

# 1 Untargeted Metabolomic Profiling Identifies Disease-specific

## 2 Signatures in Food Allergy and Asthma

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26 **Supplementary Figure and Table Legends**

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28 **Fig E1.** Heat-map of metabolites significantly different ( $p < 0.005$ ) between asthmatic  
29 children and non-atopic controls. For each metabolite, a colorimetric representation of  
30 relative expression in each sample is shown according to the scale depicted on top.  
31 Metabolites are grouped into main dysregulated pathways and a miscellaneous category.

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33 **Fig. E2.** Comparison of sphingomyelin and ceramide metabolites of interest displayed in  
34 Figure 3 across all study groups. Mean and SEM are shown. \* $p \leq 0.05$ , \*\*  $p \leq 0.005$ , \*\*\*  
35  $p \leq 0.001$

36

37 **Fig. E3.** Comparison of tryptophan metabolites of interest displayed in Figure 5 across all  
38 study groups. Mean and SEM are shown. \* $p \leq 0.05$ , \*\*  $p \leq 0.005$

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40 **Fig. E4.** Comparison of bile acid ratios of interest displayed in Figure 6 across all study  
41 groups. Mean and SEM are shown. \* $p \leq 0.05$

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43 **Fig. E5.** Pathway analysis and Random Forrest Analysis of metabolites significantly  
44 dysregulated between FA children and controls. Panel **A** shows the fold increase over  
45 controls of the most dysregulated pathways in children with FA. Panel **B** shows the top  
46 thirty metabolites that most strongly discriminate between children with FA and controls.

47

48 **Fig. E6.** Pathway analysis and Random Forrest Analysis of metabolites significantly  
49 dysregulated between FA and asthmatic children. Panel **A** shows the fold increase over  
50 controls of the most dysregulated pathways in children with FA. Panel **B** shows the top  
51 thirty metabolites that most strongly discriminate between children with FA and asthma.

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53 **Table E1.** Patient Demographics and clinical attributes.

54

55 **Table E2.** List of metabolites significantly different ( $p \leq 0.005$ ) in pairwise comparisons of  
56 children with FA and non-atopic controls. Metabolite name, pathway, unadjusted and  
57 Atopic Dermatitis (AD) adjusted p-values are listed.

58

59 **Table E3.** List of metabolites significantly different ( $p \leq 0.005$ ) in pairwise comparisons of  
60 children with FA and asthma. Metabolite name, pathway, unadjusted and Atopic  
61 Dermatitis (AD) adjusted p-values are listed.

62

63 **Table E4.** List of metabolites significantly different ( $p \leq 0.005$ ) in pairwise comparisons of  
64 children with asthma and non-atopic controls. Metabolite name, pathway, unadjusted and  
65 Atopic Dermatitis (AD) adjusted p-values are listed.

66

67 **Table E5.** List of metabolites statistically different ( $p \leq 0.05$ ) in pairwise comparisons  
68 between children with FA allergy to one and multiple food items. Metabolite name,  
69 pathway, and p-values are listed.

70

71 **Table E6.** List of metabolites significantly different ( $p \leq 0.05$ ) in pairwise comparisons  
72 between food allergic children with and without history of anaphylaxis. Metabolite name,  
73 pathway, and p-values are listed.

74

75 **Table E7.** List of metabolites significantly different ( $p \leq 0.05$ ) in pairwise comparisons  
76 between food allergic children without Atopic Dermatitis and non-atopic controls.  
77 Metabolite name, pathway, and p-values are listed.

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