

POLLEN

Grass Pollen

1	Bermuda grass	••••	Cyn d	
2		○	Cyn d 1	Beta-Expansin
3	Perennial Ryegrass	○	Lol p 1	Beta-Expansin
4	Bahia grass	••••	Pas n	
5	Timothy grass	○	Phl p 1	Beta-Expansin
6		○	Phl p 2	Expansin
7		○	Phl p 5.0101	Grass Group 5/6
8		○	Phl p 6	Grass Group 5/6
9		○	Phl p 7	Polcalcin
10		○	Phl p 12	Profilin
11	Common reed	••••	Phr c	
12	Cultivated rye, Pollen	••••	Sec c_pollen	

Tree Pollen

13	Acacia	••••	Aca m	
14	Tree of Heaven	••••	Ail a	
15	Alder	○	Aln g 1	PR-10
16		○	Aln g 4	Polcalcin
17	Silver birch	○	Bet v 1	PR-10
18		○	Bet v 2	Profilin
19		○	Bet v 6	Isoflavon Reductase
20	Paper mulberry	••••	Bro pa	
21	Hazel pollen	••••	Cor a_pollen	
22		○	Cor a 1.0103	PR-10
23	Sugi	○	Cry j 1	Pectate Lyase
24	Cypress	○	Cup a 1	Pectate Lyase
25		••••	Cup s	
26	Beech	○	Fag s 1	PR-10
27	Ash	••••	Fra e	
28		○	Fra e 1	Ole e 1-Family
29	Walnut pollen	••••	Jug r_pollen	
30	Mountain cedar	••••	Jun a	
31	Mulberry	••••	Mor r	
32	Olive	○	Ole e 1	Ole e 1-Family



33		○	Ole e 9	1,3 β Glucanase
34	Date palm	○	Pho d 2	Profilin
35	London plane tree	○	Pla a 1	Plant Invertase
36		○	Pla a 2	Polygalacturonase
37		○	Pla a 3	nsLTP
38	Cottonwood	●●●	Pop n	
39	Elm	●●●	Ulm c	

Weed Pollen

40	Common Pigweed	●●●	Ama r	
41	Ragweed	●●●	Amb a	
42		○	Amb a 1	Pectate Lyase
43		○	Amb a 4	Plant Defensin
44	Mugwort	●●●	Art v	
45		○	Art v 1	Plant Defensin
46		○	Art v 3	nsLTP
47	Hemp	●●●	Can s	
48		○	Can s 3	nsLTP
49	Lamb's quarter	●●●	Che a	
50		○	Che a 1	Ole e 1-Family
51	Annual mercury	○	Mer a 1	Profilin
52	Wall pellitory	●●●	Par j	
53		○	Par j 2	nsLTP
54	Ribwort	●●●	Pla l	
55		○	Pla l 1	Ole e 1-Family
56	Russian thistle	●●●	Sal k	
57		○	Sal k 1	Pectin Methylesterase
58	Nettle	●●●	Urt d	

MITES

House Dust Mite

58	American house dust mite	○	Der f 1	Cysteine protease
59		○	Der f 2	NPC2 Family
60	European house dust mite	○	Der p 1	Cysteine protease
61		○	Der p 2	NPC2 Family
62		○	Der p 5	unknown



63		○	Der p 7	Mites, Group 7
64		○	Der p 10	Tropomyosin
65		○	Der p 11	Myosin, heavy chain
66		○	Der p 20	Arginine kinase
67		○	Der p 21	unknown
68		○	Der p 23	Peritrophin-like protein domain

Storage Mite

69	Acarus siro	⦿	Aca s	
70	Blomia tropicalis	○	Blo t 5	Mites, Group 5
71		○	Blo t 10	Tropomyosin
72		○	Blo t 21	unknown
73	Glycyphagus domesticus	○	Gly d 2	NPC2 Family
74	Lepidoglyphus destructor	○	Lep d 2	NPC2 Family
75	Tyrophagus putrescentiae	⦿	Tyr p	
76		○	Tyr p 2	NPC2 Family

