

**Relationships among Environmental Exposures, Cord Blood Cytokine Responses, Allergy,  
and Wheeze at One Year of Age in an Inner-City Birth Cohort (URECA)**

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Table E1. Factor loadings for cytokine responses to innate and adaptive stimuli.

	<u>Factor 1</u> IL-10/TNF- $\alpha$ response to LPS/PG	<u>Factor 2</u> IL-12/ IFN- $\gamma$ response to LPS/PG	<u>Factor 3</u> IFN- $\alpha$ response to LPS/PG	<u>Factor 4</u> IL-8 response to innate stimuli
<u>Model 1(innate stimuli)</u>				
LPS-induced IL-10	54*	-7	7	19
LPS-induced TNF- $\alpha$	48*	6	9	19
PG-induced IL-10	72*	-1	-5	16
PG-induced TNF- $\alpha$	45*	10	4	9
LPS-induced IFN- $\gamma$	-2	71*	1	0
LPS-induced IL-12	39	52*	-7	13
PG-induced IFN- $\gamma$	2	70*	-6	-8
PG-induced IL-12	62*	48*	-8	7
LPS-induced IFN- $\alpha$	4	-3	85*	4
PG-induced IFN- $\alpha$	5	-7	82*	-1
LPS-induced IL-8	25	0	2	79*
PG-induced IL-8	31	-1	2	78*
	<u>Factor 5</u> Response to PIC stimulant	<u>Factor 4<sup>†</sup></u> IL-8 response to innate stimuli	<u>Factor 6</u> Response to CpG stimulant	<u>Factor 7</u> Response to RSV stimulant
<u>Model 2(innate stimuli)</u>				
PIC-induced IFN- $\alpha$	56*	4	19	4
PIC-induced IFN- $\gamma$	53*	-6	47*	10
PIC-induced IL-10	64*	13	12	-4
PIC-induced IL-12	65*	23	15	-6
PIC-induced TNF- $\alpha$	46*	37	34	11
CpG-induced IL-8	13	83*	2	1
PIC-induced IL-8	9	75*	15	-2
RSV-induced IL-8	22	56*	-7	32
CpG-induced IFN- $\alpha$	21	4	35	-4
CpG-induced IFN- $\gamma$	12	6	72*	14
CpG-induced IL-10	60*	11	15	9
CpG-induced IL-12	12	4	43*	3

CpG-induced TNF- $\alpha$	32	36	44*	22
RSV-induced IFN- $\alpha$	-1	0	3	28
RSV-induced IFN- $\gamma$	-13	-16	29	56*
RSV-induced IL-10	33	11	-26	34
RSV-induced IL-12	31	13	-10	64*
RSV-induced TNF- $\alpha$	-2	22	13	71*
	<u>Factor 8</u>	<u>Factor 9</u>	<u>Factor 10</u>	<u>Factor 11</u>
	IFN- $\gamma$	IL-10	IL-13	Response to
	response to	response to	response to	PHA
	adaptive	adaptive	adaptive	stimulant
	stimuli	stimuli	stimuli	
<u>Model 3(adaptive</u>				
CR-induced IFN- $\gamma$	70*	7	13	
DM-induced IFN- $\gamma$	58*	11	44*	
TT-induced IFN- $\gamma$	73*	5	22	
CR-induced IL-10	16	56*	1	
DM-induced IL-10	0	66*	18	
TT-induced IL-10	0	75*	-1	
CR-induced IL-13	19	1	43*	
DM-induced IL-13	9	8	55*	
TT-induced IL-13	15	5	58*	
PHA-induced IFN- $\gamma$				‡
PHA-induced IL-10				‡
PHA-induced IL-13				‡

Factor loadings above 40 from varimax rotation are noted with an asterisk and serve to illustrate which stimulant-cytokine combinations cluster together. The colored boxes denote which responses were included in each of the 11 factors. Each cytokine response was re-scaled to a 0-5 scale (0=undetectable, 1-4=quartile of detectable responses across all stimulants). The re-scaled responses in each set of colored boxes were averaged to create the cytokine factor scores. Thus, each child gets a score for each factor that ranges from 0 to 5.

