

Supplemental Tables and Figures

Table S1: qPCR primer sequences

Gene name	forward sequence	reverse sequence
βglobin	GAAGCGATTCTAGGGAGCAG	GGAGCAGCGATTCTGAGTAGA
36B4	ACTGGTCTAGGACCCGAGAAG	TCAATGGTGCCTCTGGAGATT
ATP6	AGTATGAGCTGGAGCCGTAATTACA	TGGAAGGAAGTGGGCAAGTG
COX1	TGCTAGCCGCAGGCATTACT	GCGGGATCAAAGAAAGTTGTG
COX5a	CGCCGCTGTCTGTTCCAT	AAACTCCTCATCTGTCTCGTGTGA
COX5b	CTTCAGGCACCAAGGAAGAC	TTCACAGATGCAGCCCACTA
ERRα	CGGTGTGGCATCCTGTGA	CTCCCCTGGATGGTCTCTT
ND1	TCTGCCAGCCTGACCCATA	GGGCCCGTTTGTCTTCTG
NRF1	TCCCCCGAGGACACTTCTT	ATCAGCTGCCGTGGAGTTG
PGC-1α	AGCCGTGACCACTGACAACGAG	GCTGCATGGTCTGAGTGCTAAG
SDH	GCTGGTGTGGATGTCTACTAAGG	CCCACCCATGTTGTAATGCA
TBP	ATATAATCCAAGCGATTTCG	GTCCGTGGCTCTCTTATTCTC
MuSK	ATCCAACCCCATGTACCAG	CCTTAAGCATCTTCACGGCC
AchEst	CGGAGGCTCTCATCAATACTGG	GGGACCCCGTAAACCAGAAAG
Rapsyn	AGACAGCCTTCCCTCGGTA	CTTCAGCTAAGTCTGGGCT
Agri	ATGGCAAGACACCCTCACTG	TCCTTGCAGTCTCCCCAAAC
ErbB2	AAGAGGTCACAGCTGAGGAC	AAAATGCCAGGCTCCCCAAG
AChRβ	CATCATCGCTCACCCAC	ACGGTCCACAACCATGGC
AChRϵ	TGTTTGAGGGTCAGAGGCAT	AGTTCCTCTCCAGTGGCTTC
AChRα	AGTCCAATAACGCCGCTGAG	TTTCCTAGCGATGGCTATGG
AChRδ	ACAAAGTGGATGTGCCCCTA	TCTCTGGTAGCCACACCATG
AChRγ	GACCAACCTCATCTCCCTGA	GAGAGCCACCTCGAAGACAC
Utrophin	GAGGCTCGCTTCTACATGCT	TGATGACACCATCGCCAGAC

Table S2: Antibody information

Primary antibodies				Secondary antibodies		
Product#	Company	Labelling	Dilution	Product#	Labelling	Dilution
BA-F8	DSHB	m IgG b2 MHC type 1	1:25	A-21242	AF647 IgG GaM	1:250
SC-71	DSHB	m IgG1 MHC type 2a	1:200	A-21124	AF568 IgG1 GaM	1:100
BF-F3	DSHB	m IgM MHC type 2b	1:100	A-21042	AF488 IgM GaM	1:400
L9393	Sigma	r IgM Laminin	1:5000	A-11008	AF488 IgG GaR	1:500

