Better Life Science

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PATIENT ID:

PATIENT NAME:

DATE OF BIRTH:

REFERRING PHYSICIAN:

TEST METHOD:
ALEX^2

TESTED ALLERGENS:
295

SAMPLED ON:

ANALYZED ON:
6/1/2023

APPROVED ON:
6/3/2023

The internal QC (Plausibility check for GD) was within acceptance range.

ADDITIONAL INFORMATION:

Lab report: Summary on detectable sensitizations

POLLEN

- Grass Pollen
- Tree Pollen
- Weed Pollen

MITES

- House Dust Mites & Storage Mites

PLANT-BASED FOOD

- Legumes
- Grains
- Spices
- Fruits
- Vegetables
- Nuts & Seeds

INSECTS & VENOMS

- Ant, Bee, Wasp
- Cockroach

MICROORGANISMS

- Fungal Spores & Yeast

ANIMAL-DERIVED FOOD

- Milk
- Egg
- Fish & Seafood
- Meat

EPITHELIAL TISSUES OF ANIMALS

- Pets
- Farm Animals

OTHERS

- Latex
- Ficus
- CCD
- Parasite

Highest measured IgE concentration per allergen group

< 0.3 kUA/L	0.3 - 1 kUA/L	1 - 5 kUA/L	5 - 15 kUA/L	> 15 kUA/L
Negative or uncertain	Low IgE level	Moderate IgE level	High IgE level	Very high IgE level

Name	E/M	Allergen	Protein Family	kU_A/L

POLLEN

Grass Pollen

Bermuda grass	⁘	Cyn d		≤ 0.10
	◉	Cyn d 1	Beta-Expansin	≤ 0.10
Perennial Ryegrass	◉	Lol p 1	Beta-Expansin	≤ 0.10
Bahia grass	⁘	Pas n		≤ 0.10
Timothy grass	◉	Phl p 1	Beta-Expansin	≤ 0.10
	◉	Phl p 2	Expansin	≤ 0.10
	◉	Phl p 5.0101	Grass Group 5/6	1.78
	◉	Phl p 6	Grass Group 5/6	≤ 0.10
	◉	Phl p 7	Polcalcin	≤ 0.10
	◉	Phl p 12	Profilin	≤ 0.10
Common reed	⁘	Phr c		≤ 0.10
Cultivated rye, Pollen	⁘	Sec c_pollen		≤ 0.10

Tree Pollen

Acacia	⁘	Aca m		≤ 0.10
Tree of Heaven	⁘	Ail a		≤ 0.10
Alder	◉	Aln g 1	PR-10	2.09
	◉	Aln g 4	Polcalcin	≤ 0.10
Silver birch	◉	Bet v 1	PR-10	4.06
	◉	Bet v 2	Profilin	≤ 0.10
	◉	Bet v 6	Isoflavon Reductase	≤ 0.10
Paper mulberry	⁘	Bro pa		≤ 0.10
Hazel pollen	⁘	Cor a_pollen		1.26
	◉	Cor a 1.0103	PR-10	3.06
Sugi	◉	Cry j 1	Pectate Lyase	≤ 0.10
Cypress	◉	Cup a 1	Pectate Lyase	≤ 0.10
	⁘	Cup s		≤ 0.10
Beech	◉	Fag s 1	PR-10	5.74
Ash	⁘	Fra e		≤ 0.10
	◉	Fra e 1	Ole e 1-Family	≤ 0.10
Walnut pollen	⁘	Jug r_pollen		1.72
Mountain cedar	⁘	Jun a		≤ 0.10

⁘ Allergen Extract ◉ Molecular Allergen IgE < 0.3 negative or uncertain

Name	E/M	Allergen	Protein Family	kU_A/L
Mulberry	⁘	Mor r		≤ 0.10
Olive	⊙	Ole e 1	Ole e 1-Family	≤ 0.10
	⊙	Ole e 9	1,3 β Glucanase	≤ 0.10
Date palm	⊙	Pho d 2	Profilin	≤ 0.10
London plane tree	⊙	Pla a 1	Plant Invertase	≤ 0.10
	⊙	Pla a 2	Polygalacturonase	≤ 0.10
	⊙	Pla a 3	nsLTP	≤ 0.10
Cottonwood	⁘	Pop n		≤ 0.10
Elm	⁘	Ulm c		≤ 0.10