† The IL-8 factor score was combined across Model 1 and Model 2.

‡ Responses to PHA stimulant were highly correlated to one another and included by design as Factor 11.

Table E2. Associations between environmental factors\* and clinical outcomes.

	Spearman correlation		Unadjusted Odds Ratio		Adjusted <sup>†</sup> Odds Ratio	
	estimate	p-value	OR	p-value	OR	p-value
<u>EASI score <math>\geq 1</math> at 3 or 12 months</u>						
Bla g bed	0.03	0.59	1.08	0.60	1.34	0.08
Can f bed	-0.05	0.35	0.90	0.39	1.06	0.67
Cotinine level	-0.06	0.23	0.82	0.39	0.87	0.59
External Stress Index	0.10	0.05	1.12	0.06	1.07	0.32
Der p bed	-0.04	0.43	0.90	0.71	0.77	0.42
Mean EPDS score	-0.01	0.83	1.03	0.79	1.00	0.97
Ergosterol bed	-0.01	0.92	1.03	0.93	1.55	0.26
Ergosterol living room	-0.05	0.44	0.84	0.66	1.40	0.46
Fel d bed	0.03	0.52	1.05	0.63	0.83	0.12
Maternal smoking	-0.06	0.26	0.96	0.24	0.97	0.47
Mus m bed	-0.06	0.27	0.96	0.29	0.96	0.39
Mean PSS score	-0.06	0.27	0.81	0.29	0.83	0.39
Endotoxin bed	-0.03	0.54	0.90	0.63	1.09	0.71
<u>Any IgE <math>\geq 0.35</math> kUA/L</u>						
Bla g bed	-0.01	0.92	1.01	0.96	1.07	0.70
Can f bed	-0.01	0.93	0.97	0.81	0.96	0.79
Cotinine level	-0.06	0.25	0.79	0.32	0.81	0.38
External Stress Index	-0.05	0.36	0.94	0.33	0.92	0.20
Der p bed	-0.05	0.40	0.96	0.88	0.94	0.83
Mean EPDS score	-0.10	0.06	0.81	0.06	0.80	0.05
Ergosterol bed	-0.01	0.91	0.95	0.88	0.95	0.89
Ergosterol living room	-0.09	0.17	0.52	0.12	0.49	0.13
Fel d bed	-0.03	0.57	0.95	0.60	0.93	0.51
Maternal smoking	-0.08	0.13	0.70	0.13	0.72	0.16
Mus m bed	-0.12	0.04	0.78	0.04	0.76	0.05
Mean PSS score	-0.10	0.05	0.68	0.07	0.66	0.06
Endotoxin bed	-0.06	0.31	0.72	0.17	0.72	0.19
<u>Single Wheeze</u>						
Bla g bed	-0.13	0.01	0.73	0.03	0.73	0.06
Can f bed	0.01	0.90	1.03	0.79	1.03	0.81
Cotinine level	-0.05	0.33	0.90	0.64	0.86	0.53
External Stress Index	0.03	0.52	1.03	0.59	1.04	0.51
Der p bed	0.04	0.49	1.12	0.68	0.93	0.80
Mean EPDS score	0.05	0.31	1.09	0.40	1.03	0.75