MICROORGANISMS & SPORES

Yeast

77	Malassezia sympodialis	○	Mala s 5	unknown
78		○	Mala s 6	Cyclophilin
79		○	Mala s 11	Mn Superoxid-Dismutase
80	Yeast	⦿	Sac c	

Moulds

81	Alternaria alternata	○	Alt a 1	Alt a 1-Family
82		○	Alt a 6	Enolase
83	Aspergillus fumigatus	○	Asp f 1	Mitogillin Family
84		○	Asp f 3	Peroxisomal Protein
85		○	Asp f 4	unknown
86		○	Asp f 6	Mn Superoxid-Dismutase
87	Cladosporium herbarum	⦿	Cla h	
88		○	Cla h 8	Short Chain Dehydrogenase
89	Penicillium chrysogenum	⦿	Pen ch	



PLANT FOOD

Legumes

90	Peanut	○	Ara h 1	7/8S Globulin
91		○	Ara h 2	2S Albumin
92		○	Ara h 3	11S Globulin
93		○	Ara h 6	2S Albumin
94		○	Ara h 8	PR-10
95		○	Ara h 9	nsLTP
96		○	Ara h 15	Oleosin
97	Chickpea	●●●●	Cic a	
98	Soy	○	Gly m 4	PR-10
99		○	Gly m 5	7/8S Globulin
100		○	Gly m 6	11S Globulin
101		○	Gly m 8	2S Albumin
102	Lentil	●●●●	Len c	
103	White bean	●●●●	Pha v	
104	Pea	●●●●	Pis s	

Cereals

105	Oat	●●●●	Ave s	
106	Quinoa	●●●●	Che q	
107	Common buckwheat	●●●●	Fag e	
108		○	Fag e 2	2S Albumin
109	Barley	●●●●	Hor v	
110	Lupine seed	●●●●	Lup a	
111	Rice	●●●●	Ory s	
112	Millet	●●●●	Pan m	
113	Cultivated rye	●●●●	Sec c_flour	
114	Wheat	○	Tri a aA_TI	Alpha-Amylase Trypsin-Inhibitor
115		○	Tri a 14	nsLTP
116		○	Tri a 19	Omega-5-Gliadin
117	Spelt	●●●●	Tri s	
118	Maize	●●●●	Zea m	
119		○	Zea m 14	nsLTP



Spices

120	Paprika	⦿	Cap a	
121	Caraway	⦿	Car c	
122	Oregano	⦿	Ori v	
123	Parsley	⦿	Pet c	
124	Anise	⦿	Pim a	
125	Mustard	⦿	Sin	
126		⦿	Sin a 1	2S Albumin

Fruit

127	Kiwi	⦿	Act d 1	Cysteine protease
128		⦿	Act d 2	TLP
129		⦿	Act d 5	Kiwellin
130		⦿	Act d 10	nsLTP
131	Papaya	⦿	Car p	
132	Orange	⦿	Cit s	
133	Melon	⦿	Cuc m 2	Profilin
134	Fig	⦿	Fic c	
135	Strawberry	⦿	Fra a 1+3	PR-10+LTP
136	Apple	⦿	Mal d 1	PR-10
137		⦿	Mal d 2	TLP
138		⦿	Mal d 3	nsLTP
139	Mango	⦿	Man i	
140	Banana	⦿	Mus a	
141	Avocado	⦿	Pers a	
142	Cherry	⦿	Pru av	
143	Peach	⦿	Pru p 3	nsLTP
144	Pear	⦿	Pyr c	
145	Blueberry	⦿	Vac m	
146	Grapes	⦿	Vit v 1	nsLTP

Vegetables

147	Onion	⦿	All c	
148	Garlic	⦿	All s	
149	Celery	⦿	Api g 1	PR-10



150		○	Api g 2	nsLTP
151		○	Api g 6	nsLTP
152	Carrot	●●●●	Dau c	
153		○	Dau c 1	PR-10
154	Potato	●●●●	Sol t	
155	Tomato	●●●●	Sola l	
156		○	Sola l 6	nsLTP