Weed Pollen

Common Pigweed	⁘	Ama r		≤ 0.10
Ragweed	⁘	Amb a		≤ 0.10
	⊙	Amb a 1	Pectate Lyase	≤ 0.10
	⊙	Amb a 4	Plant Defensin	≤ 0.10
Mugwort	⁘	Art v		≤ 0.10
	⊙	Art v 1	Plant Defensin	≤ 0.10
	⊙	Art v 3	nsLTP	≤ 0.10
Hemp	⁘	Can s		≤ 0.10
	⊙	Can s 3	nsLTP	≤ 0.10
Lamb's quarter	⁘	Che a		≤ 0.10
	⊙	Che a 1	Ole e 1-Family	≤ 0.10
Annual mercury	⊙	Mer a 1	Profilin	≤ 0.10
Wall pellitory	⁘	Par j		≤ 0.10
	⊙	Par j 2	nsLTP	≤ 0.10
Ribwort	⁘	Pla l		≤ 0.10
	⊙	Pla l 1	Ole e 1-Family	≤ 0.10
Russian thistle	⁘	Sal k		≤ 0.10
	⊙	Sal k 1	Pectin Methylesterase	≤ 0.10
Nettle	⁘	Urt d		≤ 0.10

MITES

House Dust Mite

American house dust mite	⊙	Der f 1	Cysteine protease	≤ 0.10

⁘ Allergen Extract ⊙ Molecular Allergen IgE < 0.3 negative or uncertain

Name	E/M	Allergen	Protein Family	kU_A/L
	⦿	Der f 2	NPC2 Family	≤ 0.10
European house dust mite	⦿	Der p 1	Cysteine protease	≤ 0.10
	⦿	Der p 2	NPC2 Family	≤ 0.10
	⦿	Der p 5	unknown	≤ 0.10
	⦿	Der p 7	Mites, Group 7	≤ 0.10
	⦿	Der p 10	Tropomyosin	≤ 0.10
	⦿	Der p 11	Myosin, heavy chain	≤ 0.10
	⦿	Der p 20	Arginine kinase	≤ 0.10
	⦿	Der p 21	unknown	≤ 0.10
	⦿	Der p 23	Peritrophin-like protein domain	≤ 0.10

Storage Mite

Acarus siro	⁘	Aca s		≤ 0.10
Blomia tropicalis	⦿	Blo t 5	Mites, Group 5	≤ 0.10
	⦿	Blo t 10	Tropomyosin	≤ 0.10
	⦿	Blo t 21	unknown	≤ 0.10
Glycyphagus domesticus	⦿	Gly d 2	NPC2 Family	≤ 0.10
Lepidoglyphus destructor	⦿	Lep d 2	NPC2 Family	≤ 0.10
Tyrophagus putrescentiae	⁘	Tyr p		≤ 0.10
	⦿	Tyr p 2	NPC2 Family	≤ 0.10

MICROORGANISMS & SPORES

Yeast

Malassezia sympodialis	⦿	Mala s 5	unknown	≤ 0.10
	⦿	Mala s 6	Cyclophilin	≤ 0.10
	⦿	Mala s 11	Mn Superoxid-Dismutase	≤ 0.10
Yeast	⁘	Sac c		≤ 0.10

Moulds

Alternaria alternata	⦿	Alt a 1	Alt a 1-Family	≤ 0.10
	⦿	Alt a 6	Enolase	≤ 0.10
Aspergillus fumigatus	⦿	Asp f 1	Mitogillin Family	≤ 0.10
	⦿	Asp f 3	Peroxysomal Protein	≤ 0.10
	⦿	Asp f 4	unknown	≤ 0.10

Name	E/M	Allergen	Protein Family	kU$_A$/L
	⊙	Asp f 6	Mn Superoxid-Dismutase	≤ 0.10
Cladosporium herbarum	⁘	Cla h		≤ 0.10
	⊙	Cla h 8	Short Chain Dehydrogenase	≤ 0.10
Penicilium chrysogenum	⁘	Pen ch		≤ 0.10

