Table S1. Reference values for specific IgE in serum

Age	Upper limit of normal, U/ml
1-5 years	60
6-9 years	155
10 – 15 years	199
> 16 years	100

Table S2. EAST scale for reporting the results.

EAST class	Concentration [kU/l]	Interpretation
0	< 0.35	undetectable IgE
1	0.35 – 0.7	very low IgE titer, often no clinical symptoms with sensitization present
2	0.7 – 3.5	low IgE titer, there is sensitization, often with clinical symptoms at higher class values
3	3.5 – 17.5	significant IgE titer, clinical symptoms are usually present
4	17.5 – 50	high IgE titer, symptoms are almost always present
5	50 – 100	very high IgE titer
6	> 100	abnormally high IgE titer

Table S3. ImmunoCAP reading scale (kUA/l) * The expected values for specific IgE are not age-dependent.

Quantitative result (kUA/l)*	Allergen-specific antibody level	Semi-quantitative result (specific IgE class)
<0.35	Missing / undetectable	0
0.35 – 0.7	Low	1
0.7 - <3.5	Moderate	2
3.5 - <17.5	High	3
17.5 - <50	Very high	4
50 - <100	Very high	5
100 и >100	Very high	6

Table S4. Comparison of mean total IgE (U/ml) titer values by sex (girls/boys)

Sex	N	Mean	SD	SE	95% CI		Min	Max
					Lower limit	Upper limit		
M	58	**256.57**	213.90	27.85	200.82	312.31	3.7	557.8
F	28	**274.63**	212.27	40.85	190.66	358.60	5.8	555.5
Total	86	262.24	212.31	22.89	216.72	307.76	3.7	557.8

Table S5. Comparison of the mean values of total IgE between positive specific IgE against cats and house dust mites against children with a negative test.

ELISA, Total IgE, U/ml	Median, IQR	p
sIgE cat < 3 EAST class	146.350 (57.05-427.450)	0.009
sIgE cat ≥ 3 EAST class	519.400 (185.250-552.75)	
sIgE *Derm. Pharinae* <1 EAST class	144.60 (54.42-363.32)	0.0001
sIgE *Derm. Pharinae* ≥ 1 EAST class	552.70 (506.90-554.55)	
sIgE *Derm. Pter*. <1 EAST class	137.20 (45.87-361.97)	0.0001
sIgE *Derm. Pter*. ≥ 1 EAST class	551.80 (438.65-554.45)	

Table S6a. ROC curve characteristics of EUROIMMUN aero vs ImmunoCAP Phadiatop

EUROIMMUN ped. (aeroallergens) vs. ImmunoCAP Phadiatop					
	AUC	SE	P	95% CI	
				Lower limit	Upper limit
gx/ grass mix	0.778	0.066	0.002	0.649	0.907
d1/*dermatoph. pter*	0.643	0.080	0.118	0.486	0.800
d2/*dermatoph. fa*	0.680	0.077	0.048	0.530	0.831
e1/cat	0.698	0.075	0.030	0.551	0.845
e2/dog	0.516	0.090	0.864	0.339	0.692
m2/*cladosporium*	0.525	0.090	0.784	0.348	0.702
m3/*aspergillus*	0.547	0.088	0.608	0.374	0.720
m6/*alternaria*	0.555	0.088	0.545	0.384	0.727

Table S6b. ROC curve characteristics of EUROIMMUN aero vs ImmunoCAP Phadiatop

Tested allergen	Sensitivity	Specificity
gx/grass mix	59.5%	93.3%
d2/*dermatoph. fa*	40.6%	93.3%
e1/cat	43.8%	93.3%

Table S7. Correlation analysis between ImmunoCAP Phadiatop and Euroimmun aero.

Spearman's rho		ImmunoCap Phadiatop	Cat e1	Dog e2	derm. p d1	derm. f d2	grass mix gx	Birch t3	Mugwort w6
Immuno Cap Phadiatop	Corr.coef.	1.000	0.448**	.045	0.483**	0.565**	0.452**	0.123	0.247
	p	.	0.01	0.759	0.001	0.000	0.001	0.405	0.091
	Number	48	48	48	48	48	48	48	48

** The correlation is significant at p-0.01; * The correlation is significant at p - 0.05

Table S8. Correlation analysis between ImmunoCAP Phadiatop and Euroimmun food.