Ergosterol bed	0.04	0.50	1.25	0.53	1.20	0.62
Ergosterol living room	0.03	0.68	1.33	0.48	0.95	0.91
Fel d bed	-0.14	0.01	0.79	0.02	0.83	0.10
Maternal smoking	0.03	0.53	1.15	0.53	1.15	0.54
Mus m bed	-0.16	<0.01	0.68	<0.01	0.72	0.02
Mean PSS score	0.12	0.02	1.60	0.01	1.54	0.03
Endotoxin bed	-0.07	0.23	0.77	0.25	0.75	0.23
<u>Multiple Wheeze</u>						
Bla g bed	0.00	1.00	1.01	0.96	1.17	0.29
Can f bed	0.01	0.79	1.03	0.82	1.05	0.71
Cotinine level	0.12	0.01	1.63	0.01	1.56	0.02
External Stress Index	0.06	0.20	1.08	0.19	1.11	0.10
Der p bed	0.10	0.04	1.64	0.03	1.41	0.15
Mean EPDS score	0.16	<0.01	1.38	<0.01	1.37	<0.01
Ergosterol bed	0.08	0.09	1.93	0.06	1.61	0.20
Ergosterol living room	0.12	0.03	2.44	0.03	1.58	0.31
Fel d bed	0.01	0.86	1.01	0.96	1.05	0.67
Maternal smoking	0.06	0.18	1.33	0.18	1.21	0.38
Mus m bed	-0.01	0.90	0.98	0.86	1.05	0.67
Mean PSS score	0.12	0.01	1.63	0.01	1.59	0.01
Endotoxin bed	0.08	0.10	1.44	0.08	1.33	0.20

\* The following environmental variables were log-transformed: bla g, can f, cotinine, der p, ergosterol, fel d, mus m, and endotoxin.

† These models have been adjusted for study site, birth season of the child, and sex of the child.

Table E3. Associations between cord blood cytokine responses and clinical outcomes

	Spearman correlation		Unadjusted Odds Ratio		Adjusted* Odds Ratio	
	estimate	p-value	OR	p-value	OR	p-value
<u>EASI score <math>\geq 1</math> at 3 or 12 months</u>						
IFN- $\gamma$ response to adaptive stimuli	-0.10	0.06	0.54	0.03	0.49	0.04
IL-10 response to adaptive stimuli	-0.13	0.02	0.49	0.08	0.52	0.12
IL-13 response to adaptive stimuli	-0.04	0.43	0.63	0.27	0.63	0.29
IFN- $\alpha$ response to LPS/PG	0.00	0.98	1.02	0.87	1.09	0.56
IL-10/TNF- $\alpha$ response to LPS/PG	-0.09	0.08	0.62	0.04	0.50	0.01
IL-12/ IFN- $\gamma$ response to LPS/PG	-0.05	0.36	0.75	0.16	0.61	0.02
IL-8 response to any stimuli	-0.02	0.66	0.91	0.58	0.79	0.20
Response to PHA stimulant	-0.22	<0.01	0.40	<0.01	0.54	0.02
Response to CpG stimulant	-0.10	0.06	0.70	0.08	0.75	0.19
Response to PIC stimulant	-0.11	0.02	0.67	0.03	0.65	0.04
Response to RSV stimulant	0.06	0.25	1.34	0.22	0.95	0.84
<u>Any IgE <math>\geq 0.35</math> kUA/L</u>						
IFN- $\gamma$ response to adaptive stimuli	-0.04	0.54	0.71	0.24	0.63	0.16
IL-10 response to adaptive stimuli	-0.08	0.19	0.58	0.20	0.57	0.18
IL-13 response to adaptive stimuli	-0.09	0.13	0.47	0.09	0.43	0.06
IFN- $\alpha$ response to LPS/PG	0.03	0.59	1.11	0.44	1.13	0.41
IL-10/TNF- $\alpha$ response to LPS/PG	-0.03	0.60	0.84	0.47	0.89	0.64
IL-12/ IFN- $\gamma$ response to LPS/PG	-0.01	0.88	0.94	0.75	0.90	0.61
IL-8 response to any stimuli	-0.02	0.74	0.93	0.68	0.90	0.55
Response to PHA stimulant	-0.03	0.60	0.90	0.66	0.95	0.84
Response to CpG stimulant	-0.02	0.68	0.95	0.79	0.98	0.93
Response to PIC stimulant	-0.04	0.43	0.86	0.45	0.90	0.61
Response to RSV stimulant	-0.02	0.73	0.90	0.64	0.95	0.84
<u>Single Wheeze</u>						
IFN- $\gamma$ response to adaptive stimuli	-0.02	0.74	0.84	0.45	0.87	0.58
IL-10 response to adaptive stimuli	-0.05	0.38	0.70	0.29	0.79	0.50
IL-13 response to adaptive stimuli	-0.04	0.47	0.65	0.25	0.78	0.54
IFN- $\alpha$ response to LPS/PG	-0.02	0.69	0.95	0.66	0.88	0.36
IL-10/TNF- $\alpha$ response to LPS/PG	-0.11	0.04	0.52	0.01	0.58	0.05
IL-12/ IFN- $\gamma$ response to LPS/PG	0.00	0.99	0.99	0.96	1.07	0.74
IL-8 response to any stimuli	0.03	0.58	1.12	0.48	1.23	0.23
Response to PHA stimulant	-0.06	0.21	0.70	0.09	0.65	0.06
Response to CpG stimulant	-0.06	0.26	0.77	0.20	0.83	0.39
Response to PIC stimulant	-0.02	0.65	0.89	0.48	1.01	0.97
Response to RSV stimulant	-0.09	0.09	0.75	0.17	0.86	0.51

