

TABLE S1. Primers for mRNA expression analysis of reproductive and gestational tissue

Gene	Forward and Reverse Prime Sequence	GeneBank accession #
<i>Il1a</i>	F-5' CCGACCTCATTTTCTTCTGG 3', R-5' GTGCACCCGACTTTGTTCTT 3'	NM_010554.4
<i>Il1b</i>	F-5' CCAAAGCAATACCCAAAGAAA 3' R-5' GCTTGTGCTCTGCTTGTGAG 3'	NM 008361.3
<i>Il6</i>	F-5' ACAACCACGGCCTTCCCTAC 3', R-5' TCCACGATTTCCAGAGAACA 3'	NM 031168.1
<i>Il10</i>	F-5' AGGCGCTGTCATCGATTTCT 3' R-5' TGGCCTTGTAGACACCTTGGT 3'	NM 010548.2
<i>Tnf</i>	F-5' GTAGCCCACGTCGTA 3' R-5' TCCACGATTTCCCAG 3'	NM 013693.3
<i>Ptgs2</i>	F-5' GTTTGCATTCTTTGCCCAGC 3' R-5' AGTCCACTCCATGGCCCAGT 3'	NM 011198.3
<i>Tlr4</i>	F-5' TGGCATGGCTTACACCACC 3' R-5' GAGGCCAATTTTGTCTCCACA 3'	NM_021297
<i>Actb</i>	F-5' CGTGGGCCGCCCTAGGCACCA 3' R-5' ACACGCAGCTCATTGTA 3'	NM 007393.3
<i>Sry</i>	F-5' TGAAATCGGGAGGCG 3' R-5' TCGACGAACGACTAG 3'	NC_000087.7

TABLE S2. Effect of maternal LPS and (+)-naloxone treatment on body morphometry (absolute weight) in male and female progeny at 20 weeks.

Absolute weight	PBS	(+)-naloxone	LPS	LPS / (+)-nal
<i>Male progeny</i>				
N, pups (dams)	24 (10)	21 (7)	14 (5)	25 (7)
Total body weight (g) *	25.0 ± 0.5 ^a	27.5 ± 0.6 ^b	26.6 ± 0.8 ^{ab}	25.9 ± 0.6 ^a
Lean body weight (g)	24.4 ± 0.4 ^a	27.1 ± 0.4 ^b	24.9 ± 0.5 ^a	25.6 ± 0.4 ^{ab}
Total muscle (mg) §	748 ± 19 ^{ab}	831 ± 20 ^c	692 ± 25 ^b	817 ± 20 ^{ac}
Total central fat (mg) ^	734 ± 34 ^a	902 ± 36 ^b	864 ± 46 ^{ab}	840 ± 37 ^{ab}
Brain (mg)	413 ± 7	433 ± 9	422 ± 7	411 ± 7
Heart (mg)	133 ± 4	144 ± 4	138 ± 5	136 ± 4
Lungs (mg) #	193 ± 6	195 ± 6	184 ± 8	180 ± 6
Kidneys (mg) #	329 ± 8	357 ± 9	335 ± 11	330 ± 9
Liver (mg)	1225 ± 33	1220 ± 44	1335 ± 35	1301 ± 36
Adrenals (mg) #	5.25 ± 0.36	5.30 ± 0.49	5.10 ± 0.38	4.43 ± 0.40
Thymus (mg)	46.5 ± 2.2 ^a	57.5 ± 2.4 ^b	57.9 ± 3.0 ^b	55.0 ± 2.4 ^{ab}
Spleen (mg)	62.4 ± 4.8 ^a	83 ± 5 ^b	72.8 ± 6.5 ^{ab}	71.6 ± 5.3 ^{ab}
Testes (mg) #	184 ± 5	190 ± 5	187 ± 7	181 ± 5
Seminal vesicle (mg)	258 ± 11 ^{ab}	258 ± 12 ^{ab}	220 ± 16 ^a	275 ± 13 ^b
Epididymis (mg)	82.4 ± 4.8 ^{ab}	86 ± 5 ^{ab}	100 ± 7 ^a	74.0 ± 5.3 ^b
<i>Female progeny</i>				
N, pups (dams)	21 (10)	8 (5)	9 (4)	13 (7)
Total body weight (g) *	21.9 ± 0.5	22.8 ± 0.7	21.4 ± 0.8	21.7 ± 0.6
Lean body weight (g)	21.0 ± 3.8	22.0 ± 6.2	20.3 ± 5.8	20.7 ± 0.5
Total muscle (mg) §	587 ± 15 ^{ab}	661 ± 24 ^a	541 ± 23 ^b	608 ± 20 ^{ab}
Total central fat (mg) ^	716 ± 34	618 ± 55	650 ± 52	628 ± 45
Brain (mg)	412 ± 6	419 ± 9	415 ± 9	388 ± 8
Heart (mg)	112 ± 3	106 ± 4	120 ± 4	109 ± 4
Lungs (mg) #	183 ± 7	180 ± 11	178 ± 11	168 ± 9
Kidneys (mg) #	262 ± 6	276 ± 11	254 ± 10	256 ± 9
Liver (mg)	1111 ± 36	1020 ± 55	1219 ± 59	1171 ± 48
Adrenals (mg) #	6.08 ± 0.52	8.21 ± 0.80	6.70 ± 0.85	5.81 ± 0.69
Thymus (mg)	59.8 ± 2.9	66.6 ± 4.6	57.5 ± 4.4	65.5 ± 3.8
Spleen (mg)	69.2 ± 2.7	71.0 ± 4.4	65.5 ± 4.1	70.8 ± 3.6
Uterus (mg)	59.2 ± 5.2	68.2 ± 8.4	58.4 ± 12.2	59.4 ± 7.2
Ovaries (mg) #	7.13 ± 0.63	7.50 ± 1.03	8.46 ± 1.50	7.14 ± 0.88

