

Legumes

Name	E/M	Allergen	Allergen family	kU$_A$/L
Peanut	⊙	Ara h 2	2S Albumin	44.29
	⊙	Ara h 1	7/8S Globulin	42.13
	⊙	Ara h 6	2S Albumin	37.87
	⊙	Ara h 3	11S Globulin	31.28
	⊙	Ara h 9	nsLTP	23.84
Soy	⊙	Gly m 4	PR-10	19.51
Lentil	⊙	Len c 3	nsLTP	16.39
Pea	⊙	Pis s 3	nsLTP	10.44
Peanut	⊙	Ara h 8	PR-10	7.69
Chickpea	⁘	Cic a		0.38
Soy	⊙	Gly m 8	2S Albumin	0.38
	⊙	Gly m 6	11S Globulin	0.19
	⊙	Gly m 5	7/8S Globulin	0.14
Peanut	⊙	Ara h 15	Oleosin	Negative
	⊙	Ara h 18	Cyclophilin	Negative
Lentil	⊙	Len c 1	7/8S Globulin	Negative
Pine nut	⁘	Pin p		Negative
	⊙	Pin p 1	2S Albumin	Negative
Pea	⊙	Pis s 1	7/8S Globulin	Negative
	⊙	Pis s 2	7/8S Globulin	Negative

Nuts & Seeds

Name	E/M	Allergen	Allergen family	kU$_A$/L
Hazelnut	⊙	Cor a 1.0401	PR-10	37.47
	⊙	Cor a 8	nsLTP	24.60
Pecan	⊙	Car i 2 (256-386)	7/8S Globulin	2.74
Walnut	⊙	Jug r 2	7/8S Globulin	2.73
Poppy seed	⊙	Pap s 1.0101 (27-846)	α-Hairpinin	2.20
Sesame	⊙	Ses i 1	2S Albumin	0.53
Pecan	⁘	Car i		0.39
Macadamia	⊙	Mac i 1.0101 (28-76)	α-Hairpinin	0.19
Pumpkin seed	⁘	Cuc p		0.18
Sunflower seed	⁘	Hel a		0.17
Sesame	⁘	Ses i		0.10

Name	E/M	Allergen	Allergen family	kU_A/L
Cashew	⦿	Ana o 1	7/8S Globulin	Negative
	⦿	Ana o 2	11S Globulin	Negative
	⦿	Ana o 3	2S Albumin	Negative
Brazil nut	⁘	Ber e		Negative
	⦿	Ber e 1	2S Albumin	Negative
Pecan	⦿	Car i 1	2S Albumin	Negative
	⦿	Car i 4	11S Globulin	Negative
Hazelnut	⦿	Cor a 9	11S Globulin	Negative
	⦿	Cor a 11	7/8S Globulin	Negative
	⦿	Cor a 14	2S Albumin	Negative
Sunflower seed	⦿	Hel a 3	nsLTP	Negative
Walnut	⦿	Jug r 1	2S Albumin	Negative
	⦿	Jug r 3	nsLTP	Negative
	⦿	Jug r 4	11S Globulin	Negative
	⦿	Jug r 6	7/8S Globulin	Negative
Macadamia	⁘	Mac i		Negative
Poppy seed	⁘	Pap s		Negative
Pistachio	⦿	Pis v 1	2S Albumin	Negative
	⦿	Pis v 2	11S Globulin	Negative
	⦿	Pis v 3	7/8S Globulin	Negative
Almond	⁘	Pru du		Negative
	⦿	Pru du 6	11S Globulin	Negative

Spices

Name	E/M	Allergen	Allergen family	kU_A/L
Mustard	⁘	Sin a		1.33
	⦿	Sin a 1	2S Albumin	1.23

Vegetables

Name	E/M	Allergen	Allergen family	kU_A/L
Celery	⦿	Api g 2	nsLTP	17.03
	⦿	Api g 6	nsLTP	10.44
Tomato	⦿	Sola l 6	nsLTP	7.37
Celery	⦿	Api g 1	PR-10	1.60
Tomato	⁘	Sola l		0.79
Potato	⁘	Sol t		0.27
Onion	⁘	All c		Negative
Garlic	⁘	All s		Negative
Celery	⦿	Api g 7	Plant Defensin	Negative

Animal-Based Food

Egg

Name	E/M	Allergen	Allergen family	kU_A/L
Egg white	⦿	Gal d 2	Ovalbumin	0.73
	⁘	Gal d_white		0.42
	⦿	Gal d 1	Ovomucoid	0.34
Egg yolk	⁘	Gal d_yolk		0.10
Egg white	⦿	Gal d 3	Ovotransferrin	Negative
	⦿	Gal d 4	Lysozyme C	Negative
Egg yolk	⦿	Gal d 5	Serum Albumin	Negative

Fish & Seafood

Name	E/M	Allergen	Allergen family	kU_A/L
Anisakis simplex	⦿	Ani s 1	Kunitz Serine Protease Inhibitor	Negative
	⦿	Ani s 3	Tropomyosin	Negative
Crab	⁘	Chi spp		Negative
Herring	⁘	Clu h		Negative
	⦿	Clu h 1	β-Parvalbumin	Negative
Brown shrimp	⦿	Cra c 6	Troponin C	Negative
Carp	⦿	Cyp c 1	β-Parvalbumin	Negative
	⦿	Cyp c 2	Enolase	Negative
Atlantic cod	⦿	Gad m 1	β-Parvalbumin	Negative
Lobster	⁘	Hom g		Negative
Shrimp	⁘	Lit spp		Negative
Whiteleg shrimp	⦿	Lit v 7	Hemocyanin	Negative
Squid	⁘	Lol spp		Negative
Giant freshwater prawn	⦿	Mac r 1	Tropomyosin	Negative
	⦿	Mac r 2	Arginine Kinase	Negative
Northern prawn	⁘	Pan b		Negative
Black tiger shrimp	⦿	Pen m 1	Tropomyosin	Negative
	⦿	Pen m 2	Arginine Kinase	Negative
	⦿	Pen m 3	Myosin Light Chain	Negative
	⦿	Pen m 4	Sarcoplasmic Calcium-binding Protein	Negative
Thornback ray	⁘	Raj c		Negative
	⦿	Raj c Parvalbumin	α-Parvalbumin	Negative
Venus clam	⁘	Rud spp		Negative
Salmon	⁘	Sal s		Negative
	⦿	Sal s 1	β-Parvalbumin	Negative
	⦿	Sal s 6	Collagen	Negative
Atlantic mackerel	⁘	Sco s		Negative
	⦿	Sco s 1	β-Parvalbumin	Negative
Tuna	⦿	Thu a 1	β-Parvalbumin	Negative
Swordfish	⦿	Xip g 1	β-Parvalbumin	Negative

Meat

Name	E/M	Allergen	Allergen family	kU$_A$/L
House cricket	⁘	Ach d		Negative
Beef	⁘	Bos d_meat		Negative
	⊙	Bos d 6	Serum Albumin	Negative
Horse	⁘	Equ c_meat		Negative
Chicken	⁘	Gal d_meat		Negative
	⊙	Gal d 7	Myosin Light Chain	Negative
Migratory locust	⁘	Loc m		Negative
Turkey	⁘	Mel g		Negative
Rabbit	⁘	Ory c_meat		Negative
Lamb	⁘	Ovi a_meat		Negative
Pork	⊙	Sus d 1	Serum Albumin	Negative
Mealworm	⁘	Ten m		Negative