PLANT FOOD

Legumes

Peanut	⊙	Ara h 1	7/8S Globulin	≤ 0.10
	⊙	Ara h 2	2S Albumin	≤ 0.10
	⊙	Ara h 3	11S Globulin	≤ 0.10
	⊙	Ara h 6	2S Albumin	≤ 0.10
	⊙	Ara h 8	PR-10	≤ 0.10
	⊙	Ara h 9	nsLTP	≤ 0.10
	⊙	Ara h 15	Oleosin	≤ 0.10
Chickpea	⁘	Cic a		≤ 0.10
Soy	⊙	Gly m 4	PR-10	2.52
	⊙	Gly m 5	7/8S Globulin	≤ 0.10
	⊙	Gly m 6	11S Globulin	≤ 0.10
	⊙	Gly m 8	2S Albumin	≤ 0.10
Lentil	⁘	Len c		≤ 0.10
White bean	⁘	Pha v		≤ 0.10
Pea	⁘	Pis s		≤ 0.10

Cereals

Oat	⁘	Ave s		≤ 0.10
Quinoa	⁘	Che q		≤ 0.10
Common buckwheat	⁘	Fag e		≤ 0.10
	⊙	Fag e 2	2S Albumin	≤ 0.10
Barley	⁘	Hor v		≤ 0.10
Lupine seed	⁘	Lup a		≤ 0.10
Rice	⁘	Ory s		≤ 0.10
Millet	⁘	Pan m		≤ 0.10
Cultivated rye	⁘	Sec c_flour		≤ 0.10

⁘ Allergen Extract ⊙ Molecular Allergen IgE < 0.3 negative or uncertain

Name	E/M	Allergen	Protein Family	kU_A/L
Wheat	◉	Tri a aA_TI	Alpha-Amylase Trypsin-Inhibitor	≤ 0.10
	◉	Tri a 14	nsLTP	≤ 0.10
	◉	Tri a 19	Omega-5-Gliadin	≤ 0.10
Spelt	⁘	Tri s		≤ 0.10
Maize	⁘	Zea m		≤ 0.10
	◉	Zea m 14	nsLTP	≤ 0.10

Spices

Paprika	⁘	Cap a		≤ 0.10
Caraway	⁘	Car c		≤ 0.10
Oregano	⁘	Ori v		≤ 0.10
Parsley	⁘	Pet c		≤ 0.10
Anise	⁘	Pim a		≤ 0.10
Mustard	⁘	Sin		≤ 0.10
	◉	Sin a 1	2S Albumin	≤ 0.10

Fruits

Kiwi	◉	Act d 1	Cysteine protease	≤ 0.10
	◉	Act d 2	TLP	≤ 0.10
	◉	Act d 5	Kiwellin	≤ 0.10
	◉	Act d 10	nsLTP	≤ 0.10
Papaya	⁘	Car p		≤ 0.10
Orange	⁘	Cit s		≤ 0.10
Melon	◉	Cuc m 2	Profilin	≤ 0.10
Fig	⁘	Fic c		≤ 0.10
Strawberry	◉	Fra a 1+3	PR-10+LTP	0.62
Apple	◉	Mal d 1	PR-10	≤ 0.10
	◉	Mal d 2	TLP	≤ 0.10
	◉	Mal d 3	nsLTP	≤ 0.10
Mango	⁘	Man i		≤ 0.10
Banana	⁘	Mus a		≤ 0.10
Avocado	⁘	Pers a		≤ 0.10
Cherry	⁘	Pru av		≤ 0.10
Peach	◉	Pru p 3	nsLTP	≤ 0.10

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Name	E/M	Allergen	Protein Family	kU_A/L
Pear		Pyr c		≤ 0.10
Blueberry		Vac m		≤ 0.10
Grapes		Vit v 1	nsLTP	≤ 0.10