* Data are estimated marginal mean ± SEM absolute weights in in 20 week old male and female progeny of dams administered LPS and/or (+)-naloxone in late gestation. Effect of treatment group was analysed by Mixed Model Linear Repeated Measures ANOVA, using litter size as covariate.

^ Total central fat is the sum of all fat depots measured. The number of progeny in each group is indicated, with the number of pregnant dams in parentheses. Detailed data on fat and muscle are shown in Table 2.

§ Total muscle is the sum of all muscles measured.

Combined weight of left and right organs.

^{a,b,c} Different superscript letters indicate differences between treatment groups ($p < 0.05$).

TABLE S3. Effect of maternal LPS and (+)-naloxone treatment on body composition (relative) in male and female progeny at 20 weeks.

Relative weight	PBS	(+)-naloxone	LPS	LPS / (+)-nal
<i>Male progeny</i>				
N, pups (dams)	24 (10)	21 (7)	14 (5)	25 (7)
Total muscle (%) §*	3.59 ± 0.09 ^{ab}	3.99 ± 0.01 ^c	3.32 ± .012 ^b	3.93 ± 0.10 ^{ac}
Total central fat (%)*	3.52 ± 0.17 ^a	4.28 ± 0.22 ^b	4.32 ± 0.18 ^b	3.98 ± 0.16 ^{ab}
Brain (%)	1.70 ± 0.03 ^a	1.56 ± 0.03 ^b	1.75 ± 0.04 ^a	1.61 ± 0.03 ^{ab}
Heart (%)	0.64 ± 0.02	0.69 ± 0.02	0.66 ± 0.02	0.65 ± 0.02
Lungs (%) #	0.93 ± 0.03	0.94 ± 0.03	0.88 ± 0.04	0.87 ± 0.03
Kidneys (%) #	1.58 ± 0.04	1.73 ± 0.04	1.61 ± 0.05	1.59 ± 0.04
Liver (%)	5.88 ± 0.16	6.41 ± 0.17	5.86 ± 0.21	6.25 ± 0.17
Adrenals (%) #	0.03 ± 0.00	0.02 ± 0.00	.03 ± 0.00	0.02 ± 0.00
Thymus (%)	0.22 ± 0.01 ^a	0.28 ± 0.01 ^b	0.28 ± 0.01 ^b	0.27 ± 0.01 ^{ab}
Spleen (%)	0.30 ± 0.02 ^a	0.40 ± 0.02 ^b	0.35 ± 0.03 ^{ab}	0.34 ± 0.03 ^{ab}
Testes (%) #	0.88 ± 0.02	0.91 ± 0.03	0.90 ± 0.03	0.87 ± 0.03
Seminal vesicle (%)	1.24 ± 0.06 ^{ab}	1.24 ± 0.06 ^{ab}	1.06 ± 0.08 ^a	1.32 ± 0.06 ^b
Epididymis (%)	0.40 ± 0.02 ^{ab}	0.41 ± 0.02 ^{ab}	0.48 ± 0.03 ^a	0.36 ± 0.03 ^b
<i>Female progeny</i>				
N, pups (dams)	21 (10)	8 (5)	9 (4)	13 (7)
Total muscle (%) §*	2.82 ± 0.07 ^{ab}	3.18 ± 0.12 ^a	2.60 ± 0.11 ^b	2.92 ± 0.10 ^{ab}
Total central fat (%)*	3.43 ± 0.16	2.96 ± 0.26	3.11 ± 0.25	2.95 ± 0.21
Brain (%)	1.97 ± 0.04	1.91 ± 0.06	2.05 ± 0.05	1.89 ± 0.05
Heart (%)	0.54 ± 0.01	0.58 ± 0.02	0.51 ± 0.02	0.52 ± 0.02
Lungs (%) #	0.88 ± 0.03	0.87 ± 0.05	0.85 ± 0.05	0.81 ± 0.04
Kidneys (%) #	1.26 ± 0.03	1.32 ± 0.05	1.22 ± 0.05	1.29 ± 0.04
Liver (%)	5.34 ± 0.17	5.85 ± 0.28	4.90 ± 0.26	5.62 ± 0.23
Adrenals (%) #	0.03 ± 0.00	0.03 ± 0.00	0.04 ± 0.00	0.03 ± 0.00
Thymus (%)	0.29 ± 0.01	0.32 ± 0.02	0.28 ± 0.02	0.31 ± 0.02
Spleen (%)	0.33 ± 0.01	0.34 ± 0.02	0.31 ± 0.02	0.34 ± 0.02
Uterus (%)	0.28 ± 0.02	0.33 ± 0.04	0.28 ± 0.06	0.29 ± 0.03
Ovaries (%) #	0.03 ± 0.00	0.04 ± 0.00	0.04 ± 0.01	0.03 ± 0.00