Milk

Name	E/M	Allergen	Allergen family	kU$_A$/L
Cow's milk	⊙	Bos d 9	α-S1 Casein	6.27
	⊙	Bos d 8	Casein	1.91
	⁘	Bos d_milk		0.39
Goat's milk	⁘	Cap h_milk		0.11
Cow's milk	⊙	Bos d 4	α-Lactalbumin	Negative
	⊙	Bos d 5	β-Lactoglobulin	Negative
	⊙	Bos d 10	α-S2 Casein	Negative
	⊙	Bos d 11	β-Casein	Negative
	⊙	Bos d 12	κ-Casein	Negative
Camel's milk	⁘	Cam d		Negative
Mare's milk	⁘	Equ c_milk		Negative
Sheep's milk	⁘	Ovi a_milk		Negative

Others

CCD

Name	E/M	Allergen	Allergen family	kU$_A$/L
Hom s Lactoferrin	⊙	Hom s LF	CCD	0.43

Ficus

Name	E/M	Allergen	Allergen family	kU$_A$/L
Weeping fig	⁘	Fic b		Negative

Latex

Name	E/M	Allergen	Allergen family	kU_A/L	
Latex	⊙	Hev b 1	Rubber Elongation Factor		Negative
	⊙	Hev b 3	Small Rubber Particle Protein		Negative
	⊙	Hev b 5	Unknown		Negative
	⊙	Hev b 6.02	Pro-Hevein		Negative
	⊙	Hev b 11	Class 1 Chitinase		Negative

Parasite

Name	E/M	Allergen	Allergen family	kU_A/L	
Pigeon tick	⊙	Arg r 1	Lipocalin		Negative

Red meat

Name	E/M	Allergen	Allergen family	kU_A/L	
Red meat	⊙	Alpha-GAL	α-Gal		Negative

Information to cross-reactive allergens

PR-10

Name	E/M	Allergen	Allergen family	kU_A/L	
Hazelnut	⊙	Cor a 1.0401	PR-10		37.47
Oak	⊙	Que a 1	PR-10		36.41
Silver birch	⊙	Bet v 1	PR-10		31.92
Alder	⊙	Aln g 1	PR-10		30.09
Soy	⊙	Gly m 4	PR-10		19.51
Apple	⊙	Mal d 1	PR-10		9.96
Peanut	⊙	Ara h 8	PR-10		7.69
Celery	⊙	Api g 1	PR-10		1.60

nsLTP

Name	E/M	Allergen	Allergen family	kU_A/L	
Hazelnut	⊙	Cor a 8	nsLTP		24.60
Peanut	⊙	Ara h 9	nsLTP		23.84
Strawberry	⊙	Fra a 3	nsLTP		20.72
Wall pellitory	⊙	Par j 2	nsLTP		17.51
Celery	⊙	Api g 2	nsLTP		17.03
Maize	⊙	Zea m 14	nsLTP		16.88
Lentil	⊙	Len c 3	nsLTP		16.39
Peach	⊙	Pru p 3	nsLTP		15.75
Celery	⊙	Api g 6	nsLTP		10.44
Pea	⊙	Pis s 3	nsLTP		10.44
London plane tree	⊙	Pla a 3	nsLTP		9.74
Kiwi	⊙	Act d 10	nsLTP		9.58

Name	E/M	Allergen	Allergen family	kU$_A$/L
Tomato	⊙	Sola l 6	nsLTP	7.37
Hemp	⊙	Can s 3	nsLTP	6.52
Mugwort	⊙	Art v 3	nsLTP	5.60
Cherry	⊙	Pru av 3	nsLTP	5.39
Grape	⊙	Vit v 1	nsLTP	5.23
Apple	⊙	Mal d 3	nsLTP	4.35
Wheat	⊙	Tri a 14	nsLTP	2.72

Storage Proteins

Name	E/M	Allergen	Allergen family	kU$_A$/L
Peanut	⊙	Ara h 2	2S Albumin	44.29
	⊙	Ara h 1	7/8S Globulin	42.13
	⊙	Ara h 6	2S Albumin	37.87
	⊙	Ara h 3	11S Globulin	31.28
Buckwheat	⊙	Fag e 2	2S Albumin	18.13
Pecan	⊙	Car i 2 (256-386)	7/8S Globulin	2.74
Walnut	⊙	Jug r 2	7/8S Globulin	2.73
Poppy seed	⊙	Pap s 1.0101 (27-846)	α-Hairpinin	2.20
Mustard	⊙	Sin a 1	2S Albumin	1.23
Sesame	⊙	Ses i 1	2S Albumin	0.53
Soy	⊙	Gly m 8	2S Albumin	0.38

Lipocalin

Name	E/M	Allergen	Allergen family	kU$_A$/L
Dog	⊙	Can f 1	Lipocalin	42.76
	⊙	Can f 6	Lipocalin	41.07
	⊙	Can f 2	Lipocalin	40.83
	⊙	Can f 4	Lipocalin	40.08
Cat	⊙	Fel d 7	Lipocalin	27.62
Horse	⊙	Equ c 1	Lipocalin	10.96
Cat	⊙	Fel d 4	Lipocalin	6.72
Rabbit	⊙	Ory c 1	Lipocalin	1.36
Mouse	⊙	Mus m 1	Lipocalin	0.77

Profilin

Name	E/M	Allergen	Allergen family	kU$_A$/L
Muskmelon	⊙	Cuc m 2	Profilin	25.59
Timothy grass	⊙	Phl p 12	Profilin	12.71

CCD-Impacted Results

Name	E/M	Allergen	Allergen family	kU$_A$/L
Peanut	⦿	Ara h 1	7/8S Globulin	42.13
	⦿	Ara h 3	11S Globulin	31.28
Buckwheat	⦿	Fag e 2	2S Albumin	18.13
Maize pollen	⦿	Zea m 1	β-Expansin	9.11
Lupine seed	⁘	Lup a		8.01
Walnut	⁘	Jug r_pollen		5.03
Kiwi	⦿	Act d 1	Cysteine Protease	2.86
Pecan	⦿	Car i 2 (256-386)	7/8S Globulin	2.74
Poppy seed	⦿	Pap s 1.0101 (27-846)	α-Hairpinin	2.20
Millet	⁘	Pan m		1.60
Pear	⁘	Pyr c		1.53
Mustard	⁘	Sin a		1.33
Buckwheat	⁘	Fag e		1.09
Hemp	⁘	Can s		0.92
Tomato	⁘	Sola l		0.79
Rye pollen	⁘	Sec c_pollen		0.75
Barley	⁘	Hor v		0.69
Bahia grass	⁘	Pas n		0.49
Hom s Lactoferrin	⦿	Hom s LF	CCD	0.43
Pecan	⁘	Car i		0.39
Chickpea	⁘	Cic a		0.38

NPC2

Name	E/M	Allergen	Allergen family	kU$_A$/L
European house dust mite	⦿	Der p 2	NPC2 Family	42.89
American house dust mite	⦿	Der f 2	NPC2 Family	41.62

Ole e 1

Name	E/M	Allergen	Allergen family	kU$_A$/L
Olive	⦿	Ole e 1	Ole e 1 Family	33.34
Ash	⦿	Fra e 1	Ole e 1 Family	4.98

Uteroglobin

Name	E/M	Allergen	Allergen family	kU$_A$/L
Cat	⦿	Fel d 1	Uteroglobin	44.18
Dog	⦿	Can f Fel d 1 like	Uteroglobin	30.34
Rabbit	⦿	Ory c 3	Uteroglobin	4.09

β-Expansin

Name	E/M	Allergen	Allergen family	kU_A/L	
Timothy grass	⦿	Phl p 1	β-Expansin		25.40
Maize pollen	⦿	Zea m 1	β-Expansin		9.11
Bermuda grass	⦿	Cyn d 1	β-Expansin		4.80

Raven Interpretation Summary

SAMPLE INFORMATION

The sample was tested on QR code 03EAP337, interpretation date 27/01/2026.

