Supplementary Material

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| **TABLE S1** Characteristics of children in the birth cohort and young children’s cohort. Values are medians and interquartile ranges, if not otherwise indicated. | | | |
|  | | Birth cohort  n=386 | Young children’s cohort  n=1575 |
| Proportion of males (%) | | 50.5 | 52.0 |
| Mother’s age at delivery, years | | 30.9 (28.5−34.2) | 31.8 (29.0−35.0) |
| Number of siblings at child’s birth | | 0 (0−1) | 1 (0−1) |
| Gestational age, weeks | | 40.3 (39.3−41.0) | 40.0 (39.0−40.9) |
| Caesarean section (%) | | 9.6 | 20.8 |
| Duration of breastfeeding, months | | 9.8 (4.7−12.2) | 9.0 (6.0−12.0) |
| Birth weight, g | | 3578 (3258−3861) | 3535 (3200−3890) |
| Birth length, cm | | 51 (49−52) | 51 (49−52) |
| HLA risk group (%) | |  |  |
|  | DR3-DQ2 / DR4-DQ8 | 9.1 | 2.1 |
|  | DR4-DQ8 / Xa or DR3-DQ2 / Yb | 90.9 | 21.1 |
|  | Non-risk genotypes | − | 76.9 |
| a X=DR4-DQ8 or a neutral haplotype  b Y=DR3-DQ2 or a neutral haplotype | | | |

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| **TABLE S2** Prevalence (%) of sIgE and SPT sensitisation for each allergen at 3 and 5 years. Prevalence of sIgE sensitisation for each allergen was compared between BC and YCC at the age of 3 year with Chi-square test (significant differences are bolded). | | | | | |
|  |  | BC | | YCC | |
|  | | sIgE | SPT | sIgE | SPT |
| 3 years | |  |  |  |  |
|  | Birch | 15.0 | 7.3 | 11.3 | NA |
|  | Timothy | 5.3 | 5.1 | 3.1 | NA |
|  | Cat | 5.4 | 4.8 | 4.1 | NA |
|  | Dog | 7.3 | 5.9 | 4.4 | NA |
|  | Dust mite | 2.7 | 0.4 | 1.5 | NA |
|  | Egg white | 17.4 | 12.1 | 15.9 | NA |
|  | Milk | **32.0 a** | 3.7 | **21.9 a** | NA |
|  | Peanut | 5.9 | 7.0 | 4.6 | NA |
|  | Wheat flour | NA | 2.6 | NA | NA |
| 5 years | |  |  |  |  |
|  | Birch | NA | NA | 18.1 | 29.6 |
|  | Timothy | NA | NA | 8.9 | 17.8 |
|  | Cat | NA | NA | 8.0 | 15.8 |
|  | Dog | NA | NA | 8.5 | 14.0 |
|  | Dust mite | NA | NA | 3.2 | 3.5 |
|  | Egg white | NA | NA | 14.3 | 10.0 |
|  | Milk | NA | NA | 20.8 | 3.0 |
|  | Peanut | NA | NA | 8.5 | 17.8 |
|  | Wheat flour | NA | NA | NA | 6.3 |
| a p<0.001 with Chi-square test  BC, birth cohort; sIgE, allergen-specific IgE; SPT, skin prick test; YCC, young children’s cohort | | | | | |