Nuts

157	Cashew	●●●●	Ana o	
158		○	Ana o 2	11S Globulin
159		○	Ana o 3	2S Albumin
160	Brazil nut	●●●●	Ber e	
161		○	Ber e 1	2S Albumin
162	Pecan	●●●●	Car i	
163	Hazelnut	○	Cor a 1.0401	PR-10
164		○	Cor a 8	nsLTP
165		○	Cor a 9	11S Globulin
166		○	Cor a 11	7/8S Globulin
167		○	Cor a 14	2S Albumin
168	Walnut	○	Jug r 1	2S Albumin
169		○	Jug r 2	7/8S Globulin
170		○	Jug r 3	nsLTP
171		○	Jug r 4	11S Globulin
172		○	Jug r 6	7/8S Globulin
173	Macadamia	○	Mac i 2S Albumin	2S Albumin
174		●●●●	Mac inte	
175	Pistachio	○	Pis v 1	2S Albumin
176		○	Pis v 2	11S Globulin subunit
177		○	Pis v 3	7/8S Globulin
178	Almond	●●●●	Pru du	

Seed

179	Pumpkin seed	●●●●	Cuc p	
180	Sunflower seed	●●●●	Hel a	
181	Poppy seed	●●●●	Pap s	



182		○	Pap s 2S Albumin	2S Albumin
183	Sesame	●●●●	Ses i	
184		○	Ses i 1	2S Albumin
185	Fenugreek seeds	●●●●	Tri fo	

ANIMAL FOOD

Milk

186	Cow, milk	●●●●	Bos d_milk	
187		○	Bos d 4	α-Lactalbumin
188		○	Bos d 5	β-Lactoglobulin
189		○	Bos d 8	Casein
190	Camel	●●●●	Cam d	
191	Goat, milk	●●●●	Cap h_milk	
192	Mare's milk	●●●●	Equ c_milk	
193	Sheep, milk	●●●●	Ovi a_milk	

Egg

194	Egg white	●●●●	Gal d_white	
195	Egg yolk	●●●●	Gal d_yolk	
196	Egg white	○	Gal d 1	Ovomucoid
197		○	Gal d 2	Ovalbumin
198		○	Gal d 3	Ovotransferrin
199		○	Gal d 4	Lysozym C
200	Egg yolk	○	Gal d 5	Serum Albumin

Seafood

201	Herring worm	○	Ani s 1	Kunitz Serin Protease Inhibitor
202		○	Ani s 3	Tropomyosin
203	Crab	●●●●	Chi spp.	
204	Herring	●●●●	Clu h	
205		○	Clu h 1	β-Parvalbumin
206	Brown shrimp	○	Cra c 6	Troponin C
207	Carp	○	Cyp c 1	β-Parvalbumin
208	Atlantic cod	●●●●	Gad m	
209		○	Gad m 2+3	β-Enolase & Aldolase



210		⦿	Gad m 1	β-Parvalbumin
211	Lobster	⦿	Hom g	
212	Shrimp	⦿	Lit s	
213	Squid	⦿	Lol spp.	
214	Common mussel	⦿	Myt e	
215	Oyster	⦿	Ost e	
216	Shrimp	⦿	Pan b	
217	Scallop	⦿	Pec spp.	
218	Black Tiger Shrimp	⦿	Pen m 1	Tropomyosin
219		⦿	Pen m 2	Arginine kinase
220		⦿	Pen m 3	Myosin, light chain
221		⦿	Pen m 4	Sarcoplasmic Calcium Binding Protein
222	Thornback ray	⦿	Raj c	
223		⦿	Raj c Parvalbumin	α-Parvalbumin
224	Clam	⦿	Rud spp.	
225	Salmon	⦿	Sal s	
226		⦿	Sal s 1	β-Parvalbumin
227	Atlantic mackerel	⦿	Sco s	
228		⦿	Sco s 1	β-Parvalbumin
229	Tuna	⦿	Thu a	
230		⦿	Thu a 1	β-Parvalbumin
231	Swordfish	⦿	Xip g 1	β-Parvalbumin