Of the tested 299 allergens, 91 were/was above the cut off of 0.3 kU_A/L. A sensitisation can be an indicator of an IgE dependent allergy. For all positive ALEX allergens, comments for interpretation guidance are listed below.

TOTAL IGE: 2104 KU/L

The measured total IgE was 2104 kU/L. A high total IgE titre indicates that allergy is likely.

CROSS-REACTIVE CARBOHYDRATE DETERMINANTS (CCD MARKER HOM S LF): 0.43 KUA/L

The CCD marker (Hom s LF) was positive, which indicates a significant level of CCD specific IgE antibodies in the serum sample. Positive results against extracts and glycosylated allergen molecules need to be investigated carefully. CCDs are part of many allergens from plants, as well as insect venoms, latex and molluscs. Due to the conserved structure of CCDs, cross-reactions between unrelated allergen sources are quite common. A clinical relevance of CCD antibodies has not been described yet.

CROSS-REACTIVE ALLERGEN SENSITISATION DETECTED

Sensitisations against molecular allergens which are markers of (broad) cross-reactivity between different allergen sources were detected.

Detected cross-reactive allergen sensitisations:

- PR-10s: Aln g 1, Api g 1, Ara h 8, Bet v 1, Cor a 1.0401, Gly m 4, Mal d 1
- nsLTPs: Act d 10, Api g 2, Api g 6, Ara h 9, Art v 3, Can s 3, Cor a 8, Mal d 3, Par j 2, Pla a 3, Pru p 3, Sola l 6, Tri a 14, Vit v 1, Zea m 14
- Profilins: Cuc m 2, Phl p 12
- Cysteine Proteases: Act d 1, Der f 1, Der p 1
- Storage Proteins: Ara h 1, Ara h 2, Ara h 3, Ara h 6, Fag e 2, Gly m 8, Jug r 2, Ses i 1, Sin a 1
- Lipocalins: Can f 1, Can f 2, Can f 4, Can f 6, Equ c 1, Fel d 4, Fel d 7, Mus m 1, Ory c 1

PR-10 Proteins

PR-10 inhalative: The major birch pollen allergen, Bet v 1, represents the prototype of all PR-10 allergens and is the primary sensitiser in regions with birch-pollen exposure. The presence of PR-10 allergens in birch related tree pollen explains possible IgE cross-reactivity between pollen from hazel, alder, beech, oak and hornbeam. PR-10 nutritive: PR-10 allergens in fresh fruits, nuts, vegetables and legumes can induce oral allergy syndrome and sometimes even severe allergic reactions in sensitised individuals. PR-10 allergens are not stable to heat and digestion.

Non-specific Lipid Transfer Proteins (nsLTP)

Members of the nsLTP allergen family can cause inhalative symptoms (nsLTP in pollen), as well as mild to severe forms of food allergy. nsLTP allergens can be found in tree-and weed pollen, and in many plant foods as well as in latex. Inhalative symptoms manifest themselves as allergic rhinoconjunctivitis and/or allergic asthma. nsLTP food allergens can trigger both mild and severe reactions. nsLTPs are stable to heat and digestion.

Profilins

Members of the Profilin allergen family can cause inhalative symptoms, as well as mild forms of food allergy. Profilins are present in all plant based allergen sources. Inhalative symptoms - if they occur at all - are usually mild. Profilin food allergy is usually mild and restricted to oral allergy syndrome. Profilins from foods are not resistant to heat and digestion.

Cysteine Proteases

Members of the CP allergen family can cause inhalative symptoms, as well as mild to severe forms of food allergy. CP allergens can be found in several fruits, mites and in ragweed pollen. Inhalative symptoms manifest as allergic rhinoconjunctivitis and/or allergic asthma. CP food allergens can cause severe reactions. Fruit CP allergens are resistant to heat and digestion.

Storage Proteins

Members of the storage protein allergen families are able to induce mild and strong allergic reactions and even anaphylactic shock. Allergens of these families can be found in legumes, nuts and seeds. Storage proteins are resistant to heat and digestion. Storage protein allergen families include 2S Albumins, 7/8S & 11S Globulins.

Lipocalins

Nearly all members of the Lipocalin allergen family can cause inhalative symptoms like allergic rhinoconjunctivitis and allergic asthma. Lipocalin from pigeon tick is associated with idiopathic nocturnal anaphylaxis. The degree of cross-reactivity varies wildly between members of this family. Some members of the Lipocalin family serve as markers for AIT indication.

TREE POLLEN

Birch Family

Sensitisation to pollen from the birch family was detected. Allergic symptoms associated with this allergen source range from allergic rhinoconjunctivitis to allergic asthma.

Aln g 1 is a member of the PR-10 allergen family and is associated with inhalative symptoms and mostly mild forms of food allergy (e.g. oral allergy syndrome). The degree of cross-reactivity between Aln g 1 and pollen- as well as food-allergens from the PR-10 allergen family is high. The importance of these cross-reactions has to be analysed on a clinical level. Aln g 1 serves as a marker for AIT indication, if corresponding clinical symptoms are present.

Bet v 1 is the major allergen in birch pollen and a member of the PR-10 allergen family. It is associated with inhalative symptoms and mostly mild forms of food allergy (e.g. oral allergy syndrome). The degree of cross-reactivity between Bet v 1 and pollen- as well as food-allergens from the PR-10 allergen family is high. The importance of these cross-reactions has to be analysed on a clinical level. Bet v 1 serves as a marker for AIT indication, if corresponding clinical symptoms are present.

Que a 1 is a member of the PR-10 allergen family and is associated with inhalative symptoms and mostly mild forms of food allergy (e.g. oral allergy syndrome). The degree of cross-reactivity between Que a 1 and pollen- as well as food-allergens from the PR-10 allergen family is high. The importance of these cross-reactions has to be analysed on a clinical level. Que a 1 serves as a marker for AIT indication, if corresponding clinical symptoms are present.

Causal treatment is possible via AIT, symptomatic treatment includes anti-histamines and local corticosteroids in various formulations (tablet, spray).

Olive family

Sensitisation to pollen from the olive family was detected. Allergic symptoms associated with this allergen source range from allergic rhinoconjunctivitis to allergic asthma.

Fra e 1 / Ole e 1 are members of the Ole e 1 allergen family. The degree of cross-reactivity is very high within the Oleaceae family (e.g between ash, olive, lilac, privet), not so with more distant relatives (e.g. English Plantain). Fra e 1/Ole e 1 are major allergens from Ash/Olive and serve as markers for AIT indication, if corresponding clinical symptoms are present.

Causal treatment is possible via AIT - Fra e 1/Ole e 1 serve as markers for AIT indication, if corresponding clinical symptoms are present. Symptomatic treatment includes anti-histamines and corticosteroids in various formulations (tablet, spray).

London Plane Tree

Sensitisation to London Plane tree pollen was detected. Allergic symptoms associated with this allergen source range from allergic rhinoconjunctivitis to allergic asthma.

Pla a 3 is a member of the nsLTP allergen family. The degree of cross-reactivity to most other members of this family can be considered high. Pla a 3 reactivity is frequently associated with nsLTP sensitisation in Mediterranean patients. AIT is not indicated, when Pla a 3 is the only positive allergen from London Plane Tree pollen. Pla a 3 reactivity is frequently found positive in patients with food allergy caused by nsLTPs.

A causal treatment via AIT is a possible way to treat London Plane tree allergics. Symptomatic treatment includes anti-histamines and local corticosteroids in various formulations (tablet, spray).

Walnut Tree

Sensitisation to walnut tree pollen was detected. Allergic symptoms associated with this allergen source range from allergic rhinoconjunctivitis to allergic asthma.

A causal treatment via AIT may not be available. Symptomatic treatment includes anti-histamines and local corticosteroids in various formulations (tablet, spray).