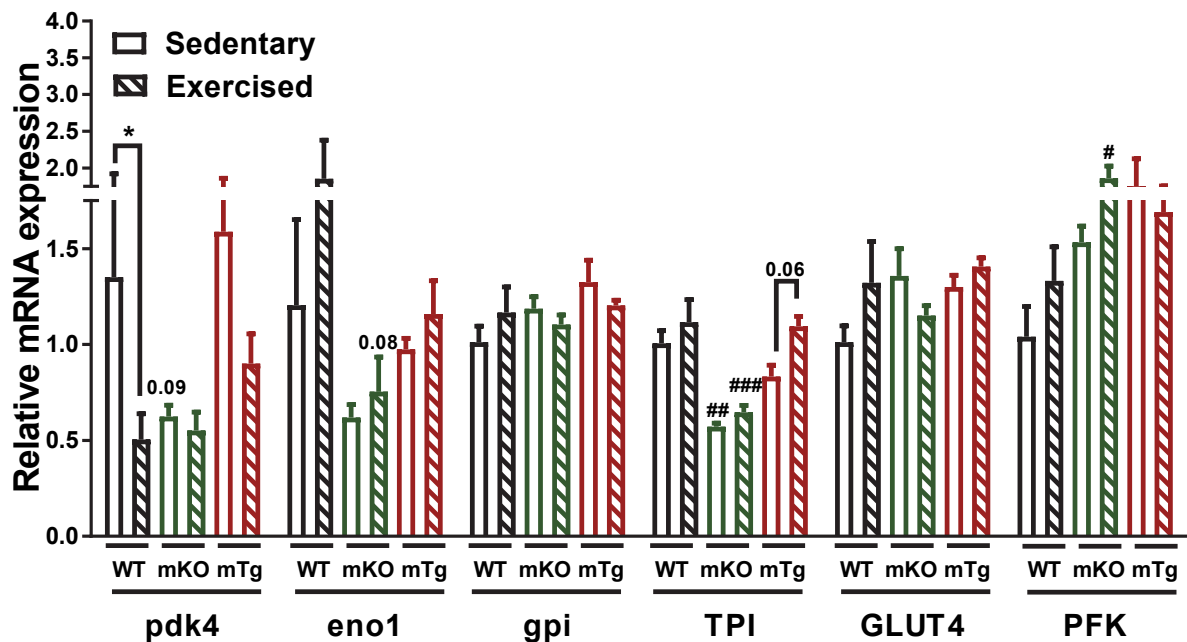


Fig. S1 : Exercise-dependent regulation of glycolysis genes. Relative quadriceps mRNA levels of genes involved in lactate regulation and glycolysis (n=4-6). Values are mean \pm SEM. *P < 0.05; **P < 0.01; ***; P < 0.001; ****p<0.0001 indicate statistically significant differences between young and old animals of the same genotype, # p<0.01; ## p<0.01; ### p<0.01; #### p<0.001 indicate statistically significant differences between genotypes of age-matched animals.