Meat

232	House cricket	⦿	Ach d	
234	Cattle, meat	⦿	Bos d_meat	
235		⦿	Bos d 6	Serum Albumin
236	Horse, meat	⦿	Equ c_meat	
237	Chicken meat	⦿	Gal d_meat	
238	Migratory locust	⦿	Loc m	
239	Turkey	⦿	Mel g	
240	Rabbit, meat	⦿	Ory_meat	
241	Sheep, meat	⦿	Ovi a_meat	
242	Pork	⦿	Sus d_meat	
243		⦿	Sus d 1	Serum Albumin
244	Mealworm	⦿	Ten m	



INSECTS & VENOMS

Fire ant poison

245	Fire ant	••••	Sol spp.	
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Honey Bee Venom

246	Honey bee	••••	Api m	
247		⊙	Api m 1	Phospholipase A2
248		⊙	Api m 10	Icarapin Variant 2

Wasp Venom

249	Hornet	••••	Dol spp	
250	Paper wasp venom	••••	Pol d	
251		⊙	Pol d 5	Antigen 5
252	Wasp venom	••••	Ves v	
253		⊙	Ves v 1	Phospholipase A1
254		⊙	Ves v 5	Antigen 5

Cockroach

255	German Cockroach	⊙	Bla g 1	Cockroach Group 1
256		⊙	Bla g 2	Aspartyl protease
257		⊙	Bla g 4	Lipocalin
258		⊙	Bla g 5	Glutathione S-transferase
259		⊙	Bla g 9	Arginine kinase
260	American Cockroach	••••	Per a	
261		⊙	Per a 7	Tropomyosin

ANIMAL ORIGIN

Pet

262	Dog	⊙	Can f_Fd1	Uteroglobulin
263	Male dog urine (incl. Can f 5)	••••	Can f_male urine	
264	Dog	⊙	Can f 1	Lipocalin
265		⊙	Can f 2	Lipocalin
266		⊙	Can f 3	Serum Albumin



267		○	Can f 4	Lipocalin
268		○	Can f 6	Lipocalin
269	Guinea pig	○	Cav p 1	Lipocalin
270	Cat	○	Fel d 1	Uteroglobin
271		○	Fel d 2	Serum Albumin
272		○	Fel d 4	Lipocalin
273		○	Fel d 7	Lipocalin
274	House mouse	○	Mus m 1	Lipocalin
275	Rabbit, epithel	○	Ory c 1	Lipocalin
276		○	Ory c 2	Lipophilin
277		○	Ory c 3	Uteroglobin
278	Djungarian hamster	○	Phod s 1	Lipocalin
279	Rat	⦿	Rat n	

Farm Animals

280	Cattle	○	Bos d 2	Lipocalin
281	Goat, epithel	⦿	Cap h_epithelia	
282	Horse, epithel	○	Equ c 1	Lipocalin
283		○	Equ c 3	Serum Albumin
284		○	Equ c 4	Latherin
285	Sheep, epithel	⦿	Ovi a_epithelia	
286	Pig	⦿	Sus d_epithelia	

OTHERS

Latex

287	Latex	○	Hev b 1	Rubber elongation factor
288		○	Hev b 3	Small rubber particle protein
289		○	Hev b 5	unknown
290		○	Hev b 6.02	Pro-Hevein
291		○	Hev b 8	Profilin
292		○	Hev b 11	Class 1 Chitinase

Ficus

293	Weeping fig	⦿	Fic b	
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Ccd

294	Hom s Lactoferrin		○		Hom s LF		CCD	
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Parasite

295	Pigeon tick		○		Arg r 1		Lipocalin	
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Total IgE:

Normal Total-IgE

Adults: < 20 kU/L Allergy unlikely, 20 - 100 kU/L Allergy possible, > 100 kU/L Allergy likely

Information to cross-reactive allergens

NPC2

NPC2 allergens show a limited degree of cross-reactivity.

Members of the NPC2 family are present in house dust- and storage mites. The cross-reactivity between Der f 2 and Der p 2 is quite extensive. NPC2 allergens from storage mites show only a limited degree of cross-reactivity to their pendants in house dust mites.



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 and Phl p 1 are members of 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.

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).

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 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.

