

Supplementary table 1: The concentration of lipid mediators in lung samples from RWE-sensitized / PBS-challenged mice (M-) (n=6) and RWE-sensitized / RWE-challenged mice (M+) (n=6) were measured by HPLC-MS-MS. Results in ng/g lung tissue are expressed as mean ± SEM. The numbers in bold letters represent significant differences vs. RWE-challenged animals ($P < 0.05$, Mann-Whitney test). For abbreviations, see materials and methods.

	M- (conc. in ng/g)		M+ (conc. in ng/g)		Significance
AA	1454.2	± 404.6	976.3	± 130.80.02	
5-HETE	16.7	± 10.7	19.1	± 3.8	0.62
8-HETE	2.91	± 17.0	42.2	± 14.9	0.13
11-HETE	284.7	± 73.9	224.1	± 109.2	0.29
12-HETE	3169.3	± 1051.0	3563.1	± 394.9	0.41
15-HETE	375.5	± 94.0	490.8	± 162.4	0.16
20-HETE	2.5	± 1.7	2.9	± 1.6	0.66
LTB4	9.4	± 4.9	37.4	± 27.2	0.03
20-OH-LTB4	0.2	± 0.2	0.1	± 0.1	0.34
20-COOH-LTB4	7.4	± 6.2	7.3	± 6.4	0.98
20-COOH-AA	127.4	± 101.2	270.8	± 111.70.04	
LTC4	4.1	± 2.8	14.4	± 8.5	0.02
PGD2	2277.4	± 864.6	3463.3	± 806.50.04	
PGE2	9571.6	± 4057.6	15784.3	± 7607.7	0.11
d15d12PGD2	2.7	± 1.9	7.0	± 2.9	0.01
PGJ2	2.1	± 1.4	4.8	± 1.7	0.01
d15d12PGJ2	<0.1	± <0.1	0.1	± 0.1	0.28
TXB2	340.2	± 87.6	491.2	± 139.10.05	
8i-PGF2	53.5	± 9.0	56.2	± 11.0	0.66
PGF2	1016.7	± 277.6	1010.9	± 97.4	0.96
5-KETE	0.3	± 0.5	0.8	± 0.9	0.24
12-KETE	23.7	± 16.7	30.2	± 8.9	0.42
15-KETE	<0.1	± <0.1	<0.1	± <0.1	1.00
LXB4	0.2	± 0.2	0.3	± 0.6	0.78
LXA4	1.3	± 0.9	0.8	± 0.9	0.39
HXA3	42.4	± 11.9	71.1	± 48.0	0.19
HXB3	0.7	± 1.1	4.7	± 11.3	0.41
EPA	90.8	± 34.7	62.5	± 18.0	0.11
5-HEPE	0.7	± 0.4	0.6	± 0.2	0.73
8-HEPE	44.2	± 22.5	74.5	± 13.6	0.02
12-HEPE	184.0	± 98.2	278.4	± 97.4	0.13
15-HEPE	8.3	± 4.5	33.1	± 23.4	0.03
18-HEPE	2.0	± 1.5	3.4	± 2.1	0.24
LTB5	0.1	± 0.2	0.2	± 0.2	0.91
DHA	403.2	± 238.1	341.3	± 81.0	0.56
4-HDHA	0.6	± 0.3	0.5	± 0.3	0.30
10-HDHA	4.9	± 3.6	6.4	± 1.0	0.36
14-HDHA	249.0	± 173.8	501.8	± 153.70.02	
17-HDHA	48.4	± 38.7	144.6	± 98.2	0.05
20-HDHA	8.2	± 2.9	8.9	± 2.0	0.63
RvD1	0.1	± 0.1	1.3	± 2.2	0.24
RvD2	1.2	± 1.1	5.2	± 7.2	0.21
MAR	0.2	± 0.2	0.2	± 0.2	0.73
PD1	3.3	± 2.2	19.8	± 19.6	0.04
LA	356.7	± 118.9	316.5	± 26.6	0.44
9-HODE	722.4	± 286.6	717.6	± 84.8	0.97
13-HODE	627.4	± 299.6	854.7	± 395.5	0.29
13-KODE	97.1	± 69.5	104.3	± 44.8	0.84

Supplementary table 2: The concentration of lipid mediators in lung samples from base diet fed RWE-sensitized / PBS-challenged gerbils (C-) (n=6), base diet fed RWE-sensitized / RWE-challenged gerbils (C+) (n=6), lycopene-supplemented RWE-sensitized / PBS-challenged gerbils (L-) (n=6) and lycopene-supplemented RWE-sensitized / PBS-challenged gerbils (L+) (n=6) were measured by HPLC-MS-MS. Results in ng/g lung tissue are expressed as mean \pm SEM. The numbers in bold letters represent significant difference vs. RWE-challenged animals ($P < 0.05$, Mann-Whitney test). For abbreviations, see materials and methods.