GRASS POLLEN

Sensitisation to grass pollen was detected. Allergic symptoms associated with grass pollen range from allergic rhinoconjunctivitis to allergic asthma.

Cyn d 1, Lol p 1, Phl p 1 and Zea m 1 are members fo the β-Expansin allergen family. The degree of cross-reactivity between members of this allergen family is very high. β-Expansins serve as markers for AIT indication, if corresponding clinical symptoms are present. Positive results were obtained for: Cyn d 1, Phl p 1, Zea m 1.

Phl p 12 is a member of the Profilin allergen family and is associated with inhalative symptoms during pollen seasons of grasses, trees and weeds, and mostly mild forms of food allergy (e.g. oral allergy syndrome). The degree of cross-reactivity between Phl p 12 and other members of the Profilin allergen family is very high. The importance of these cross-reactions has to be analysed on a clinical level.

Causal treatment is possible via AIT - Phl p 1 and 5 serve as markers for AIT indication, if corresponding are present. Symptomatic treatment includes anti-histamines and local corticosteroids in various formulations (tablet, spray).

WEED POLLEN

Hemp (CBD)
Sensitisation to pollen from hemp was detected. Allergic symptoms associated with this allergen source range from allergic rhinoconjunctivitis to allergic asthma.

Can s 3 is a member of the nsLTP allergen family. The degree of cross-reactivity to most other members of this family can be considered medium to high. Can s 3 reactivity is frequently associated with nsLTP sensitisation in Mediterranean patients. Can s 3 reactivity is frequently found positive in patients with food allergy caused by nsLTPs.

Causal treatment via AIT is not available. Symptomatic treatment includes anti-histamines, local corticosteroids in various formulations and avoidance (tablet, spray).

Mugwort
Sensitisation to pollen from mugwort was detected. Allergic symptoms associated with this allergen source range from allergic rhinoconjunctivitis to allergic asthma.

Art v 3 is a member of the nsLTP allergen family. The degree of cross-reactivity to most other members of this family can be considered medium to high. Art v 3 reactivity is frequently associated with nsLTP sensitisation in Mediterranean patients. AIT is not indicated, when Art v 3 is the only positive allergen from mugwort pollen. Art v 3 reactivity is frequently found positive in patients with food allergy caused by nsLTPs.

Causal treatment is possible via AIT - Art v 1 serves as a marker for AIT indication, if corresponding clinical symptoms are present. Symptomatic treatment includes anti-histamines and local corticosteroids in various formulations (tablet, spray).

Wall pellitory
Sensitisation to pollen from pellitory was detected. Allergic symptoms associated with this allergen source range from allergic rhinoconjunctivitis to allergic asthma.

Par j 2 is a member of the nsLTP allergen family. The degree of cross-reactivity to most other members of this family can be considered low. Par j 2 is a highly specific marker for pellitory sensitisation.

Causal treatment is possible via AIT - Par j 2 serves as a marker for AIT indication, if corresponding clinical symptoms are present. Symptomatic treatment includes anti-histamines and local corticosteroids in various formulations (tablet, spray).

FURRY ANIMALS

Cat
Sensitisation to cat was detected. Allergic symptoms associated with this allergen source range from allergic rhinoconjunctivitis to allergic asthma.

Fel d 1 is a member of the Uteroglobin (UG) allergen family and a marker for genuine cat allergy. Fel d 1 also serves as a marker for AIT indication, if corresponding clinical symptoms are present. The degree of cross-reactivity between Fel d 1 and other members of the UG allergen family is low to moderate (e.g. Can f Fel d 1 like from dog).

Fel d 4 is a member of the Lipocalin allergen family (LC). A moderate degree of crossreactivity to LC from dog (Can f 4) and horse (Equ c 1) have been described.

Fel d 7 is a member of of the Lipocalin allergen family (LC). A moderate degree of crossreactivity to LC from dog (Can f 1) has been described.

If avoidance of cats is not possible, an AIT can be prescribed. Symptomatic treatment includes anti-histamines as well as local corticosteroids in various formulations (tablet, spray). Avoidance of exposition to cats is strongly recommended.

Dog
Sensitisation to dog was detected. Allergic symptoms associated with this allergen source range from allergic rhinoconjunctivitis to allergic asthma.

Can f 1 is a member of the Lipocalin allergen family (LC). There is a moderate risk of cross-reactivity with Fel d 7, a LC from cat. Can f 1 serves as a specific marker for dog sensitisation and as a marker for AIT, if corresponding clinical symptoms are present. The highest concentrations are found in fur and saliva.

Can f 2 is a member of the Lipocalin allergen family (LC). The degree of cross-reactivity with other LCs is low. Can f 2 serves as a marker for true dog sensitisation. The highest concentration of Can f 2 is found in saliva.

Can f 4 is a member of the Lipocalin allergen family (LC). The degree of cross-reactivity to other members of the LC family is very low. A low degree of cross-reactivity has been reported with a related allergen from cattle. Can f 4 is the most abundant allergen in dog fur.

Can f 5 is a member of the Arginine Esterase allergen family. It is a major allergen in male dogs only. Female and castrated dogs do not express Can f 5 in significant amounts. Also, patients sensitised to Can f 5 may react to human seminal fluid.

Can f 6 is a member of the Lipocalin allergen family (LC). The degree of cross-reactivity to other LCs is low, except for a moderate risk to crossreact with Fel d 4 from cat and Equ c 1 from horse.

Can f Fel d 1 like is a member of the Uteroglobin like allergen family. The degree of cross-reactivity to Fel d 1 from cat is moderate.

If avoidance of dogs is not possible an AIT can be prescribed. Symptomatic treatment includes anti-histamines as well as local corticosteroids in various formulations (tablet, spray). Avoidance is strongly recommended.

Horse
Sensitisation to horse was detected. Allergic symptoms associated with this allergen source range from allergic rhinoconjunctivitis to allergic asthma.

Equ c 1 is a member of the Lipocalin allergen family (LC). There is a moderate risk of cross-reactivity to Fel d 4 (cat) and Can f 6 (dog). Equ c 1 is dispersed via saliva and dander.

If avoidance of horses is not possible an AIT can be prescribed - Equ c 1 serves a marker for AIT indication, if corresponding clinical symptoms are present. Symptomatic treatment includes anti-histamines as well as local corticosteroids in various formulations (tablet, spray). Avoidance is strongly recommended.

Mouse
Sensitisation to mouse was detected. Allergic symptoms associated with this allergen source range from allergic rhinoconjunctivitis to allergic asthma, especially when exposure is frequent (e.g. in laboratory workers).

Mus m 1 is a member of the Lipocalin allergen family. The degree of cross-reactivity to other members of this family is low (Exception: Rat n 1 from rat).

AIT for causal treatment may not be available. Symptomatic treatment includes anti-histamines as well as local corticosteroids in various formulations (tablet, spray). Avoidance is strongly recommended.

Rabbit

Sensitisation to rabbit was detected. Allergic symptoms associated with this allergen source range from allergic rhinoconjunctivitis to allergic asthma, especially when exposure is frequent (e.g. laboratory workers, rabbit breeders).

Ory c 1 is a member of the Lipocalin allergen family. The degree of cross-reactivity to other members of this allergen family is low. Ory c 1 is was found in hair, dander and saliva.

Ory c 3 is a member of the Uteroglobulin allergen family. The degree of cross-reactivity to its related allergens from other furry animals (e.g Fel d 1 from cat) is low.

AIT for causal treatment may not be available. Symptomatic treatment includes anti-histamines as well as local corticosteroids in various formulations (tablet, spray). Avoidance is strongly recommended.

MOULDS AND YEASTS

Alternaria alternata
Sensitisation to spores from Alternaria alternata was detected. Allergic symptoms associated with A. alternata range from allergic rhinoconjunctivitis to allergic asthma. A. alternata is an outdoor fungal species.