Blo t 21 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. Blo t 21 may serve as a marker for AIT indication, if corresponding clinical symptoms are present.

Lep d 2 is a member of the NPC2 allergen family. The degree of cross-reactivity between different members of the NPC2 family is moderate. Lep d 2 may serve as a marker for AIT indication, if corresponding clinical symptoms are present.

Gly d 2 is a member of the NPC2 allergen family. The degree of cross-reactivity between different members of the NPC2 family is moderate. Gly d 2 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).

Cockroach

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

Pest control is advised as a first line measure. If this is not possible, an AIT can be prescribed. Symptomatic treatment includes anti-histamines as well as corticosteroids in various formulations (tablet, spray).

Insect Venoms

Fire ant venom

Allergen Extract

Molecular Allergen

IgE < 0.3 negative or in question

Sensitisation to fire ant venom was detected. Allergic symptoms associated with this allergen source range from local to severe anaphylactic reactions. Fire ants are native to South America and have been imported to the Southern USA, Caribbean countries and recently also to China. Colonies in Australia have been eradicated.

As avoidance of fire ants can be difficult, AIT is the major therapy option. Additionally, the prescription of an emergency kit (incl. adrenalin autoinjector for severe cases) is advised.

Wasp

Sensitisation to wasp venom was detected. Allergic symptoms associated with wasp venom allergy range from local to severe anaphylactic reactions.

Ves v 5 is a member of the Antigen 5 allergen family, which serves as a marker for AIT indication, if corresponding clinical symptoms are present. The degree of cross-reactivity between Ves v 5 and other members of the Antigen 5 allergen family is high to other vespula species and lower to dolichovespula and vespa species.

Pol d 5 is a member of the Antigen 5 allergen family and serves as a marker for AIT indication, if corresponding clinical symptoms are present. The degree of cross-reactivity between Pol d 5 and other members of the Antigen 5 allergen family is moderate (e.g. to Ves v 5 from *Vespula vulgaris*).

As avoidance of wasps is difficult, AIT is the major therapy option in wasp venom allergy. Additionally the prescription of an emergency kit (incl. adrenalin autoinjector for severe cases) is advised.

Cereals and Seeds

Rye flour

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

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

Fruits

Kiwi

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

Act d 5 is a kiwi-specific allergen, also called Kiwellin. It is resistant to heat and digestion and is able to induce clinical reactions after intake.

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

Nuts and Legumes

Green bean

Sensitisation to green bean was detected. Allergic symptoms associated with green bean range from oral allergy syndrome to anaphylaxis.

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

Edible insects

Sensitisation to edible insects was detected. Allergic symptoms associated with edible insects range from oral allergy syndrome to anaphylaxis. The degree of cross-reactivity is high to other insects (e.g. cockroach) and also to mites and seafood.

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

Poultry

Sensitisation to poultry was detected. Allergic symptoms associated with poultry range from oral allergy syndrome to gastrointestinal complaints, urticaria and angioedema. Severe anaphylaxis with cardiovascular symptoms is rare. Chicken and turkey meat are highly cross-reactive and responsible for most poultry related reactions, while duck and goose meat causes milder or no symptoms.

Include extensive patient training on avoidance measures for mild reactions and the prescription of an emergency kit (including adrenalin autoinjector for severe cases). Heat-treatment, or other approaches such as freeze-drying, can decrease the allergenicity of poultry.

Red Meat

Rabbit meat

Sensitisation to rabbit-meat was detected. Allergic symptoms associated with rabbit-meat range from gastrointestinal symptoms to anaphylaxis. Rabbit meat allergy can be caused via sensitisation to Serum Albumin, or via sensitisation to alpha-Gal, a heat resistant sugar in non-primate mammals. Clinical reactions to alpha-Gal often have a delay of 3-6 hours.

Include extensive patient training on avoidance measures for mild reactions and the prescription of an emergency kit (including adrenalin autoinjector for severe cases). Heat-treatment, or other approaches such as freeze-drying, can decrease the allergenicity of rabbit meat in serum Albumin associated rabbit meat allergy.