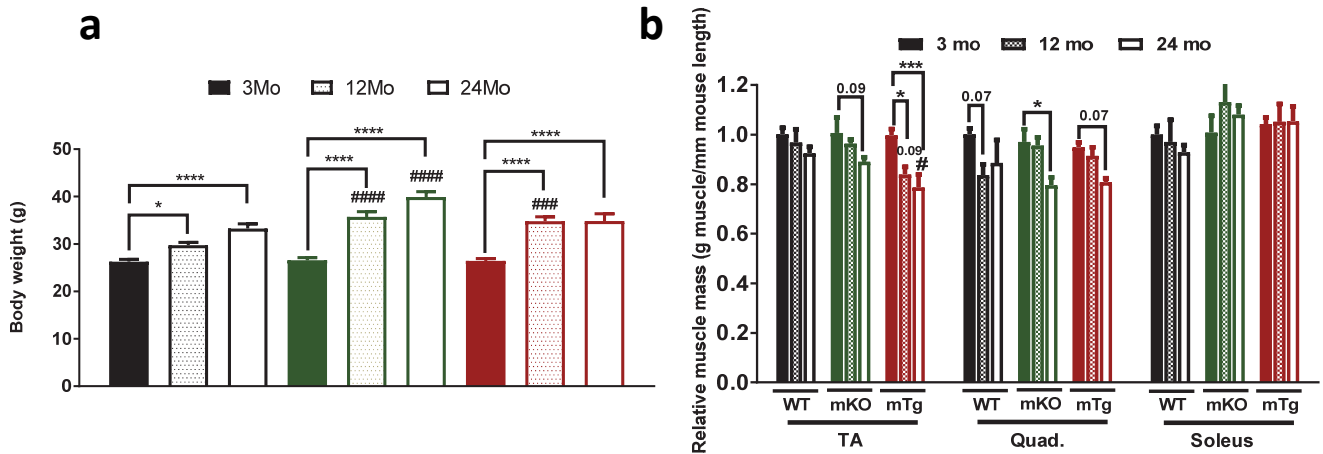


Fig. S2 : Body weight (n=10-12) (a) and absolute mass of isolated muscles (n=5-6) (b) Values are mean \pm SEM. *P < 0.05; **P < 0.01; ***; P < 0.001; ****p<0.0001 indicate statistically significant differences between young and old animals of the same genotype, # p<0.01; ## p<0.01; ### p<0.01; #### p<0.001 indicate statistically significant differences between genotypes of age-matched animals.

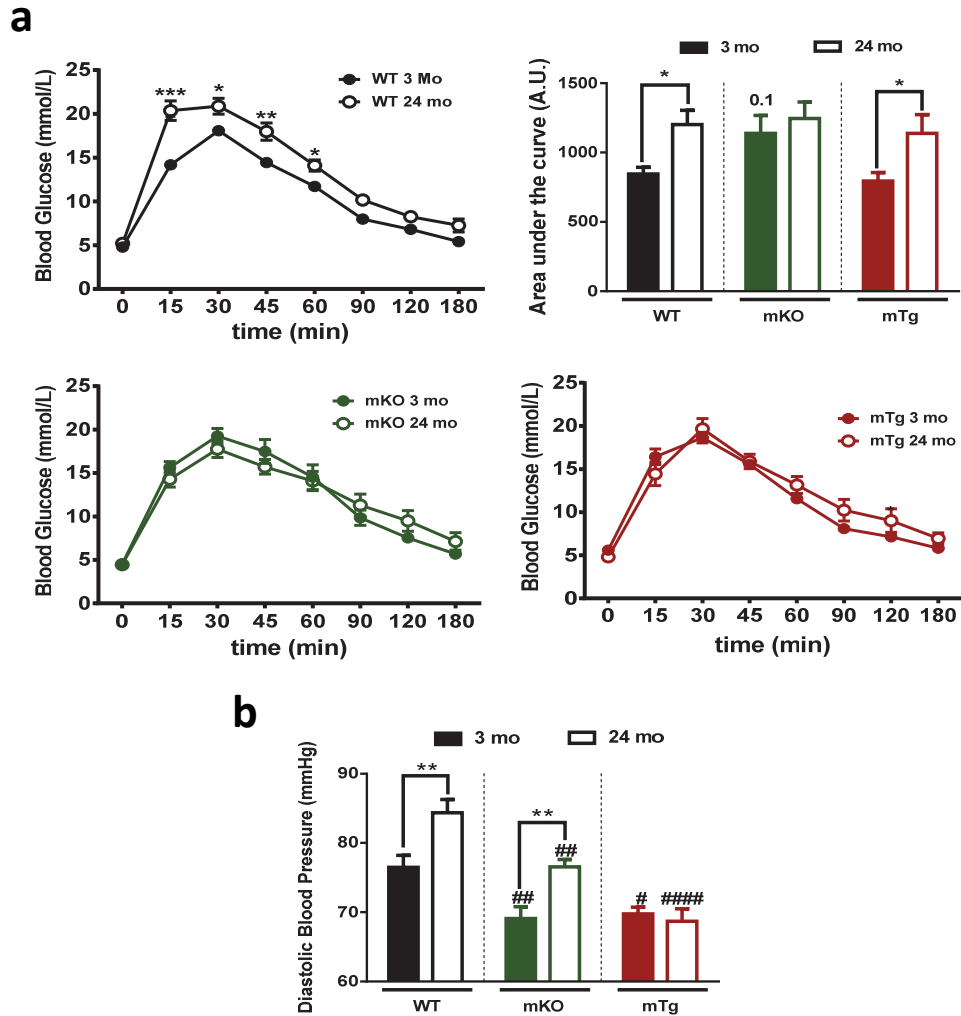
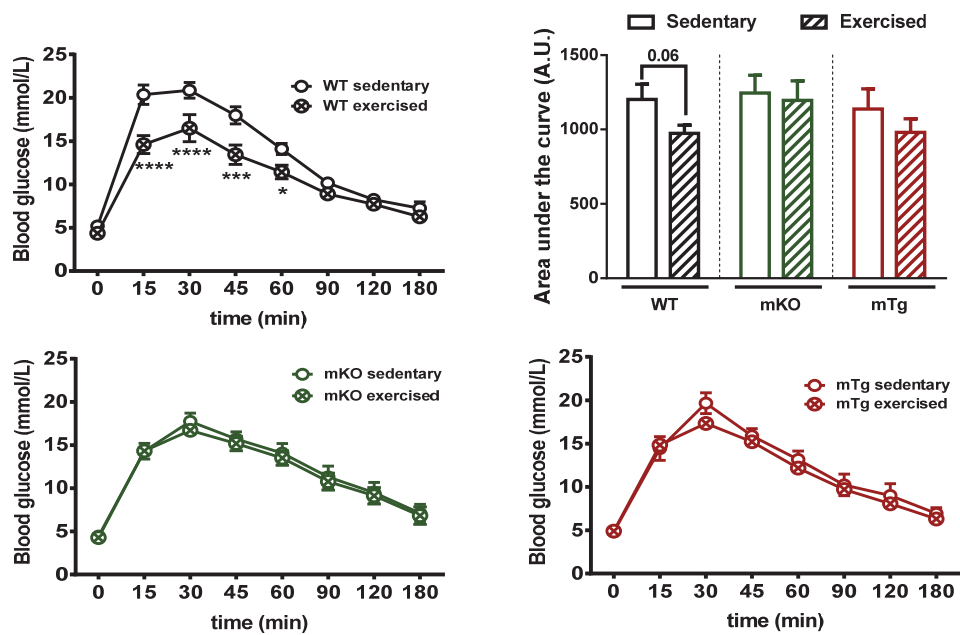