Vegetables

Onion		All c		≤ 0.10
Garlic		All s		≤ 0.10
Celery		Api g 1	PR-10	0.69
		Api g 2	nsLTP	≤ 0.10
		Api g 6	nsLTP	≤ 0.10
Carrot		Dau c		0.14
		Dau c 1	PR-10	0.15
Potato		Sol t		≤ 0.10
Tomato		Sola l		≤ 0.10
		Sola l 6	nsLTP	≤ 0.10

Nuts

Cashew		Ana o		≤ 0.10
		Ana o 2	11S Globulin	≤ 0.10
		Ana o 3	2S Albumin	≤ 0.10
Brazil nut		Ber e		≤ 0.10
		Ber e 1	2S Albumin	≤ 0.10
Pecan		Car i		≤ 0.10
Hazelnut		Cor a 1.0401	PR-10	1.21
		Cor a 8	nsLTP	≤ 0.10
		Cor a 9	11S Globulin	≤ 0.10
		Cor a 11	7/8S Globulin	≤ 0.10
		Cor a 14	2S Albumin	≤ 0.10
Walnut		Jug r 1	2S Albumin	≤ 0.10
		Jug r 2	7/8S Globulin	≤ 0.10
		Jug r 3	nsLTP	≤ 0.10
		Jug r 4	11S Globulin	≤ 0.10
		Jug r 6	7/8S Globulin	≤ 0.10
Macadamia		Mac i 2S Albumin	2S Albumin	≤ 0.10
		Mac inte		≤ 0.10

Allergen Extract Molecular Allergen IgE < 0.3 negative or uncertain

Laboratory Director: David Eagerton, Ph.D., F-ABFT | CLIA #: 11D2282920 DISCLAIMER: Better Life Science, LLC is regulated by CLIA to operate a high complexity laboratory in the State of Georgia. This test was developed and validated by Better Life Science as a lab developed test and approval by the US Food and Drug Administration (FDA) is not required. The results of this test should be used in conjunction with the physical assessment of the physician.

Name	E/M	Allergen	Protein Family	kU_A/L
Pistachio	⊙	Pis v 1	2S Albumin	≤ 0.10
	⊙	Pis v 2	11S Globulin subunit	≤ 0.10
	⊙	Pis v 3	7/8S Globulin	≤ 0.10
Almond	⁘	Pru du		≤ 0.10

Seed

Pumpkin seed	⁘	Cuc p		≤ 0.10
Sunflower seed	⁘	Hel a		≤ 0.10
Poppy seed	⁘	Pap s		≤ 0.10
	⊙	Pap s 2S Albumin	2S Albumin	≤ 0.10
Sesame	⁘	Ses i		≤ 0.10
	⊙	Ses i 1	2S Albumin	≤ 0.10
Fenugreek seeds	⁘	Tri fo		≤ 0.10

ANIMAL FOOD

Milk

Cow, milk	⁘	Bos d_milk		≤ 0.10
	⊙	Bos d 4	α-Lactalbumin	≤ 0.10
	⊙	Bos d 5	β-Lactoglobulin	≤ 0.10
	⊙	Bos d 8	Casein	≤ 0.10
Camel	⁘	Cam d		≤ 0.10
Goat, milk	⁘	Cap h_milk		≤ 0.10
Mare's milk	⁘	Equ c_milk		≤ 0.10
Sheep, milk	⁘	Ovi a_milk		≤ 0.10

Egg

Egg white	⁘	Gal d_white		≤ 0.10
Egg yolk	⁘	Gal d_yolk		≤ 0.10
Egg white	⊙	Gal d 1	Ovomucoid	≤ 0.10
	⊙	Gal d 2	Ovalbumin	≤ 0.10
	⊙	Gal d 3	Ovotransferrin	≤ 0.10
	⊙	Gal d 4	Lysozym C	≤ 0.10
Egg yolk	⊙	Gal d 5	Serum Albumin	≤ 0.10