Multiple Wheeze

IFN- $\gamma$ response to adaptive stimuli	-0.06	0.20	0.82	0.39	1.09	0.74
IL-10 response to adaptive stimuli	-0.02	0.73	0.78	0.49	0.88	0.74
IL-13 response to adaptive stimuli	-0.01	0.87	0.89	0.75	1.15	0.73
IFN- $\alpha$ response to LPS/PG	-0.02	0.59	0.96	0.75	1.09	0.54
IL-10/TNF- $\alpha$ response to LPS/PG	0.02	0.71	0.81	0.35	0.74	0.21
IL-12/ IFN- $\gamma$ response to LPS/PG	-0.05	0.24	0.86	0.40	0.93	0.70
IL-8 response to any stimuli	-0.01	0.75	0.92	0.61	1.00	0.98
Response to PHA stimulant	0.01	0.87	1.04	0.85	1.01	0.95
Response to CpG stimulant	0.06	0.16	1.32	0.15	1.31	0.18
Response to PIC stimulant	0.02	0.62	1.09	0.63	1.06	0.74
Response to RSV stimulant	0.00	0.97	1.04	0.85	0.92	0.71

\* These models have been adjusted for study site, birth season of the child, and sex of the child.

Table E4. Associations between environmental factors\* and cytokine responses.