	C-	C+	L-	L+	Significance			
	conc. in ng/g	conc. in ng/g	conc. in ng/g	con. In ng/g	C-:C+	L-:L+	C-:L-	C+/L+
AA	1042.4 \pm 74.7	1493.8 \pm 879.9	1021.0 \pm 325.6	1098.3 \pm 308.5	0.14	0.71	0.47	0.18
5-HETE	1.9 \pm 2.8	6.1 \pm 8.3	1.6 \pm 0.9	2.3 \pm 2.0	0.13	0.24	0.40	0.17
8-HETE	4.7 \pm 5.7	24.3 \pm 33.6	5.4 \pm 6.2	6.3 \pm 5.9	0.04	0.41	0.43	0.14
11-HETE	49.6 \pm 79.1	54.8 \pm 76.3	69.2 \pm 55.8	72.1 \pm 41.4	0.45	0.46	0.33	0.33
12-HETE	385.0 \pm 616.0	437.2 \pm 517.4	228.9 \pm 253.4	187.5 \pm 147.8	0.44	0.38	0.31	0.16
15-HETE	30.7 \pm 45.6	58.1 \pm 72.5	41.4 \pm 40.7	46.2 \pm 30.1	0.23	0.42	0.35	0.37
20-HETE	2.3 \pm 1.1	2.0 \pm 1.5	3.5 \pm 1.7	2.7 \pm 1.6	0.32	0.24	0.11	0.23
LTB4	0.2 \pm <0.1	0.5 \pm 0.1	0.1 \pm <0.1	0.1 \pm <0.1	0.04	0.17	0.10	0.05
20-OH-LTB4	0.5 \pm 0.9	0.2 \pm 0.2	0.2 \pm 0.1	0.2 \pm 0.1	0.18	0.23	0.18	0.40
20-COOH-LTB4	3.9 \pm 1.2	2.3 \pm 2.0	1.7 \pm 1.0	2.3 \pm 0.5	0.06	0.14	0.01	0.49
20-COOH-AA	6.8 \pm 10.4	8.6 \pm 11.8	2.4 \pm 2.9	2.0 \pm 2.4	0.39	0.42	0.19	0.13
LTC4	0.7 \pm 0.5	0.8 \pm 0.4	0.4 \pm 0.3	0.5 \pm 0.4	0.32	0.28	0.13	0.14
PGD2	235 \pm 84.5	229.9 \pm 58.2	558.4 \pm 44.4	836.8 \pm 80.0	0.49	0.14	0.09	0.01
PGE2	2525.2 \pm 4475.1	3090.8 \pm 3562.5	8313.6 \pm 6709.6	10024.4 \pm 7173.9	0.41	0.35	0.06	0.03
d15d12PGD2	0.9 \pm 1.0	0.7 \pm 0.6	1.8 \pm 0.9	3.6 \pm 2.5	0.39	0.09	0.07	0.01
PGJ2	0.6 \pm 0.6	0.5 \pm 0.6	1.0 \pm 0.4	1.4 \pm 0.8	0.38	0.19	0.12	0.03
d15d12PGJ2	0.1 \pm <0.1	0.1 \pm <0.1	0.1 \pm <0.1	0.1 \pm <0.1	0.50	-	0.04	0.04
TXB2	0.5 \pm 0.5	0.3 \pm 0.2	0.4 \pm 0.2	0.3 \pm 0.3	0.24	0.45	0.37	0.37
8i-PGF2	0.7 \pm 0.6	0.5 \pm 0.8	0.6 \pm 0.3	1.0 \pm 0.7	0.36	0.15	0.39	0.18
PGF2	89.0 \pm 111.3	47.7 \pm 62.7	123.5 \pm 42.5	178.9 \pm 92.8	0.22	0.13	0.27	0.01
5-KETE	0.2 \pm 0.2	0.2 \pm 0.2	0.3 \pm 0.1	0.2 \pm 0.1	0.45	0.14	0.40	0.33
12-KETE	4.1 \pm 5.7	8.5 \pm 12.7	2.0 \pm 2.4	1.7 \pm 0.7	0.23	0.40	0.23	0.13
15-KETE	0.6 \pm 0.5	0.5 \pm 0.5	0.2 \pm <0.1	0.4 \pm 0.2	0.32	0.02	0.04	0.35