⁘ Allergen Extract ⊙ Molecular Allergen IgE < 0.3 negative or uncertain

Name	E/M	Allergen	Protein Family	kU_A/L
Seafood				
Herring worm	◉	Ani s 1	Kunitz Serin Protease Inhibitor	≤ 0.10
	◉	Ani s 3	Tropomyosin	≤ 0.10
Crab	⁘	Chi spp.		≤ 0.10
Herring	⁘	Clu h		≤ 0.10
	◉	Clu h 1	β-Parvalbumin	≤ 0.10
Brown shrimp	◉	Cra c 6	Troponin C	≤ 0.10
Carp	◉	Cyp c 1	β-Parvalbumin	≤ 0.10
Atlantic cod	⁘	Gad m		≤ 0.10
	◉	Gad m 2+3	β-Enolase & Aldolase	≤ 0.10
	◉	Gad m 1	β-Parvalbumin	≤ 0.10
Lobster	⁘	Hom g		≤ 0.10
Shrimp	⁘	Lit s		≤ 0.10
Squid	⁘	Lol spp.		≤ 0.10
Common mussel	⁘	Myt e		≤ 0.10
Oyster	⁘	Ost e		≤ 0.10
Shrimp	⁘	Pan b		≤ 0.10
Scallop	⁘	Pec spp.		≤ 0.10
Black Tiger Shrimp	◉	Pen m 1	Tropomyosin	≤ 0.10
	◉	Pen m 2	Arginine kinase	≤ 0.10
	◉	Pen m 3	Myosin, light chain	≤ 0.10
	◉	Pen m 4	Sarcoplasmic Calcium Binding Protein	≤ 0.10
Thornback ray	⁘	Raj c		≤ 0.10
	◉	Raj c Parvalbumin	α-Parvalbumin	≤ 0.10
Clam	⁘	Rud spp.		≤ 0.10
Salmon	⁘	Sal s		≤ 0.10
	◉	Sal s 1	β-Parvalbumin	≤ 0.10
Atlantic mackerel	⁘	Sco s		≤ 0.10
	◉	Sco s 1	β-Parvalbumin	≤ 0.10
Tuna	⁘	Thu a		≤ 0.10
	◉	Thu a 1	β-Parvalbumin	≤ 0.10
Swordfish	◉	Xip g 1	β-Parvalbumin	≤ 0.10

⁘ Allergen Extract ◉ Molecular Allergen IgE < 0.3 negative or uncertain

Name	E/M	Allergen	Protein Family	kU_A/L
Meat				
House cricket		Ach d		≤ 0.10
Cattle, meat		Bos d_meat		≤ 0.10
		Bos d 6	Serum Albumin	≤ 0.10
Horse, meat		Equ c_meat		≤ 0.10
Chicken meat		Gal d_meat		≤ 0.10
Migratory locust		Loc m		≤ 0.10
Turkey		Mel g		≤ 0.10
Rabbit, meat		Ory_meat		≤ 0.10
Sheep, meat		Ovi a_meat		≤ 0.10
Pork		Sus d_meat		≤ 0.10
		Sus d 1	Serum Albumin	≤ 0.10
Mealworm		Ten m		≤ 0.10
INSECTS & VENOMS				
Fire ant poison				
Fire ant		Sol spp.		≤ 0.10
Honey Bee Venom				
Honey bee		Api m		≤ 0.10
		Api m 1	Phospholipase A2	≤ 0.10
		Api m 10	Icarapin Variant 2	≤ 0.10
Wasp Venom				
Hornet		Dol spp		≤ 0.10
Paper wasp venom		Pol d		≤ 0.10
		Pol d 5	Antigen 5	≤ 0.10
Wasp venom		Ves v		≤ 0.10
		Ves v 1	Phospholipase A1	≤ 0.10
		Ves v 5	Antigen 5	≤ 0.10
Cockroach				

Allergen Extract Molecular Allergen IgE < 0.3 negative or uncertain

Name	E/M	Allergen	Protein Family	kU_A/L
German Cockroach	⦿	Bla g 1	Cockroach Group 1	≤ 0.10
	⦿	Bla g 2	Aspartyl protease	≤ 0.10
	⦿	Bla g 4	Lipocalin	≤ 0.10
	⦿	Bla g 5	Glutathione S-transferase	≤ 0.10
	⦿	Bla g 9	Arginine kinase	≤ 0.10
American Cockroach	⁘	Per a		≤ 0.10
	⦿	Per a 7	Tropomyosin	≤ 0.10