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| **TABLE S3** Relationship of IgE values and SPT diameters in children with clinical allergy symptoms. Results are marked with *P* values calculated with the Mann-Whitney U Test. All significant values (bolded) indicate that children with that allergy symptom show higher values of that particular allergy test, compared to children without that symptom. | | | | | | | |
|  | | | Atopic dermatitis | Wheezing | Symptoms associated with food allergies | Any of these three allergy signs | All of these three allergy signs |
| At 3 years (BC) | | |  |  |  |  |  |
|  | tIgE | | **0.006** | 0.089 | **0.002** | **0.001** | **0.036** |
|  | sIgE cat | | **<0.001** | 0.322 | **<0.001** | **0.001** | 0.051 |
|  | sIgE dog | | **0.006** | **0.045** | **<0.001** | **<0.001** | **0.019** |
|  | sIgE egg | | **0.009** | 0.158 | **<0.001** | **0.001** | 0.158 |
|  | sIgE milk | | 0.653 | 0.447 | 0.266 | 0.470 | 0.493 |
|  | sIgE peanut | | **0.002** | 0.427 | **0.002** | 0.109 | **0.027** |
|  | sIgE birch | | **0.001** | 0.401 | **<0.001** | **0.001** | **0.002** |
|  | sIgE timothy | | **0.002** | 0.654 | **0.004** | **0.046** | **0.034** |
|  | sIgE dust mite | | 0.100 | 0.122 | **0.002** | **0.045** | **0.010** |
|  | | SPT cat | **0.027** | 0.936 | 0.136 | 0.104 | 0.119 |
|  | SPT dog | | **0.001** | 0.616 | **<0.001** | **0.001** | **0.016** |
|  | SPT egg | | **<0.001** | 0.079 | **<0.001** | **<0.001** | **<0.001** |
|  | SPT milk | | **0.002** | 0.570 | **<0.001** | **0.023** | **0.039** |
|  | SPT peanut | | **0.043** | 0.309 | **0.001** | 0.082 | **<0.001** |
|  | SPT birch | | **<0.001** | 0.403 | **<0.001** | **<0.001** | **<0.001** |
|  | SPT timothy | | **0.046** | 0.737 | **<0.001** | 0.064 | **<0.001** |
|  | SPT dust mite | | 0.538 | 0.498 | 0.596 | 0.269 | 0.809 |
|  | SPT wheat flour | | **0.009** | **0.021** | **<0.001** | **0.016** | **<0.001** |
| At 5 years (YCC) | | |  |  |  |  |  |
|  | tIgE | | **<0.001** | **<0.001** | **<0.001** | **<0.001** | **<0.001** |
|  | sIgE cat | | **<0.001** | **<0.001** | **<0.001** | **<0.001** | **<0.001** |
|  | sIgE dog | | **<0.001** | **<0.001** | **<0.001** | **<0.001** | **<0.001** |
|  | sIgE egg | | **<0.001** | **<0.001** | **<0.001** | **<0.001** | **<0.001** |
|  | sIgE milk | | **<0.001** | **<0.001** | **<0.001** | **<0.001** | **<0.001** |
|  | sIgE peanut | | **<0.001** | **<0.001** | **<0.001** | **<0.001** | **<0.001** |
|  | sIgE birch | | **<0.001** | **<0.001** | **<0.001** | **<0.001** | **<0.001** |
|  | sIgE timothy | | **<0.001** | **<0.001** | **<0.001** | **<0.001** | **<0.001** |
|  | sIgE dust mite | | **<0.001** | **<0.001** | **<0.001** | **<0.001** | **<0.001** |
|  | | SPT cat | **<0.001** | **0.003** | **<0.001** | **<0.001** | **<0.001** |
|  | SPT dog | | **<0.001** | **<0.001** | **<0.001** | **<0.001** | **<0.001** |
|  | SPT egg | | **<0.001** | **<0.001** | **<0.001** | **<0.001** | **<0.001** |
|  | SPT milk | | **0.022** | **0.004** | **<0.001** | **0.015** | **<0.001** |
|  | SPT peanut | | **<0.001** | **<0.001** | **<0.001** | **<0.001** | **<0.001** |
|  | SPT birch | | **<0.001** | **<0.001** | **<0.001** | **<0.001** | **<0.001** |
|  | SPT timothy | | **<0.001** | **0.006** | **<0.001** | **<0.001** | **<0.001** |
|  | SPT dust mite | | **0.023** | **0.020** | 0.425 | 0.283 | **0.008** |
|  | SPT wheat flour | | **<0.001** | **<0.001** | **<0.001** | **<0.001** | **<0.001** |
| BC, birth cohort; sIgE, allergen-specific IgE; SPT, skin prick test; tIgE, total IgE; YCC, young children’s cohort | | | | | | | |

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| **TABLE S4** Strength of agreement between allergen-specific IgE and skin prick test sensitisations. Significant *P* values are bolded. | | | | |
| Sensitisation to allergens | | n | κ a (95% CI) | *P* |
| During the follow-up (age 0−3 or 3−5 years) | | 720 |  |  |
|  | Any allergen |  | 0.51 (0.46−0.54) | **<0.001** |
|  | Aeroallergen |  | 0.73 (0.67−0.76) | **<0.001** |
|  | Dietary allergen |  | 0.38 (0.34−0.40) | **<0.001** |
| At 3 years of age (BC) | | 264 |  |  |
|  | Any allergen |  | 0.40 (0.29−0.48) | **<0.001** |
|  | Aeroallergen |  | 0.69 (0.56−0.76) | **<0.001** |
|  | Dietary allergen |  | 0.37 (0.25−0.45) | **<0.001** |
| At 5 years of age (YCC) | | 396 |  |  |
|  | Any allergen |  | 0.65 (0.58−0.69) | **<0.001** |
|  | Aeroallergen |  | 0.87 (0.80−0.92) | **<0.001** |
|  | Dietary allergen |  | 0.43 (0.35−0.48) | **<0.001** |
| a κ=0.21−0.40 indicates fair agreement, κ=0.41−0.60 moderate agreement, κ=0.61−0.80 substantial agreement, κ=0.81−1.00 almost perfect agreement  BC, birth cohort; CI, confidence interval; κ, Cohen’s kappa coefficient; YCC, young children’s cohort | | | | |

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| **TABLE S5** Correlations between SPT diameter and sIgE values for each allergen at 3 years in the BC and at 5 years in the YCC. Significant *P* values are bolded. | | | | |
|  | 3 years (BC) | | 5 years (YCC) | |
|  | Spearman’s rho | *P* | Spearman’s rho | *P* |
| Birch | 0.477 | **<0.001** | 0.763 | **<0.001** |
| Timothy | 0.376 | **<0.001** | 0.621 | **<0.001** |
| Cat | 0.403 | **<0.001** | 0.660 | **<0.001** |
| Dog | 0.387 | **<0.001** | 0.551 | **<0.001** |
| Dust mite | 0.108 | **<0.001** | 0.195 | **<0.001** |
| Egg white | 0.509 | **<0.001** | 0.442 | **<0.001** |
| Milk | 0.204 | **<0.001** | 0.180 | **<0.001** |
| Peanut | 0.341 | **<0.001** | 0.616 | **<0.001** |
| BC, birth cohort; sIgE, allergen-specific IgE; SPT, skin prick test; YCC, young children’s cohort | | | | |