	Spearman Correlation		Unadjusted Model <sup>†</sup>		Adjusted Model <sup>‡</sup>	
	estimate	p-value	estimate	p-value	estimate	p-value
<u>IFN-<math>\gamma</math> response to adaptive stimuli</u>						
Bla g bed	0.02	0.72	0.01	0.86	0.01	0.73
Can f bed	-0.07	0.19	-0.05	0.10	-0.05	0.10
Cotinine level	0.02	0.66	0.00	0.94	0.01	0.82
External Stress Index	-0.06	0.23	-0.02	0.12	-0.01	0.35
Der p bed	-0.06	0.27	-0.02	0.76	0.02	0.74
Mean EPDS score	-0.02	0.72	-0.01	0.73	0.01	0.66
Ergosterol bed	0.12	0.03	0.21	0.01	0.22	0.01
Ergosterol living room	0.00	0.99	-0.03	0.75	0.07	0.47
Fel d bed	-0.05	0.33	-0.02	0.36	0.01	0.77
Maternal smoking	-0.02	0.63	-0.05	0.35	-0.04	0.41
Mus m bed	-0.05	0.33	-0.02	0.49	-0.01	0.85
Mean PSS score	-0.03	0.58	-0.03	0.51	0.00	0.94
Endotoxin bed	-0.04	0.42	-0.04	0.50	0.00	0.99
<u>IL-10 response to adaptive stimuli</u>						
Bla g bed	-0.03	0.63	-0.01	0.51	-0.01	0.65
Can f bed	-0.05	0.39	-0.02	0.21	-0.03	0.12
Cotinine level	0.00	0.95	-0.01	0.84	-0.01	0.76
External Stress Index	0.00	0.94	0.00	0.94	0.00	0.70
Der p bed	-0.04	0.43	-0.04	0.29	-0.02	0.62
Mean EPDS score	0.03	0.50	0.00	0.79	0.01	0.53
Ergosterol bed	-0.02	0.67	-0.03	0.48	-0.04	0.41
Ergosterol living room	0.03	0.62	0.01	0.92	0.03	0.65
Fel d bed	-0.01	0.91	0.01	0.53	0.01	0.58
Maternal smoking	0.07	0.15	0.02	0.58	0.02	0.61
Mus m bed	-0.01	0.88	-0.01	0.68	-0.01	0.43
Mean PSS score	0.01	0.77	0.00	0.91	0.00	0.96
Endotoxin bed	-0.04	0.44	-0.02	0.63	-0.01	0.68
<u>IL-13 response to adaptive stimuli</u>						
Bla g bed	0.01	0.79	0.01	0.77	0.00	0.98
Can f bed	0.01	0.88	-0.01	0.63	-0.02	0.39
Cotinine level	0.00	0.95	0.00	0.97	0.00	0.89
External Stress Index	0.01	0.89	0.00	0.83	0.00	0.95
Der p bed	-0.01	0.81	-0.01	0.83	0.03	0.47
Mean EPDS score	0.00	0.93	0.01	0.54	0.01	0.30
Ergosterol bed	0.00	0.94	0.00	0.95	0.02	0.71



Ergosterol living room	-0.03	0.68	-0.01	0.90	0.06	0.33
Fel d bed	0.10	0.04	0.03	0.04	0.03	0.06
Maternal smoking	0.04	0.36	0.02	0.45	0.02	0.42
Mus m bed	0.00	1.00	0.01	0.48	0.00	0.95
Mean PSS score	0.00	0.92	0.00	0.85	0.01	0.69
Endotoxin bed	-0.05	0.36	-0.04	0.24	-0.04	0.25

IFN- $\alpha$  response to LPS/PG

Bla g bed	-0.07	0.17	-0.05	0.32	-0.02	0.66
Can f bed	0.03	0.57	0.03	0.44	0.05	0.24
Cotinine level	-0.02	0.66	-0.01	0.89	0.02	0.74
External Stress Index	-0.06	0.18	-0.02	0.22	0.00	0.94
Der p bed	-0.04	0.38	-0.05	0.61	0.00	0.97
Mean EPDS score	0.03	0.58	0.03	0.29	0.05	0.10
Ergosterol bed	-0.09	0.06	-0.20	0.09	-0.11	0.34
Ergosterol living room	-0.01	0.80	-0.04	0.78	0.12	0.37
Fel d bed	0.00	0.97	0.00	0.96	0.04	0.23
Maternal smoking	0.05	0.24	0.11	0.13	0.13	0.06
Mus m bed	-0.01	0.91	-0.01	0.84	-0.01	0.76
Mean PSS score	0.01	0.77	0.04	0.53	0.07	0.26
Endotoxin bed	-0.05	0.28	-0.12	0.11	-0.04	0.57