ANIMAL ORIGIN

Pet

Dog	⦿	Can f_Fd1	Uteroglobin	≤ 0.10
Male dog urine (incl. Can f 5)	⁘	Can f_male urine		≤ 0.10
Dog	⦿	Can f 1	Lipocalin	≤ 0.10
	⦿	Can f 2	Lipocalin	≤ 0.10
	⦿	Can f 3	Serum Albumin	≤ 0.10
	⦿	Can f 4	Lipocalin	≤ 0.10
	⦿	Can f 6	Lipocalin	≤ 0.10
Guinea pig	⦿	Cav p 1	Lipocalin	≤ 0.10
Cat	⦿	Fel d 1	Uteroglobin	≤ 0.10
	⦿	Fel d 2	Serum Albumin	≤ 0.10
	⦿	Fel d 4	Lipocalin	≤ 0.10
	⦿	Fel d 7	Lipocalin	≤ 0.10
House mouse	⦿	Mus m 1	Lipocalin	≤ 0.10
Rabbit, epithel	⦿	Ory c 1	Lipocalin	≤ 0.10
	⦿	Ory c 2	Lipophilin	≤ 0.10
	⦿	Ory c 3	Uteroglobin	≤ 0.10
Djungarian hamster	⦿	Phod s 1	Lipocalin	≤ 0.10
Rat	⁘	Rat n		≤ 0.10

Farm Animals

Cattle	⦿	Bos d 2	Lipocalin	≤ 0.10
Goat, epithel	⁘	Cap h_epithelia		≤ 0.10
Horse, epithel	⦿	Equ c 1	Lipocalin	≤ 0.10
	⦿	Equ c 3	Serum Albumin	≤ 0.10

⁘ Allergen Extract ⦿ Molecular Allergen IgE < 0.3 negative or uncertain

Name	E/M	Allergen	Protein Family	kU_A/L
	◉	Equ c 4	Latherin	≤ 0.10
Sheep, epithel	⁘	Ovi a_epithelia		≤ 0.10
Pig	⁘	Sus d_epithelia		≤ 0.10

OTHERS

Latex

Latex	◉	Hev b 1	Rubber elongation factor	≤ 0.10
	◉	Hev b 3	Small rubber particle protein	≤ 0.10
	◉	Hev b 5	unknown	≤ 0.10
	◉	Hev b 6.02	Hevein	≤ 0.10
	◉	Hev b 8	Profilin	≤ 0.10
	◉	Hev b 11	Class 1 Chitinase	≤ 0.10

Ficus

Weeping fig	⁘	Fic b		≤ 0.10

CCD

Hom s Lactoferrin	◉	Hom s LF	CCD	≤ 0.10

Parasite

Pigeon tick	◉	Arg r 1	Lipocalin	≤ 0.10

Total IgE: 127 kU/L

Normal Total-IgE

Adults: < 100 kU/L

PRINTED ON
7/14/2023

ASSAY PERFORMED ON
6/1/2023

APPROVED ON
6/3/2023

⁘ Allergen Extract ◉ Molecular Allergen IgE < 0.3 negative or uncertain

Information to cross-reactive allergens

PR-10

PR-10 allergens show a high degree of cross-reactivity.

PR-10 inhalative:
The major birch pollen allergen, Bet v 1, represents the prototype of all PR-10 allergens and is the primary sensitizer in regions with birch pollen exposure. The presence of PR-10 allergens in Fagales tree pollen explains IgE cross-reactivity between pollen from hazel, alder, beech, oak and hornbeam.
PR-10 nutritive:
PR-10 allergens in raw fruits, nuts, vegetable and legumes can induce oral allergy syndrome and sometimes severe allergic reactions in sensitized individuals, if a high amount of the respective allergen is consumed. PR-10 allergens are not stable to processing.