Fig. S3 : PGC-1 α improves systemic aging (a) Glucose tolerance test curves and area under the curves (n=10) **(b)** Diastolic blood pressure (n=10). Values are mean \pm SEM. *P < 0.05; **P < 0.01; ***; P < 0.001; ****p<0.0001 indicate statistically significant differences between young and old animals of the same genotype, # p<0.01; ## p<0.01; ### p<0.01; #### p<0.001 indicate statistically significant differences between genotypes of age-matched animals.

a



b

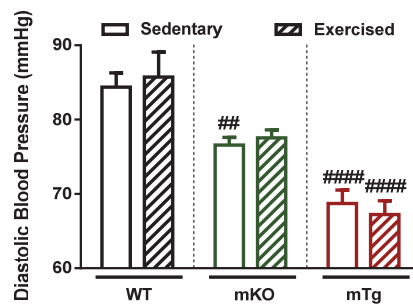


Fig. S4 : Exercise and PGC-1 α modulation impacts on systemic aging (a) Glucose tolerance test curves and area under the curves (n=8-10) **(b)** Diastolic blood pressure (n=10-12) Values are mean \pm SEM. *P < 0.05; **P < 0.01; ***; P < 0.001; ****p<0.0001 indicate statistically significant differences between sedentary and exercised animals of the same genotype, # p<0.01; ## p<0.01; ### p<0.01; #### p<0.001 indicate statistically significant differences between genotypes for sedentary and exercised animals.