

Table S1. Summary of response variables for the LPS experiment

Response variable	N	Effect	d.f. (Num, Den)	F	P
Sickness behaviour	136	Innate treatment	2, 12	47.31	<0.001
		Linetype	1, 6	3.23	0.122
		Innate treatment x linetype	2, 12	0.40	0.682
		Mini	1, 106	14.62	<0.001 (+)
log (Initial mass)	136	Innate treatment	2, 12	0.36	0.707
		Linetype	1, 6	1.49	0.268
		Innate treatment x linetype	2, 12	1.89	0.194
		Mini	1, 106	1.11	0.294 (-)
log (Final mass)	136	Innate treatment	2, 12	13.68	<0.001
		Linetype	1, 6	0.61	0.465
		Innate treatment x linetype	2, 12	0.32	0.730
		Mini	1, 106	1.10	0.298 (-)
Change in mass	136	Innate treatment	2, 12	48.74	<0.001
		Linetype	1, 6	5.33	0.060
		Innate treatment x linetype	2, 12	3.22	0.076
		Mini	1, 106	1.24	0.268 (-)
Change in haematocrit	136	Innate treatment	2, 12	26.84	<0.001
		Linetype	1, 6	1.76	0.233
		Innate treatment x linetype	2, 12	0.07	0.932
		Mini	1, 106	2.01	0.159 (+)
Haematocrit – 2 h after injection	136	Innate treatment	2, 12	35.05	<0.001
		Linetype	1, 6	0.06	0.812
		Innate treatment x linetype	2, 12	1.11	0.361
		mini	1, 106	0.79	0.375 (-)
Hematocrit – after wheels	136	Innate treatment	2, 12	0.74	0.497
		Linetype	1, 6	0.23	0.648
		Innate treatment x linetype	2, 12	0.57	0.581
		Mini	1, 106	2.17	0.144 (+)
log (Dry liver mass)	136	Innate treatment	2, 12	22.24	<0.001
		Linetype	1, 6	0.85	0.391
		Innate treatment x linetype	2, 12	0.74	0.497
		Log (final body mass)	1, 105	208.20	<0.001 (+)
		Mini	1, 105	13.12	<0.001 (+)
log (Wet spleen mass)	136	Innate treatment	2, 12	117.6	<0.001
		Linetype	1, 6	0.35	0.576
		Innate treatment x linetype	2, 12	2.89	0.094
		Log (final body mass)	1, 105	58.80	<0.001 (+)
		Mini	1, 105	8.14	0.005 (+)
Rank TNF- α	134	Innate treatment	2, 12	170.33	<0.001
		Linetype	1, 6	1.51	0.265
		Innate treatment x linetype	2, 12	0.23	0.799
		Mini	1, 104	0.57	0.452 (+)
Rank GM-CSF	134	Innate treatment	2, 12	74.97	<0.001
		Linetype	1, 6	0.17	0.693
		Innate treatment x linetype	2, 12	0.31	0.742
		Mini	1, 104	0.10	0.754 (+)
Rank IL-1 β	134	Innate treatment	2, 12	99.03	<0.001
		Linetype	1, 6	1.10	0.335
		Innate treatment x linetype	2, 12	0.35	0.710
		Mini	1, 104	1.45	0.231 (-)
Rank IL-6	134	Innate treatment	2, 12	301.36	<0.001
		Linetype	1, 6	1.09	0.337
		Innate treatment x linetype	2, 12	0.47	0.637
		Mini	1, 104	0.87	0.353 (+)
Day 1, Sqrt (distance run)	135	Innate treatment	2, 12	91.21	<0.001
		Linetype	1, 6	17.76	0.006
		Innate treatment x linetype	2, 12	2.91	0.093
		Mini	1, 104	2.67	0.105 (+)
		Sqrt(freeness)	1, 104	1.19	0.279 (-)
Day 2, Sqrt (distance run)	135	Innate treatment	2, 12	21.26	0.001
		Linetype	1, 6	21.71	0.004
		Innate treatment x linetype	2, 12	0.01	0.989
		Mini	1, 104	0.01	0.930 (+)
		Sqrt(freeness)	1, 104	1.55	0.216 (-)
Day 1, Sqrt (running duration)	135	Innate treatment	2, 12	159.94	<0.001
		Linetype	1, 6	5.31	0.061
		Innate treatment x linetype	2, 12	4.87	0.028
		Mini	1, 104	1.02	0.315 (+)
		Sqrt(freeness)	1, 104	0.01	0.923 (+)
Day 2, Sqrt (running duration)	135	Innate treatment	2, 12	30.70	<0.001
		Linetype	1, 6	2.95	0.137
		Innate treatment x linetype	2, 12	0.26	0.774
		Mini	1, 104	0.01	0.930 (+)

		Sqrt(freeness)	1, 104	0.27	0.602 (-)
Day 1, Sqrt (mean speed)	135	Innate treatment	2, 12	20.89	<0.001
		Linetype	1, 6	31.58	0.001
		Innate treatment x linetype	2, 12	0.66	0.536
		Mini	1, 104	2.90	0.092 (+)
		Sqrt(freeness)	1, 104	4.87	0.030 (-)
Day 2, Sqrt (mean speed)	135	Innate treatment	2, 12	34.67	<0.001
		Linetype	1, 6	36.21	0.001
		Innate treatment x linetype	2, 12	1.73	0.219
		Mini	1, 104	2.90	0.092 (+)
		Sqrt(freeness)	1, 104	3.25	0.075 (-)
Day 1, Maximum speed	135	Innate treatment	2, 12	7.81	0.007
		Linetype	1, 6	21.69	0.004
		Innate treatment x linetype	2, 12	1.88	0.195
		Mini	1, 104	1.39	0.241 (+)
		Sqrt(freeness)	1, 104	0.03	0.854 (-)
Day 2, Maximum speed	135	Innate treatment	2, 12	4.40	0.037
		Linetype	1, 6	36.21	<0.001
		Innate treatment x linetype	2, 12	0.16	0.853
		Mini	1, 104	0.09	0.767 (+)
		Sqrt(freeness)	1, 104	2.00	0.161 (-)

Statistics were run in SAS using Proc Mixed. Fixed effects that are significant at $\alpha=0.05$ are bold. log-transformed body mass was included as a covariate in the analyses for organ masses. Wheel freeness was included in analyses for wheel running variables. Sign after *P*-values for mini-muscle indicates direction of mini-muscles effect (e.g. + indicates that the mini-muscle mice have a higher mean than normal-muscle mice).

N, sample size; d.f., degrees of freedom; mini, dummy variable that indicates whether the mice have mini-muscle; sqrt, square-root transformed.

Table S2. Results from the analysis examining how rank-TNF α varied within each LPS treatment

LPS treatment	<i>N</i>	Effect	d.f. (Num, Den)	<i>F</i>	<i>P</i>
LPS	45	Linetype	1,6	1.26	0.304
		Mini	1,31	0.11	0.742 (-)
Sham	44	Linetype	1,5	0.04	0.846
		Mini	1,31	3.00	0.093 (+)
Baseline	45	Linetype	1,6	1.01	0.353
		Mini	1,31	0.67	0.418 (-)

Statistics were run in SAS using Proc Mixed. Sign after *P*-values for mini-muscle indicates direction of mini-muscle effect (e.g. + indicates that the mini-muscle mice have a higher mean than normal muscle mice).

N, sample size; d.f., degrees of freedom; mini, dummy variable that indicates whether the mice have mini-muscle.