ALEX² – Number of tested allergen sources: 165

GRASS POLLEN 6
Bahia grass, Bermuda grass, Common reed, Perennial ryegrass, Rye, Timothy grass

TREE POLLEN 19
Acacia, Alder, Arizona Cypress, European Ash, Beech, Cottonwood, Date palm, Elm, Hazel, London Plane Tree, Mediterranean Cypress, Mountain cedar, Mulberry, Olive, Paper mulberry, Silver birch, Sugi, Tree of Heaven, Walnut

WEED POLLEN 10
Annual mercury, Hemp, Lamb's quarter, Mugwort, Nettle, 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

LEGUMES 6
Chickpea, White bean, Lentil, Pea, Peanut, Soy

GRAINS 11
Barley, Buckwheat, Corn, Cultivated rye, Lupine, Millet, Oat, Quinoa, Rice, Spelt, Wheat

SPICES 6
Anise, Caraway, Mustard, Oregano, Paprika, Parsley

FRUITS 15
Avocado, Apple, Banana, Blueberry, Cherry, Fig, Grape, Kiwi, Mango, Muskmelon, Orange, Papaya, Peach, Pear, Strawberry

VEGETABLES 6
Carrot, Celery, Garlic, Onion, Potato, Tomato

NUTS & SEEDS 13
Almond, Brazil nut, Cashew, Hazelnut, Macadamia, Pecan, Pistachio, Walnut, Fenugreek seeds, Poppy seed, Pumpkin seed, Sesame, Sunflower seed

COCKROACH 2
American cockroach, German cockroach

INSECT VENOMS 5
Common wasp venom, Fire ant venom, Honeybee venom, Long-headed wasp venom, Paper wasp venom

FUNGAL SPORES & YEAST 6
Alternaria alternata, Aspergillus fumigatus, Baker's yeast, 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 20
Anisakis simplex, Atlantic cod, Atlantic herring, Atlantic mackerel, Black-Tiger shrimp, Brown shrimp, Carp, Common mussel, Crab, Lobster, Northern prawn, Oyster, Salmon, Scallop, Shrimp mix, Squid, Swordfish, Thornback ray, Tuna, Venus clam

MEAT 10
Beef, Chicken, Horse, House cricket, Lamb, Mealworm, Migratory locust, Pig, Rabbit, Turkey

PETS 7
Cat, Djungarian hamster, Dog, Guinea pig, Mouse, Rabbit, Rat

FARM ANIMALS 5
Cattle, Goat, Horse, Pig, Sheep

OTHERS 4
Latex, Hom s lactoferrin, Pigeon tick, Weeping fig

RAVEN®
INTERPRETATION GUIDANCE SOFTWARE

Interpretation - Support

Raven Interpretation Summary

Sample Information

The sample was tested on ALEX² Barcode 02AZM0B9, interpretation date 6/1/2023.

Of the tested 295 allergens, 11 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 2 allergens, comments for interpretation guidance are listed below.

Total IgE: 127 kU/L

The measured total IgE was 127 kU/L. With a total IgE titre above 100 kU/L, allergy is likely.

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, Bet v 1, Cor a 1.0103, Cor a 1.0401, Fag s 1, Gly m 4

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.

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.

Cor a 1.0103 is a member of the PR-10 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 Cor a 1.0103 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. Cor a 1.0103 serves as a marker for AIT indication, if corresponding clinical symptoms are present.

Fag s 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 Fag s 1 and between other members of the PR-10 allergen family is high. 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 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.

Phl p 5 is a member of the Grass Group 5/6 allergen family. The degree of cross-reactivity between members of this allergen family is high, although not in all grass pollen species a Grass Group 5/6 allergen has been described. Along with Phl p 1 and Phl p 2, Phl p 5 serves as marker of true grass-pollen sensitisation. Phl p 1 and 5 serve as markers for AIT indication, if corresponding clinical symptoms are present.

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).

Fruits

Strawberry

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

Fra a 1 is a member of the PR-10 allergen family and is associated with mild forms of strawberry allergy (e.g. oral allergy syndrome). The degree of cross-reactivity between Fra a 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. Usually Fra a 1 sensitisation is caused by a primary sensitisation against Bet v 1 from birch pollen. Fra a 1 is not stable towards heat and digestion. Fra a 3 is a member of the nsLTP allergen family and may 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

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.

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.

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.

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.

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

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 2 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 ALEX2 RESULTS.