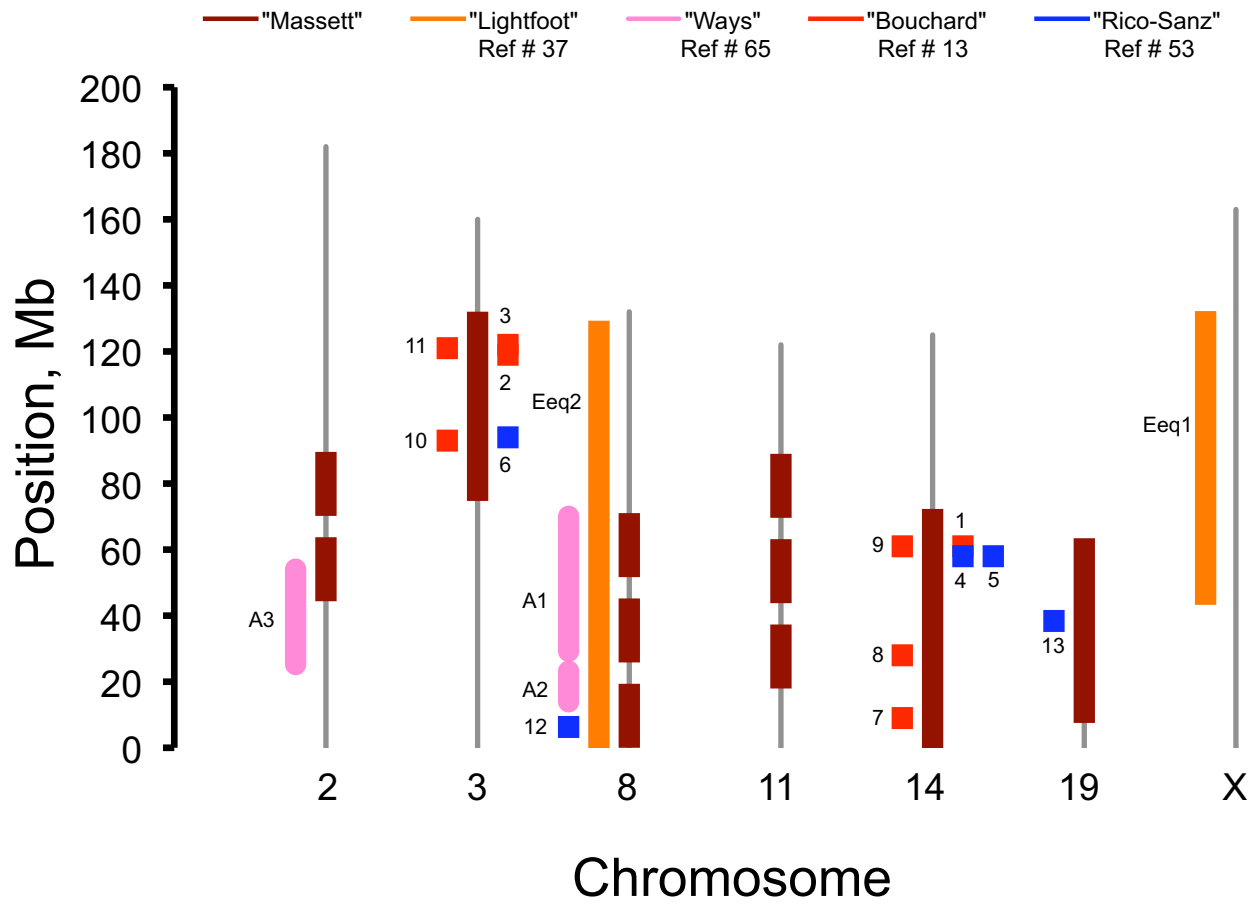


Supplemental Table 1. Multiple regression models for pre-training work, post-training work and changes in work including sex as a covariate.

Work, kg·m	Nearest Marker	Covariate	LOD	% variance	p-value
Pre-training	rs4222922	Chr 1 @ 92.0cM	2.32	2.3	0.024
	rs4223268	Chr 2 @ 48.0cM	3.02	4.2	0.003
	rs3672755	Chr 3 @ 49.3cM	3.52*	2.9	0.013
	rs3089148	Chr8 @ 36.0cM	3.36	6.1	0.0003
	rs3689508	Chr14 @ 4.0cM	3.72	5.5	0.001
	rs3679049	Chr 19 @ 34.4cM	3.63	5.6	0.001
		Model		30.1	0.000
Post-training		Sex		4.35	0.003
	rs3687177	Chr 3 @ 60 cM	4.66	7.3	0.0001
	rs3667625	Chr 4 @ 30.6 cM	2.69	3.2	0.01
	rs3660830	Chr 14 @ 26 cM	4.99	5.7	0.01
		Model		21.8	0.000
Change		Sex		4.8	0.004
	rs3023267	Chr 11 @ 45cM	2.30	2.5	0.004
	rs3660830	Chr 14 @ 36 cM	2.25	2.1	0.037
			Model		8.6

Chr, chromosome; LOD, peak LOD score obtained in interval mapping; % variance, % of phenotypic variance accounted for by variable; Nearest Marker, SNP marker closest the LOD peak; *, indicates LOD score is from genome-wide scan with covariate(s). Note the covariate sex was dropped from the final model for pre-training work. Pre-training work was not significantly different between male and female F₂ mice (2.07 ± 0.09 kg·m for males vs 2.10 ± 0.08 kg·m for females, $P = 0.1$). In contrast, post-training work (3.82 ± 0.14 kg·m vs. 3.36 ± 0.11 kg·m, $P < 0.001$) and the change in work (1.75 ± 1.23 kg·m vs. 1.26 ± 0.96 kg·m, $P = 0.004$) were significantly higher in male compared to female F₂ mice.



Supplemental Figure Legend

Supplemental Figure 1. Comparison of exercise-related QTL among mouse, rat, and human. Each bar or dot represents a unique QTL. The location of each QTL is based on the reported confidence interval or the LOD score peak, if no interval was given. All QTL were mapped to homologous regions of the mouse genome. Significant (solid line) and suggestive (dashed line) QTL for pre-training work, post-training work, and the change in work are represented by maroon bars. QTL for pre-training exercise capacity in mice (Lightfoot et al., ref #37), rats (Ways et al., Ref #65), and humans (Bouchard et al., Ref #13 and Rico-Sanz, Ref #53) are to the left of each chromosome. QTL for training responses (MPO and VO_{2max}) in humans are to the right of each chromosome. The homology comparisons were synthesized from the following sources: http://www.informatics.jax.org/reports/homology_map/mouse_human.shtml and <http://www.rgd.mcg.edu/VCMAP/mapview.shtml>. Eeq1, Endurance exercise QTL 1; Eeq2, Endurance exercise QTL 2; A1, Aerobic running capacity 1; A2, Aerobic running capacity 2; A3, Aerobic running capacity 3; 1, D13S787; 2, D1S534; 3, FABP2; 4, D13787; 5, D13S1775; 6, S100STUI; 7, D3S1766; 8, D3S1447; 9, D13S787; 10, S100A1; 11, D1S534; 12, D13S796; 13, D10S677. These data suggest that there is some concordance among rodent and human exercise-related QTL.