Alt a 1 is a member of the Alt a 1 allergen family and is associated with inhalative symptoms. Cross-reactions between Alt a 1 and other members of the Alt a 1 allergen family have been described. Alt a 1 serves as a marker for AIT indication, if corresponding clinical symptoms are present.

Causal treatment is possible via AIT, symptomatic treatment includes anti-histamines and local corticosteroids in various formulations (tablet, spray).

Aspergillus fumigatus
Sensitisation to spores from Aspergillus fumigatus was detected. Allergic symptoms associated with A. fumigatus range from allergic rhinoconjunctivitis to allergic asthma, and also include allergic bronchopulmonary aspergillosis (ABPA). Aspergillus fumigatus is an indoor fungal species.

Asp f 8 is a member of the Ribosomal Protein P2 family and can cause inhalative symptoms. The degree of cross-reactivity with other members of this family is high (e.g. Alt a 5 from Alternaria and Cla h 5 from Cladosporium herbarum). The importance of these cross-reactions has to be analysed on a clinical level.

Causal treatment is possible via AIT. Symptomatic treatment includes anti-histamines as well as local corticosteroids in various formulations (tablet, spray). Therapeutic options for ABPA include systemic corticosteroids and itraconazole or omalizumab. Exposition prophylaxis is also an important treatment strategy.

Malassezia sympodialis
Sensitisation to Malassezia sympodialis (MS) was detected. This is common in adult atopic dermatitis (AD) patients but rare in healthy individuals. Especially seborrheic skin sites (e.g. head, neck) are preferrable colonisation sites.

Mala s 13 is a member of the Thioredoxin allergen family. The degree of cross-reactivity with other members of this family is high for other Malassezia species and medium for many moulds (e.g different Aspergillus species).

Skin emollients are the basis of AD therapy. In case of clinically manifest skin inflammation during AD flares, anti-inflammatory treatment is necessary. AD patients may benefit from an antifungal therapy that is effective against Malassezia.

MITES AND COCKROACHES

House dust mites
Sensitisation to house dust mite was detected. Allergic symptoms associated with this allergen source range from allergic rhinoconjunctivitis to asthma.

Der p 1 & Der f 1 are members of the Cystein Protease allergen family (CP). The degree of cross-reactivity between different members of the CP family in different house dust mites is high. Both Der p 1 and Der f 1 serve as markers for AIT indication, if corresponding symptoms are present. Positive results were obtained for: Der f 1, Der p 1.

Der p 2 & Der f 2 are members of the NPC2 allergen family. The degree of cross-reactivity between different members of the NPC2 is very high in different house dust mites and less so to related allergens in storage mites. Both Der p 2 and Der 2 serve as markers for AIT indication. Positive results were obtained for: Der f 2, Der p 2.

Der f 15 is a member of the Chitinase Class III allergen family. The degree of cross-reactivity to other members of this family is high to its pendant in D. pteronyssinus, medium to its pendant in B. tropicalis and low with other mites.

Der p 5 is a member of the Mite Group 5/21 allergen family (MG 5/21). The degree of cross-reactivity to other members of the MG 5/21 allergen family is moderate (e.g. to Blo t 5).

Der p 21 is a member of the Mite Group 5/21 allergen family (MG 5/21). The degree of cross-reactivity to other members of the MG 5/21 allergen family is moderate to high between Der p 21 and Blo t 21.

Der p 23 is a member of the Peritrophin-like Protein allergen family (PLP), which is associated with the development of Asthma. The degree of cross-reactivity to other members of the PLP allergen family is not clear.

Allergen avoidance is advised. Encasings for blankets, mattresses and pillows can reduce the allergen load. Der f 1/Der p 1 and Der f 2/Der p 2 are major allergens from house dust mite and serve as markers for AIT indication, if corresponding clinical symptoms are present. Symptomatic treatment includes anti-histamines as well as local corticosteroids in various formulations (tablet, spray).

Storage Mites
Sensitisation to storage mites was detected. Allergic symptoms associated with this allergen source range from allergic rhinoconjunctivitis to allergic asthma.

Blo t 5 is a member of the Mite Group 5/21 allergen family (MG 5/21) and a marker for genuine Blomia tropicalis sensitisation. The degree of cross-reactivity to other members of the MG 5/21 allergen family is limited (e.g. to Der p 5). Blo t 5 may serve as a marker for AIT indication, if corresponding clinical symptoms are present.

Allergen avoidance is advised. Encasings for blankets, mattresses and pillows can reduce the allergen load. Blo t 5 and 21, Gly d 2, Lep d 2 and Tyr p 2 may serve as markers for AIT indication, if corresponding clinical symptoms are present. Symptomatic treatment includes anti-histamines as well as local corticosteroids in various formulations (tablet, spray).

GRAINS AND SEEDS

Barley
Sensitisation to barley was detected. Allergic symptoms associated with barley include immediate and exercise induced anaphylaxis, baker's asthma, gastrointestinal- and skin reactions. Allergy to beer can also be caused by an underlying sensitisation to barley.

Include extensive patient training on avoidance measures and the prescription of an emergency kit (including adrenalin autoinjector for severe cases).

Buckwheat
Sensitisation to buckwheat was detected. Allergic symptoms associated with buckwheat range from oral allergy syndrome to anaphylactic reactions. Especially in Asia buckwheat is a major cause for anaphylactic reactions. A high prevalence of buckwheat sensitisation was reported from Northern Italy.

Fag e 2 is a storage protein (2S Albumin) associated with clinical reactions up to anaphylaxis. The degree of cross-reactivity between storage proteins from buckwheat and storage proteins from legumes, nuts and seeds is low to moderate. The importance of these cross-reactions has to be analysed on a clinical level. Fag e 2 is stable towards heat and digestion.

Include extensive patient training on avoidance measures and the prescription of an emergency kit (including adrenalin autoinjector for severe cases).

Corn
Sensitisation to corn was detected. Allergic symptoms associated with corn range from oral allergy syndrome to anaphylactic reactions. Corn allergens can also induce baker's asthma. Many cases of corn allergy were reported from Italy due to the high consumption of polenta.

Zea m 14 is a member for the nsLTP allergen family and can cause clinical reactions from oral allergy syndrome to anaphylaxis. The degree of cross-reactivity between members of the nsLTP family is high within botanically closely related species (e.g. stone fruit). The importance of these cross-reactions has to be analysed on a clinical level. Zea m 14 is stable towards heat and digestion.

Include extensive patient training on avoidance measures and the prescription of an emergency kit (including adrenalin autoinjector for severe cases).

Millet
Sensitisation to millet was detected. Allergic symptoms associated with millet range from oral allergy syndrome to anaphylactic reactions. Millet allergy is a rare but potentially life-threatening condition, mostly resulting from primary sensitisation to airborne millet allergens in bird keepers. Potential egg allergy should always be addressed during work-up of millet-allergic subjects.

Include extensive patient training on avoidance measures and the prescription of an emergency kit (including adrenalin autoinjector for severe cases).

Poppy seed
Sensitisation to poppy seed was detected. Allergic symptoms associated with poppy seed range from oral allergy syndrome to severe anaphylactic reactions. Exercise induced reactions after the consumption of poppy seed have been described.

Pap s 1.0101 is a member of the Vicilin-like 7S Globulin allergen family and contains α-Hairpinin peptides. Pap s 1.0101 is a food allergen found in poppy seeds and can cause clinical reactions ranging from mild to severe, including anaphylaxis as well as food-dependent exercise-induced anaphylaxis. Pap s 1.0101 shares some similarities with the α-Hairpinins Pru d 8 (almond) and Mac i 1.0101 (macadamia), potentially contributing to cross-reactivity. Pap s 1.0101 is stable towards heat and digestion.