Fish

Sensitisation to fish was detected. Allergic symptoms associated with fish allergy include mild to severe anaphylactic reactions after fish consumption as well as respiratory/asthmatic reactions upon exposure to cooking vapors.

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

Seafood

Crab

Sensitisation to crab was detected. Allergic symptoms associated with crab allergy include mild to severe anaphylactic reactions after consumption as well as respiratory/asthmatic reactions upon exposure to cooking vapors. The degree of cross-reactivity between crustaceans is very high.

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

Lobster

Sensitisation to lobster was detected. Allergic symptoms associated with lobster allergy include mild to severe anaphylactic reactions after consumption as well as respiratory/asthmatic reactions upon exposure to cooking vapors. The degree of cross-reactivity between crustaceans is very high.

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

Mussels

Sensitisation to mussels was detected. Allergic symptoms associated with mussels of various species range from oral allergy syndrome to anaphylaxis. Based on Tropomyosin (e.g. Pen m 1), Troponin C (e.g. Cra c 6) and other allergens, the degree of cross-reactivity between different mussel species can be very high. The importance of these cross-reactions has to be analysed on a clinical level.

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

Shrimp

Sensitisation to shrimp was detected. Allergic symptoms associated with shrimp allergy include mild to severe anaphylactic reactions after shrimp consumption as well as respiratory/asthmatic reactions upon exposure to cooking vapors. The degree of cross-reactivity between crustaceans is very high.

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

Squid

Sensitisation to squid was detected. Allergic symptoms associated with squid allergy include mild to severe anaphylactic reactions after consumption as well as respiratory/asthmatic reactions upon exposure to cooking vapors. Squid commonly cross-reacts with mussels and shrimp.

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.

	GRASS POLLEN Bahia grass, Bermuda grass, Common reed, Perennial ryegrass, Rye, Timothy grass	6		COCKROACH American cockroach, German cockroach	2
	TREE POLLEN 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	19		INSECT VENOMS Common wasp venom, Fire ant venom, Honeybee venom, Long-headed wasp venom, Paper wasp venom	5
	WEED POLLEN Annual mercury, Hemp, Lamb's quarter, Mugwort, Nettle, Pigweed, Ragweed, Ribwort, Russian thistle, Wall pellitory	10		FUNGAL SPORES & YEAST Alternaria alternata, Aspergillus fumigatus, Baker's yeast, Cladosporium herbarum, Malassezia sympodialis, Penicilium chrysogenum	6
	HOUSE DUST MITES & STORAGE MITES Acarus siro, American house dust mite, Blomia tropicalis, European house dust mite, Glycyphagus domesticus, Lepidoglyphus destructor, Tyrophagus putrescentiae	7		MILK Camel's milk, Cow's milk, Goat's milk, Mare's milk, Sheep's milk	5
	LEGUMES Chickpea, White bean, Lentil, Pea, Peanut, Soy	6		EGG Egg white, Egg yolk	2
	GRAINS Barley, Buckwheat, Corn, Cultivated rye, Lupine, Millet, Oat, Quinoa, Rice, Spelt, Wheat	11		FISH & SEAFOOD 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	20
	SPICES Anise, Caraway, Mustard, Oregano, Paprika, Parsley	6		MEAT Beef, Chicken, Horse, House cricket, Lamb, Mealworm, Migratory locust, Pig, Rabbit, Turkey	10
	FRUITS Avocado, Apple, Banana, Blueberry, Cherry, Fig, Grape, Kiwi, Mango, Muskmelon, Orange, Papaya, Peach, Pear, Strawberry	15		PETS Cat, Djungarian hamster, Dog, Guinea pig, Mouse, Rabbit, Rat	7
	VEGETABLES Carrot, Celery, Garlic, Onion, Potato, Tomato	6		FARM ANIMALS Cattle, Goat, Horse, Pig, Sheep	5
	NUTS & SEEDS Almond, Brazil nut, Cashew, Hazelnut, Macadamia, Pecan, Pistachio, Walnut, Fenugreek seeds, Poppy seed, Pumpkin seed, Sesame, Sunflower seed	13		OTHERS Latex, Hom s lactoferrin, Pigeon tick, Weeping fig	4