IL-10/TNF- $\alpha$  response to LPS/PG

Bla g bed	-0.07	0.16	-0.05	0.08	-0.04	0.13
Can f bed	-0.04	0.36	-0.02	0.30	-0.01	0.60
Cotinine level	-0.03	0.51	-0.01	0.78	0.00	0.96
External Stress Index	0.01	0.79	-0.01	0.32	-0.01	0.45
Der p bed	0.06	0.24	0.06	0.21	0.05	0.27
Mean EPDS score	0.01	0.77	-0.01	0.71	-0.01	0.74
Ergosterol bed	-0.09	0.08	-0.09	0.19	-0.07	0.33
Ergosterol living room	0.06	0.33	0.08	0.28	0.12	0.15
Fel d bed	0.11	0.02	0.03	0.11	0.02	0.23
Maternal smoking	0.05	0.23	0.02	0.63	0.01	0.82
Mus m bed	0.07	0.13	0.03	0.18	0.01	0.72
Mean PSS score	-0.01	0.74	-0.04	0.26	-0.03	0.33
Endotoxin bed	-0.07	0.16	-0.09	0.03	-0.09	0.03

IL-12/ IFN- $\gamma$  response to LPS/PG

Bla g bed	0.03	0.48	0.02	0.56	0.00	0.91
Can f bed	0.01	0.87	0.01	0.71	0.00	0.96
Cotinine level	-0.04	0.35	-0.05	0.31	-0.04	0.41
External Stress Index	0.03	0.45	0.01	0.48	0.00	0.89
Der p bed	0.01	0.82	0.01	0.92	0.04	0.52

Mean EPDS score	-0.01	0.87	0.01	0.62	0.01	0.56
Ergosterol bed	-0.07	0.19	-0.12	0.19	-0.08	0.41
Ergosterol living room	0.03	0.62	0.06	0.52	0.20	0.07
Fel d bed	0.09	0.06	0.06	0.01	0.04	0.13
Maternal smoking	-0.04	0.33	-0.07	0.20	-0.05	0.40
Mus m bed	0.09	0.06	0.04	0.21	0.02	0.45
Mean PSS score	0.01	0.84	-0.01	0.90	0.00	0.99
Endotoxin bed	0.02	0.63	0.00	0.97	0.01	0.92

IL-8 response to any stimuli

Bla g bed	-0.07	0.14	-0.07	0.07	-0.06	0.16
Can f bed	-0.05	0.26	-0.03	0.31	-0.04	0.29
Cotinine level	-0.08	0.07	-0.07	0.24	-0.06	0.28
External Stress Index	0.04	0.33	0.02	0.23	0.01	0.75
Der p bed	0.00	0.97	-0.04	0.57	-0.01	0.88
Mean EPDS score	0.03	0.58	-0.01	0.82	-0.01	0.81
Ergosterol bed	-0.11	0.02	-0.26	0.01	-0.20	0.05
Ergosterol living room	-0.09	0.11	-0.19	0.09	-0.04	0.75
Fel d bed	0.06	0.20	0.04	0.17	0.02	0.59
Maternal smoking	-0.02	0.71	-0.02	0.75	0.00	1.00
Mus m bed	0.13	0.01	0.06	0.04	0.05	0.11
Mean PSS score	0.02	0.67	0.02	0.76	0.01	0.77
Endotoxin bed	-0.09	0.06	-0.15	0.02	-0.13	0.04

Response to PHA stimulant

Bla g bed	0.06	0.22	0.02	0.39	-0.01	0.75
Can f bed	0.02	0.72	0.01	0.59	0.00	0.87
Cotinine level	-0.02	0.74	0.01	0.87	0.00	0.97
External Stress Index	-0.06	0.19	-0.02	0.08	-0.01	0.56
Der p bed	-0.01	0.83	0.03	0.62	0.04	0.45
Mean EPDS score	-0.01	0.91	-0.01	0.56	0.00	0.86
Ergosterol bed	-0.01	0.90	-0.02	0.79	-0.09	0.22
Ergosterol living room	0.16	<0.01	0.18	0.02	0.10	0.22
Fel d bed	-0.03	0.51	-0.02	0.31	0.01	0.60
Maternal smoking	-0.03	0.43	-0.04	0.33	-0.06	0.17
Mus m bed	-0.03	0.48	-0.01	0.82	0.01	0.61
Mean PSS score	-0.02	0.60	-0.01	0.70	-0.01	0.69
Endotoxin bed	0.00	0.97	0.00	0.96	-0.04	0.32