Include extensive patient training on avoidance measures and the prescription of an emergency kit (including adrenalin autoinjector for severe cases).

Sesame
Sensitisation to sesame was detected. Allergic symptoms associated with sesame allergens range from oral allergy syndrome to severe anaphylactic reactions.

Ses i 1 is a storage protein associated with clinical reactions up to anaphylaxis. The degree of cross-reactivity between storage proteins from sesame and storage proteins from legumes, nuts and seeds is low to moderate. The importance of these cross-reactions has to be analysed on a clinical level. Ses i 1 is stable towards heat and digestion.

Include extensive patient training on avoidance measures and the prescription of an emergency kit (including adrenalin autoinjector for severe cases).

Wheat
Sensitisation to wheat (flour) was detected. Allergic symptoms associated with wheat include immediate and exercise induced anaphylaxis, baker's asthma, gastrointestinal- and skin reactions.

Tri a 14 is a member for the nsLTP allergen family and can cause clinical reactions from oral allergy syndrome to anaphylaxis. The degree of cross-reactivity between members of the nsLTP allergen family is high within botanically closely related species (e.g. stone fruit) and moderate between less closely related species. The importance of these cross-reactions has to be analysed on a clinical level. Tri a 14 is stable towards heat and digestion.

Include extensive patient training on avoidance measures and the prescription of an emergency kit (including adrenalin autoinjector for severe cases).

FRUITS

Apple
Sensitisation to apple was detected. Allergic symptoms associated with apple range from oral allergy syndrome to severe anaphylactic reactions.

Mal d 1 is a member of the PR-10 allergen family and is associated with mild forms of apple allergy (e.g. oral allergy syndrome). The degree of cross-reactivity between Mal d 1 and other members of the PR-10 allergen family is high. The importance of these cross-reactions has to be analysed on a clinical level. In most cases a Mal d 1 sensitisation is caused by a primary sensitisation against Bet v 1 from birch pollen. Mal d 1 is not stable towards heat and digestion.

Mal d 3 is a member for the nsLTP allergen family and can cause clinical reactions from oral allergy syndrome to anaphylaxis. The degree of cross-reactivity between Mal d 3 and other members of the nsLTP family is high within botanically closely related species (e.g. stone fruit). The importance of these cross-reactions has to be analysed on a clinical level. Mal d 3 is stable towards heat and digestion.

As Mal d 1 is heat sensitive, baked or cooked apple can be consumed without danger for clinical reactions. In case of genuine apple allergy due to sensitisations to Mal d 2 and/or 3, avoidance is the therapeutic option of choice. Mal d 3 is primarily located in fruit skin, peeled apple is tolerated by most patients with Mal d 3 sensitisation. Include extensive patient training on avoidance measures and the prescription of an emergency kit (including adrenalin autoinjector for severe cases).

Cherry
Sensitisation to cherry was detected. Allergic symptoms associated with cherry range from oral allergy syndrome to anaphylaxis. PR-10 proteins and nsLTP are the most common causes of cherry allergy.

Pru av 3 is a member of the nsLTP allergen family and can cause clinical reactions from oral allergy syndrome to anaphylaxis. The degree of cross-reactivity between Pru av 3 and other members of the nsLTP family is high within botanically closely related species (e.g. stone fruit). The importance of these cross-reactions has to be analysed on a clinical level. Pru av 3 is stable towards heat and digestion.

Include extensive patient training on avoidance measures and the prescription of an emergency kit (including adrenalin autoinjector for severe cases).

Grape
Sensitisation to grape was detected. Allergic symptoms associated with grape range from oral allergy syndrome to anaphylaxis. Anaphylactic reactions were described after the intake of wine. Occupational grape allergy causes mainly inhalative symptoms.

Vit v 1 is a member for the nsLTP allergen family and can cause clinical reactions from oral allergy syndrome to anaphylaxis. The degree of cross-reactivity between Vit v 1 and other members of the nsLTP allergen family is high within botanically closely related species (e.g. stone fruit). The importance of these cross-reactions has to be analysed on a clinical level. Vit v 1 is stable towards heat and digestion.

Include extensive patient training on avoidance measures and the prescription of an emergency kit (including adrenalin autoinjector for severe cases).

Kiwi
Sensitisation to kiwi was detected. Allergic symptoms associated with kiwi allergy range from oral allergy syndrome to severe anaphylactic reactions.

Act d 1 is a member of the Cysteine Protease allergen family (CP). The degree of cross-reactivity to other members of the CP family is presumed low outside different kiwi cultivars. Act d 1 is stable to heat and digestion.

Act d 2 is a member of the TLP allergen family. So far, the clinical importance of TLPs has not been completely understood. The degree of cross-reactivity between Act d 2 and other members (e.g. Mal d 2 from apple) of the TLP allergen family is high. Stability studies showed that TLPs are resistant to heat and digestion.

Act d 10 is a member for the nsLTP allergen family and can cause clinical reactions from oral allergy syndrome to anaphylaxis. The degree of cross-reactivity between members of the nsLTP family is high within botanically closely related species (e.g. stone fruit). The importance of these cross-reactions has to be analysed on a clinical level. Act d 10 is stable towards heat and digestion.

Include extensive patient training on avoidance measures and the prescription of an emergency kit (including adrenalin autoinjector for severe cases).

Muskmelon
Sensitisation to muskmelon was detected. Allergic symptoms associated with muskmelon are usually mild, systemic reactions are rare.

Cuc m 2 is a member of the Profilin allergen family and is associated with mild forms of food allergy (e.g. oral allergy syndrome). The degree of cross-reactivity between Cuc m 2 and between other members of the Profilin allergen family is high. The importance of these cross-reactions has to be analysed on a clinical level.

Include extensive patient training on avoidance measures for mild reactions and the prescription of an emergency kit (including adrenalin autoinjector for severe cases).

Peach
Sensitisation to peach was detected. Allergic symptoms associated with peach range from oral allergy syndrome to severe anaphylactic reactions.

Pru p 3 is a member for the nsLTP allergen family and can cause clinical reactions from oral allergy syndrome to anaphylaxis. The degree of cross-reactivity between Pru p 3 and other members of the nsLTP allergen family is high within botanically closely related species (e.g. stone fruit). The

importance of these cross-reactions has to be analysed on a clinical level. Pru p 3 is stable towards heat and digestion.

Include extensive patient training on avoidance measures and the prescription of an emergency kit (including adrenalin autoinjector for severe cases). As Pru p 3 is primarily located in fruit skin, peeled peach is tolerated by most patients.

Pear
Sensitisation to pear was detected. Allergic symptoms associated with pear allergy range from oral allergy syndrome to severe anaphylactic reactions.

As the major pear allergen (Pyr c 1) is heat sensitive, baked or cooked pear can be consumed without danger for clinical reactions. In cases of pear allergy caused by Py r c 3 (nsLTP) avoidance is the therapeutic option of choice. If an anaphylactic reaction occurred, the prescription of an emergency kit is advised.

Strawberry
Sensitisation to strawberry was detected. Allergic symptoms associated with strawberry are usually mild, systemic reactions are rare.

Fra a 3 is a member of the nsLTP allergen family and can cause clinical reactions from oral allergy syndrome to anaphylaxis. The degree of cross-reactivity between Fra a 3 and other members of the nsLTP family is high within botanically closely related species (e.g. stone fruit). The importance of these cross-reactions has to be analysed on a clinical level. Fra a 3 is stable towards heat and digestion.

Include extensive patient training on avoidance measures for mild reactions and the prescription of an emergency kit (including adrenalin autoinjector for severe cases).