* Data are estimated marginal mean ± SEM relative weights in 20 week old male and female progeny of dams administered LPS and/or (+)-naloxone in late gestation. Effect of treatment group was analysed by Mixed Model Linear Repeated Measures ANOVA, using litter size as covariate. The number of progeny in each group is indicated, with the number of pregnant dams in parentheses. Data on fat and muscle are shown in Table 3.

^ Total central fat is the sum of all fat depots measured. § Total muscle is the sum of all muscles measured.

Combined weight of left and right organs.

^{a,b,c} Different superscript letters indicate differences between treatment groups ($p < 0.05$).

TABLE S4. Effect of fetal sex and (+)-naloxone treatment on *Tlr4* expression in fetal and gestational tissues after LPS administration.

	sex	(+)-naloxone	sex- (+)-naloxone interaction	LPS		LPS + (+)-naloxone	
				male	female	male	female
(n)				10	6	5	11
placenta	NS	NS	NS	0.65 ± 0.08	0.69 ± 0.40	0.52 ± 0.25	0.49 ± 0.17
fetal membrane	NS	NS	NS	3.04 ± 0.39	6.70 ± 2.13	4.02 ± 1.18	5.43 ± 1.00
fetal brain	NS	NS	NS	2.51 ± 0.57	1.76 ± 0.25	5.81 ± 2.12	4.47 ± 1.05
decidua	NS	NS	NS	0.32 ± 0.04	0.30 ± 0.02	0.53 ± 0.11 [^]	0.36 ± 0.05
myometrium	NS	NS	NS	0.69 ± 0.15	0.43 ± 0.10	0.72 ± 0.31	0.43 ± 0.06

[^]P<0.10, LPS + (+)-nal vs. LPS alone, within same sex by ANOVA

TABLE S5. Effect of fetal sex and (+)-naloxone treatment on *Tlr4* expression in fetal and gestational tissues, without LPS administration.

	sex	(+)-naloxone	sex- (+)-naloxone interaction	PBS		PBS + (+)-naloxone	
				male	female	male	female
(n)				10	6	5	11
placenta	NS	NS	NS	1.05 ± 0.29	0.85 ± 0.38	0.88 ± 0.31	0.92 ± 0.12
fetal membrane	NS	NS	NS	0.82 ± 0.21	1.49 ± 0.79	1.55 ± 1.23	1.56 ± 0.73
fetal brain	NS	NS	NS	1.01 ± 0.16	0.92 ± 0.28	1.67 ± 1.13	1.03 ± 0.12
decidua	NS	NS	NS	1.23 ± 0.53	0.43 ± 0.15	0.33 ± 0.17	0.96 ± 0.46
myometrium	NS	NS	NS	1.09 ± 0.39	0.64 ± 0.33	0.77 ± 0.44	0.90 ± 0.27