LXB4	0.1 \pm <0.1	0.1 \pm <0.1	0.4 \pm 0.6	0.4 \pm 0.4	0.50	0.47	0.15	0.04
LXA4	0.1 \pm <0.1	0.1 \pm <0.1	0.2 \pm <0.1	0.6 \pm 0.2	0.17	0.20	0.15	0.15
HXA3	2.3 \pm 1.8	5.8 \pm 6.0	3.5 \pm 4.9	2.2 \pm 1.3	0.10	0.29	0.29	0.12
HXB3	0.1 \pm <0.1	0.1 \pm <0.1	0.1 \pm <0.1	0.1 \pm <0.1	0.17	-	0.19	0.04
EPA	73.7 \pm 61.3	99.1 \pm 81.8	73.6 \pm 32.0	69.2 \pm 15.4	0.28	0.39	0.50	0.22
5-HEPE	0.2 \pm 0.1	0.3 \pm 0.3	0.1 \pm <0.1	0.2 \pm 0.2	0.16	0.24	0.30	0.24
8-HEPE	4.7 \pm 7.8	5.3 \pm 7.6	2.0 \pm 2.8	1.9 \pm 2.3	0.45	0.48	0.25	0.19
12-HEPE	20.0 \pm 31.0	19.9 \pm 26.9	7.6 \pm 11.3	7.9 \pm 10.5	0.50	0.48	0.21	0.29
15-HEPE	0.7 \pm 0.7	2.3 \pm 3.0	1.3 \pm 1.8	1.6 \pm 2.3	0.12	0.41	0.26	0.33
18-HEPE	0.7 \pm 0.9	1.3 \pm 0.8	1.5 \pm 0.8	1.2 \pm 0.5	0.15	0.24	0.09	0.40
LTB5	0.1 \pm <0.1	0.1 \pm <0.1	0.1 \pm <0.1	0.2 \pm 0.2	0.50	0.17	0.04	0.15
DHA	118.0 \pm 89.6	133.5 \pm 134.9	92.5 \pm 38.7	81.5 \pm 13.9	0.41	0.28	0.29	0.21
4-HDHA	0.1 \pm <0.1	0.1 \pm <0.1	0.1 \pm <0.1	0.1 \pm <0.1	0.17	-	0.04	0.19
10-HDHA	0.2 \pm 0.1	1.0 \pm 1.3	0.2 \pm 0.2	0.3 \pm 0.3	0.07	0.27	0.49	0.12
14-HDHA	15.7 \pm 17.2	74.3 \pm 89.2	20.1 \pm 24.3	25.8 \pm 26.4	0.05	0.37	0.37	0.14
17-HDHA	1.4 \pm 1.9	2.8 \pm 3.7	1.4 \pm 1.3	1.3 \pm 0.6	0.21	0.44	0.48	0.20
20-HDHA	0.2 \pm 0.2	0.6 \pm 0.9	0.5 \pm 0.5	0.3 \pm 0.2	0.14	0.25	0.12	0.23
RvD1	0.1 \pm <0.1	0.1 \pm <0.1	0.1 \pm <0.1	0.4 \pm 0.5	0.17	0.12	0.04	0.10
RvD2	2.2 \pm 1.6	5.3 \pm 4.3	4.4 \pm 2.4	2.0 \pm 1.1	0.05	0.03	0.05	0.06
MAR	0.1 \pm <0.1	0.3 \pm 0.2	0.2 \pm 0.1	0.1 \pm <0.1	0.03	0.03	0.05	0.03
PD1	0.1 \pm <0.1	0.2 \pm 0.2	0.1 \pm <0.1	0.1 \pm <0.1	0.12	-	0.19	0.11
LA	324.0 \pm 238.0	416.5 \pm 343.6	261.3 \pm 90.2	251.9 \pm 73.1	0.30	0.43	0.30	0.16

9-HODE	56.5 ± 68.4	98.7 ± 110.7	80.5 ± 48.5	98.3 ± 59.2	0.22	0.31	0.26	0.50
13-HODE	68.7 ± 87.5	68.9 ± 84.3	100.9 ± 51.6	118.8 ± 70.3	0.50	0.33	0.24	0.16
13-KODE	9.2 ± 4.8	8.5 ± 5.3	11.8 ± 1.6	9.1 ± 4.3	0.40	0.11	0.14	0.42