NUTS AND LEGUMES

Chickpea
Sensitisation to Chickpea detected. Allergic symptoms associated with chickpea range from oral allergy syndrome to anaphylaxis. Chickpea allergy may result from primary peanut allergy or occur independently.

Include extensive patient training on avoidance measures and the prescription of an emergency kit (including adrenalin autoinjector for severe cases).

Hazelnut
Sensitisation to hazelnut was detected. Allergic symptoms associated with hazelnut allergens range from oral allergy syndrome to severe anaphylactic reactions.

Cor a 1.0401 is a member of the PR-10 allergen family and is associated with mild forms of hazelnut allergy e.g. oral allergy syndrome. In rare cases, mild systemic reactions occur. Severe anaphylactic reactions are very rare. The degree of cross-reactivity between Cor a 1.0401 and other members of the PR-10 allergen family is high. The importance of these cross-reactions has to be analysed on a clinical level. In most cases a Cor a 1.0401 sensitisation is caused by a primary sensitisation against Bet v 1 from birch pollen. Cor a 1.0401 is not stable towards heat and digestion.

Cor a 8 is a member for the nsLTP allergen family and can cause clinical reactions from oral allergy syndrome to anaphylaxis. The degree of cross-reactivity between members of the nsLTP allergen family is high within botanically closely related species (e.g. stone fruit) and moderate between less closely related species. The importance of these cross-reactions has to be analysed on a clinical level. Cor a 8 is stable towards heat and digestion.

Include extensive patient training on avoidance measures and the prescription of an emergency kit (including adrenalin autoinjector for severe cases).

Lentil
Sensitisation to lentil was detected. Allergic symptoms associated with lentil range from oral allergy syndrome to anaphylaxis. Lentil allergy may result from primary peanut allergy or occur independently.

Len c 3 is a member of the nsLTP protein family. The degree of cross-reactivity between Len c 3 and other members of the nsLTP family is high within botanically closely related species (e.g. stone fruit). The importance of these cross-reactions has to be analysed on a clinical level.. Len c 3 is stable to heat and digestion.

Include extensive patient training on avoidance measures and the prescription of an emergency kit (including adrenalin autoinjector for severe cases).

Lupine seed
Sensitisation to lupine seed was detected. Allergic symptoms associated with lupine seed range from oral allergy syndrome to anaphylaxis. Lupine flour is used as a substitute or additive in e.g. wheat flour. As an occupational allergen lupine flour is able to induce rhinoconjunctivitis and asthma.

Include extensive patient training on avoidance measures and the prescription of an emergency kit (including adrenalin autoinjector for severe cases).

Pea
Sensitisation to pea was detected. Allergic symptoms associated with pea range from oral allergy syndrome to anaphylaxis. Pea allergy may result from primary peanut allergy or occur independently.

Pis s 3 is a member of the nsLTP allergen family. The degree of cross-reactivity between Pis s 3 and other members of the nsLTP family is high within botanically closely related species (e.g. stone fruit). The importance of these cross-reactions has to be analysed on a clinical level. Pis s 3 is stable towards heat and digestion.

Include extensive patient training on avoidance measures and the prescription of an emergency kit (including adrenalin autoinjector for severe cases).

Peanut
Sensitisation to peanut was detected. Allergic symptoms associated with peanut range from oral allergy syndrome to severe anaphylactic reactions.

The peanut storage proteins Ara h 1,2,3 and 6 are associated with clinical reactions up to severe anaphylaxis. The degree of cross-reactivity between storage proteins from peanut and storage proteins from legumes, nuts and seeds is low to moderate. The importance of these cross-reactions has to be analysed on a clinical level. Ara h 1,2,3 & 6 are stable towards heat and digestion. Positive results were obtained for: Ara h 1, Ara h 2, Ara h 3, Ara h 6.

Ara h 8 is a member of the PR-10 family and is associated with mild forms of peanut allergy e.g. oral allergy syndrome. The degree of cross-reactivity between Ara h 8 and other members of the PR-10 allergen family is moderate to high. The importance of these cross-reactions has to be analysed on a clinical level. In most cases an Ara h 8 sensitisation is caused by a primary sensitisation against Bet v 1 from birch pollen. Ara h 8 is not stable towards heat and digestion

Ara h 9 is a member for the nsLTP allergen family and can cause clinical reactions from oral allergy syndrome to anaphylaxis. The degree of cross-reactivity between members of the nsLTP allergen family is high within botanically closely related species (e.g. stone fruit) and moderate between less closely related species. The importance of these cross-reactions has to be analysed on a clinical level. Ara h 9 is stable towards heat and digestion.

Include extensive patient training on avoidance measures and the prescription of an emergency kit (including adrenalin autoinjector for severe cases).

Pecan
Sensitisation to pecan was detected. Allergic symptoms associated with pecan range from oral allergy syndrome to anaphylaxis. Pecan strongly cross-reacts with walnut.

Car i 1, 2 and 4 are storage proteins. The degree of cross-reactivity between pecan and walnut allergens is high. The importance of these cross-reactions has to be analysed on a clinical level. All pecan storage proteins are resistant to heat and digestion.

Include extensive patient training on avoidance measures and the prescription of an emergency kit (including adrenalin autoinjector for severe cases).

Soy
Sensitisation to soy was detected. Allergic symptoms associated with soy allergens range from oral allergy syndrome to severe anaphylactic reactions.

Gly m 4 is a member of the PR-10 family and is associated with mild forms of soy allergy e.g. oral allergy syndrome, as well as severe reactions after the consumption of unprocessed soy products like soy milk. The degree of cross-reactivity between Gly m 4 and other members of the PR-10 allergen family is high. The importance of these cross-reactions has to be analysed on a clinical level. In most cases a Gly m 4 sensitisation is caused by a primary sensitisation against Bet v 1 from birch pollen. Products like soy milk contain high levels of unprocessed allergens.

Gly m 5, 6 & 8 are storage proteins associated with clinical reactions up to severe anaphylaxis. The degree of cross-reactivity between storage proteins from soy and storage proteins from legumes, nuts and seeds is low to moderate. The importance of these cross-reactions has to be analysed on a

clinical level. Gly m 5,6 & 8 are stable towards heat and digestion. Positive results were obtained for: Gly m 8.

Include extensive patient training on avoidance measures and the prescription of an emergency kit (including adrenalin autoinjector for severe cases). Fermented soy products (e.g. soy sauce, miso) have lost allergenicity.

Walnut
Sensitisation to walnut was detected. Allergic symptoms associated with walnut allergens range from oral allergy syndrome to severe anaphylactic reactions.

Jug r 1,2,4 & 6 are storage proteins associated with clinical reactions up to anaphylaxis. The degree of cross-reactivity between storage proteins from walnut and storage proteins from legumes, nuts and seeds is low to moderate. The exception is Jug r 6, which can cross-react with related allergens from tree nuts (e.g. Cor a 11 from hazelnut) and sesame. The importance of these cross-reactions has to be analysed on a clinical level. Jug r 1,2,4 are stable towards heat and digestion. Jug r 6 displays intermediate thermal stability and susceptibility to digestion. Positive results were obtained for: Jug r 2.

Include extensive patient training on avoidance measures and the prescription of an emergency kit (including adrenalin autoinjector for severe cases).

SPICES

Mustard
Sensitisation to mustard seed was detected. Allergic symptoms associated with mustard seed range from oral allergy syndrome to anaphylaxis.

Sin a 1 is a storage protein (2S Albumin) associated with clinical reactions up to anaphylaxis. The degree of cross-reactivity between storage proteins from mustard seed and storage proteins from legumes, nuts and seeds is low to moderate. The importance of these cross-reactions has to be analysed on a clinical level. Sin a 1 is stable towards heat and digestion.

Include extensive patient training on avoidance measures and the prescription of an emergency kit (including adrenalin autoinjector for severe cases).