Response to CpG stimulant

Bla g bed	0.01	0.91	-0.01	0.75	-0.03	0.47
Can f bed	0.05	0.31	0.02	0.54	0.01	0.64
Cotinine level	-0.06	0.22	-0.04	0.40	-0.04	0.38

External Stress Index	0.00	0.97	0.00	0.81	0.01	0.50
Der p bed	0.04	0.35	0.02	0.75	0.03	0.65
Mean EPDS score	0.03	0.47	0.02	0.42	0.02	0.38
Ergosterol bed	0.01	0.83	0.04	0.62	0.06	0.49
Ergosterol living room	0.14	0.02	0.16	0.07	0.22	0.03
Fel d bed	-0.02	0.63	0.01	0.80	0.01	0.67
Maternal smoking	-0.05	0.30	-0.05	0.32	-0.06	0.22
Mus m bed	0.06	0.19	0.03	0.28	0.02	0.41
Mean PSS score	-0.03	0.55	-0.02	0.72	-0.01	0.73
Endotoxin bed	0.00	0.94	-0.02	0.64	-0.04	0.51

Response to PIC stimulant

Bla g bed	-0.04	0.46	-0.02	0.54	-0.04	0.30
Can f bed	0.01	0.77	0.01	0.70	0.01	0.73
Cotinine level	-0.03	0.50	-0.03	0.64	-0.04	0.50
External Stress Index	0.00	0.96	0.00	0.98	0.01	0.64
Der p bed	0.00	0.99	-0.05	0.48	-0.02	0.72
Mean EPDS score	-0.06	0.17	-0.02	0.30	-0.02	0.48
Ergosterol bed	0.04	0.46	0.04	0.67	0.03	0.76
Ergosterol living room	0.04	0.50	0.07	0.50	0.08	0.47
Fel d bed	0.08	0.09	0.04	0.12	0.04	0.19
Maternal smoking	-0.02	0.61	-0.02	0.69	-0.04	0.46
Mus m bed	0.02	0.68	0.02	0.46	0.00	0.92
Mean PSS score	-0.04	0.36	-0.04	0.44	-0.03	0.49
Endotoxin bed	-0.04	0.39	-0.06	0.25	-0.10	0.07

Response to RSV stimulant

Bla g bed	-0.08	0.13	-0.06	0.04	-0.04	0.25
Can f bed	-0.15	<0.01	-0.10	<0.01	-0.06	0.01
Cotinine level	-0.06	0.18	-0.07	0.15	-0.05	0.25
External Stress Index	-0.01	0.91	-0.01	0.62	0.00	0.99
Der p bed	0.06	0.19	0.08	0.14	0.08	0.12
Mean EPDS score	-0.02	0.71	0.01	0.62	0.01	0.63
Ergosterol bed	-0.05	0.37	-0.04	0.63	0.02	0.82
Ergosterol living room	0.03	0.60	0.09	0.26	0.18	0.03
Fel d bed	0.06	0.19	0.02	0.25	0.01	0.56
Maternal smoking	0.03	0.58	0.02	0.66	0.00	0.99
Mus m bed	0.14	<0.01	0.06	0.01	0.01	0.62
Mean PSS score	-0.04	0.35	-0.02	0.62	-0.01	0.85
Endotoxin bed	-0.07	0.19	-0.04	0.39	-0.03	0.56

\* The following environmental variables were log-transformed: bla g, can f, cotinine, der p, ergosterol, fel d, mus m, and endotoxin.

<sup>†</sup> Parameter estimates indicate the change in cytokine response for a 1-unit change in the predictor.

<sup>‡</sup> Parameter estimates indicate the change in cytokine response for a 1-unit change in the predictor while adjusting for study site, birth season of the child, and sex of the child.