Spearman's Rho		ImmunoCap/fx5 UA/l	Soybean	Peanut	Cow's Milk	Egg White	Codfish
ImmunoCap fx5 UA/l	Corr. Coef.	1.000	0.401 **	0.287 *	0.201	−0.127	−0.148
	p	.	0.005	0.048	0.170	0.388	0.316
	Number	48	48	48	48	48	48

** The correlation is significant at $p-0.01$; * The correlation is significant at $p-0.05$.

Table S9. ROC curve characteristics (assessment of the specificity and sensitivity of EUROIMMUN food to ImmunoCAP fx5)

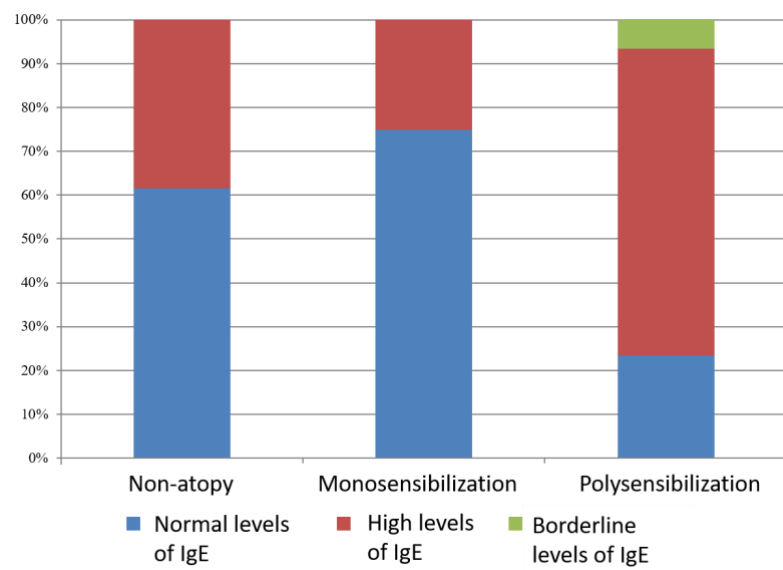| Tested allergen	AUC	SE	p	95% Confidential Interval	
				Lower limit	Upper limit
f2/cow milk	0.592	0.096	0.318	0.404	0.781
f76/a-lactalbumin	0.578	0.096	0.401	0.390	0.765
f77/b-lactalbumin	0.500	0.093	1.000	0.318	0.682
f78/ casein	0.471	0.090	0.751	0.294	0.648
f3/ codfish	0.477	0.091	0.803	0.298	0.655
f4/ wheal	0.709	0.091	0.024	0.530	0.888
f14/ soy	0.628	0.096	0.166	0.440	0.817
f13/ peanut	0.570	0.095	0.447	0.385	0.756

Figure S1. Comparison of total IgE titer in the group of non-atopic, mono- and polysensitised patients, Euroimmun pediatrics, *p* = 0.003.
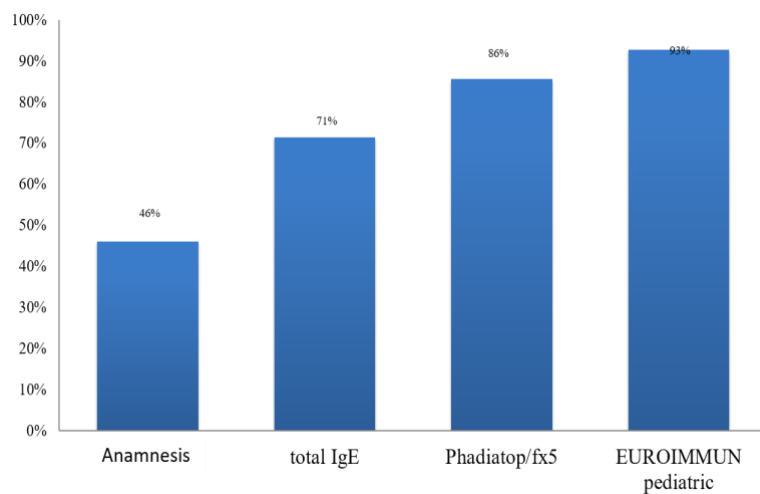

Figure S2. Classification of children with bronchial asthma and AR as atopic / non-atopic (N = 28).