VEGETABLES

Celery
Sensitisation to celery was detected. Allergic symptoms associated with celery range from oral allergy syndrome to anaphylaxis. Celery allergy is caused by sensitisation to pollen (from birch and mugwort), which causes cross-reactions to celery. Severe reactions to celery are often linked to a primary mugwort pollen sensitisation.

Api g 1 is a member of the PR-10 allergen family and is associated with mild forms of celery allergy (e.g. oral allergy syndrome). The degree of cross-reactivity between Api g 1 and other members of the PR-10 allergen family is high. The importance of these cross-reactions has to be analysed on a clinical level. In most cases an Api g 1 sensitisation is caused by a primary sensitisation against Bet v 1 from birch pollen. Api g 1 is not stable towards heat and digestion.

Api g 2 is a member of the nsLTP allergen family and can cause clinical reactions from oral allergy syndrome to anaphylaxis. The degree of cross-reactivity between Api g 2 and other members of the nsLTP family is high within botanically closely related species (e.g. stone fruit). The importance of these cross-reactions has to be analysed on a clinical level. Api g 2 is stable towards heat and digestion. Api g 2 is located in celery stalks, in contrast to Api g 6.

Api g 6 is a member of the nsLTP type II allergen family and can cause clinical reactions from oral allergy syndrome to anaphylaxis. The degree of cross-reactivity between Api g 6 and members of the nsLTP type I family (e.g. Pru p 3) is low. Api g 6 is stable towards heat and digestion. Api g 6 is located in the celery bulb, in contrast to Api g 2.

Include extensive patient training on avoidance measures and the prescription of an emergency kit (including adrenalin autoinjector for severe cases).

Tomato
Sensitisation to tomato was detected. Allergic symptoms associated with tomato allergy range from oral allergy syndrome to anaphylaxis. Many tomato allergic patients react due to cross-reactions from PR-10, Profilin or nsLTP allergens.

Sola l 6 is a member for the nsLTP type II allergen family and can cause clinical reactions from oral allergy syndrome to anaphylaxis. The degree of cross-reactivity between Sola l 6 and members of the nsLTP type I family (e.g. Pru p 3) is low. Sola l 6 is stable towards heat and digestion.

Include extensive patient training on avoidance measures and the prescription of an emergency kit (including adrenalin autoinjector for severe cases).

ANIMAL FOODS (MILK AND EGG)

Cow's milk
Sensitisation to milk was detected. Allergic symptoms associated with milk include severe anaphylactic reactions, as well as gastrointestinal symptoms and worsening of skin status in individuals suffering from atopic dermatitis. Most children can be expected to outgrow their cow's milk allergy.

Bos d 9-12 are members of the Casein allergen family. The degree of cross-reactivity from Caseins from different milk species is low (e.g. camel milk) to high (e.g. sheep milk). Caseins are stable to heat and digestion.

Bos d 8 is a member of the Casein allergen family. The degree of cross-reactivity between caseins from different species is very high. Caseins are stable to heat and digestion.

Include extensive patient training on avoidance measures and the prescription of an emergency kit (including adrenalin autoinjector for severe cases). Aside from Bos d 8, other cow's milk allergens(Bos d 4, 5 and 6) are not stable to heat.

Egg
Sensitisation to hen's egg was detected. Allergic symptoms associated with hen's egg include severe anaphylactic reactions, as well gastrointestinal symptoms and worsening of skin status in individuals suffering from atopic dermatitis.

Gal d 1 is a member of the Ovomucoid allergen family. The degree of cross-reactivity to Ovomucoids from other bird species is high. Ovomucoids are stable to heat and digestions.

Gal d 2 & 3 are heat labile allergens from hen's egg. Well cooked or baked hen's egg will be tolerated by sensitised patients. Gal d 2 can cause allergic complications in sensitised individuals, who are vaccinated with Gal d 2 (Ovalbumin) containing vaccines. Positive results were obtained for: Gal d 2.

Include intensive patient training on avoidance measures and the prescription of an emergency kit (including adrenalin autoinjector for severe cases). Aside from Gal d 1, hen's egg allergens are not stable to heat.
DISCLAIMER: THE PRESENCE OF IgE-ANTIBODIES IMPLIES A RISK OF ALLERGIC REACTIONS AND HAS TO BE ANALYZED IN CONJUNCTION WITH THE CLINICAL HISTORY AND OTHER DIAGNOSTIC TEST RESULTS. THE RAVEN INTERPRETATION GUIDANCE SOFTWARE IS A TOOL TO SUPPORT PHYSICIANS IN THE INTERPRETATION OF ALEX RESULTS. RAVEN COMMENTS DO NOT REPLACE THE DIAGNOSIS BY A PHYSICIAN. NO LIABILITY IS ACCEPTED FOR RAVEN COMMENTS AND RESULTING THERAPEUTIC INTERVENTIONS. THE STATED COMMENTS ARE DESIGNED EXCLUSIVELY FOR ALEX RESULTS.

ALEX³ – Number of tested allergen sources

Grass Pollen 6

Bahia grass, Bermuda grass, Common reed, Maize pollen, Rye pollen, Timothy grass

Tree Pollen 14

Acacia, Alder, Arizona cypress, Ash, Cypress, London plane tree, Mountain cedar, Oak, Olive, Paper mulberry, Silver birch, Sugi, Tree of heaven, Walnut

Weed Pollen 8

Hemp, Lamb's quarter, Mugwort, Pigweed, Ragweed, Ribwort, Russian thistle, Wall pellitory

House Dust Mites & Storage Mites 7

Acarus siro, American house dust mite, Blomia tropicalis, European house dust mite, Glycyphagus domesticus, Lepidoglyphus destructor, Tyrophagus putrescentiae

Vegetables 5

Celery, Garlic, Onion, Potato, Tomato

Nuts & Seeds 12

Almond, Brazil nut, Cashew, Hazelnut, Macadamia, Pecan, Pistachio, Poppy seed, Pumpkin seed, Sesame, Sunflower seed, Walnut

Legumes 6

Chickpea, Lentil, Pea, Peanut, Pine nut, Soy

Grains 10

Barley, Buckwheat, Cultivated rye, Lupine seed, Maize, Millet, Oat, Quinoa, Spelt, Wheat

Spices 1

Mustard

Fruits 14

Apple, Avocado, Banana, Cherry, Coconut, Fig, Grape, Kiwi, Mango, Muskmelon, Papaya, Peach, Pear, Strawberry

Cockroach 2

American cockroach, German cockroach

Ant, Bee, Wasp, Hornet 5

Bald-faced Hornet, Common wasp, Fire ant, Honey bee, Paper wasp

Fungal Spores & Yeast 5

Alternaria alternata, Aspergillus fumigatus, Cladosporium herbarum, Malassezia sympodialis, Penicilium chrysogenum

Milk 5

Camel's milk, Cow's milk, Goat's milk, Mare's milk, Sheep's milk

Egg 2

Egg white, Egg yolk

Fish & Seafood 19

Anisakis simplex, Atlantic cod, Atlantic mackerel, Black tiger shrimp, Brown shrimp, Carp, Crab, Giant freshwater prawn, Herring, Lobster, Northern prawn, Salmon, Shrimp, Squid, Swordfish, Thornback ray, Tuna, Venus clam, Whiteleg shrimp

Meat 10

Beef, Chicken, Horse, House cricket, Lamb, Mealworm, Migratory locust, Pork, Rabbit, Turkey

Pets 9

Cat, Djungarian hamster, Dog, Dog urine (incl. Can f 5), Golden hamster, Guinea pig, Mouse, Rabbit, Rat

Farm Animals 4

Cattle, Goat, Horse, Pig

Others 5

Hom s Lactoferrin, Latex, Pigeon tick, Red meat, Weeping fig