Abstract O-165 Table 1

	Odds-ratio	Confidence interval (95%)	p-value
PFOS	4.84	1.11–21.17	0.04
PFOA	1.85	0.39–8.66	0.44
PCB-153	1.04	0.05–20.42	0.62
P,p'-DDE	1.00	0.99–1.01	0.66
MECPP	2.01	0.26–15.61	0.50
MEHHP	0.20	0.02–1.73	0.15
MEOHP	0.18	0.01–2.34	0.19
MEHP	0.98	0.93–1.03	0.38

conclusion, prenatal exposure to endocrine disrupting chemicals poses children at risk of developing allergic symptoms.

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O-166 WITHDRAWN

O-167 BENEFICIAL EFFECTS OF SHORT-CHAIN GALACTO – AND LONG-CHAIN FRUCTO-OLIGOSACCHARIDES, BIFIDOBACTERIUM BREVE AND GLUTAMINE ON FOOD ALLERGY-INDUCED BEHAVIOURAL CHANGES IN MICE

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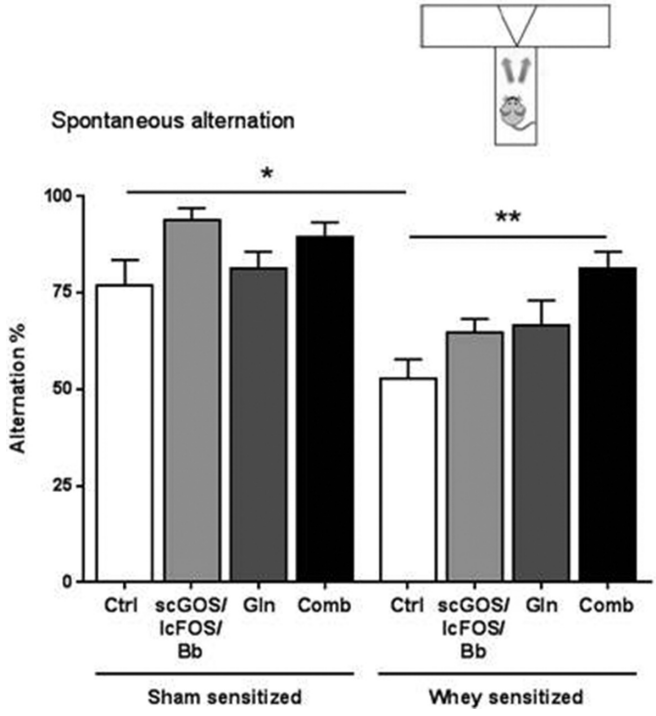
Background and aims Recent studies reveal an important link between the intestinal immune system, microbiota, brain and behaviour. Previously we have shown that food allergy in male mice caused behavioural and neurochemical changes. This study aimed to investigate the effects of a dietary intervention with immunomodulatory short-chain galacto – and long-chain fructo-oligosaccharides (scGOS/lcFOS), *Bifidobacterium breve* (Bb) and glutamine (Gln) on behavioural impairments in food allergic mice.

Methods Male C3H mice were fed a control, scGOS/lcFOS/Bb, Gln, or scGOS/lcFOS/Bb/Gln (comb) diet shortly after weaning and 2 weeks prior to first sensitisation with whey and cholera toxin (CT), or CT alone. Mice were sensitised for 5 weeks and subsequently orally challenged. Spontaneous alternation was examined in a T maze test 2 days after the last sensitisation and a social interaction test was conducted 1 day after oral challenge. Spontaneous alternation was used to measure exploratory behaviour and spatial memory.

Results Supplementation with scGOS/lcFOS/Bb or Gln partially prevented reduced spontaneous alternation, whereas supplementation with scGOS/lcFOS/Bb/Gln completely normalised alternation. Both scGOS/lcFOS/Bb and Gln partially attenuated reduced social behaviour in food allergic mice. No additional effect of the combination was observed on social behaviour. Supplementation with scGOS/lcFOS/Bb and/or Gln did not reduce allergic sensitisation, measured by whey-specific immunoglobulins.

Conclusions Supplementation with scGOS/lcFOS/Bb or Gln partially prevented food allergy-induced behavioural impairments and the combination normalised impaired alternation, without changing allergic sensitisation. Therefore, it is of interest to further investigate the effects of dietary supplementation with scGOS/lcFOS/Bb and Gln on immune-induced behavioural impairments in infants.



Abstract O-167 Figure 1

O-167a INFLAMMATORY SUBTYPES IN WHEEZING INFANTS: ASSESSMENT AND IDENTIFICATION USING INDUCED SPUTUM

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Background Patterns of wheezing during early childhood may indicate differences in aetiology and prognosis of respiratory illnesses.

Objectives This study evaluated sputum cytology in infants with recurrent wheezing to classify sputum inflammatory phenotypes and assessed their characterisation over time.

Methods Sputum induction were performed in 890 infants with recurrent wheezing. Samples were classified as eosinophilic (>2.5% eosinophils), neutrophilic (>54% neutrophils), mixed granulocytic (>2.5% eosinophils, >54% neutrophils), or paucigranulocytic (≤2.5% eosinophils, ≤54% neutrophils). Sputum induction were repeated after 3 months in infants with oral montelukast sodium (4 mg, QN) or nebulizer ICS (Budesonide aerosol 0.5 mg, Bid).

Results Total 504 infants (58.1%)had raised levels of inflammatory cells, eosinophilic 30.6%, neutrophilic 65.2%, mixed granulocytic 4.2%. Variabilities in sputum inflammatory phenotype were observed in both the severe and the mild to moderate wheezing groups. Changes in phenotype were not related to inhaled ICS or oral montelukast sodium, nor were it reflected in a change in tidal pulmonary function. About 27.3% infants fulfilled the criteria for eosinophilia and there were no differences in severity even atopy between non-eosinophilic and eosinophilic wheezing.

Conclusions Raised levels of inflammatory cells were frequently found in infants with recurrent wheezing. Sputum inflammatory