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566 **Supplementary Material**

567 **Supplementary Figure S1.** Kyoto encyclopedia of genes and genomes (KEGG) and
568 gene ontology (GO) analysis. **a.** Significant GO terms and KEGG pathways for genes
569 **b.** Quantitative trait loci enriched results.

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571 **Supplementary Table S1.** p-values for fixed affects

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Fixed effects	PC1 ^b	PC2 ^b	PC3 ^b	PC4 ^b	PC5 ^b	Slaughter_batch	Live_weight
p_value ¹⁾	0	7.51175e ⁻²⁸⁷	1.34436e ⁻¹⁷⁵	3.66312e ⁻¹⁷⁶	5.52682e ⁻¹⁷⁴	<2e ⁻¹⁶	<2e ⁻¹⁶

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¹⁾ p-value is calculated by EIGENSTRAT software and the R language b.PC1-PC5 are the five principal components are
574 calculated using PLINK.

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