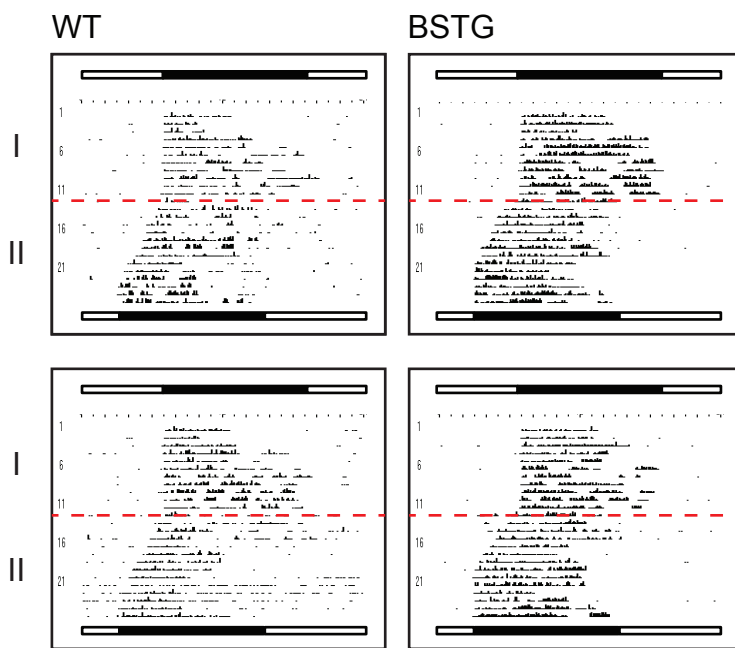


A

30 month old



B

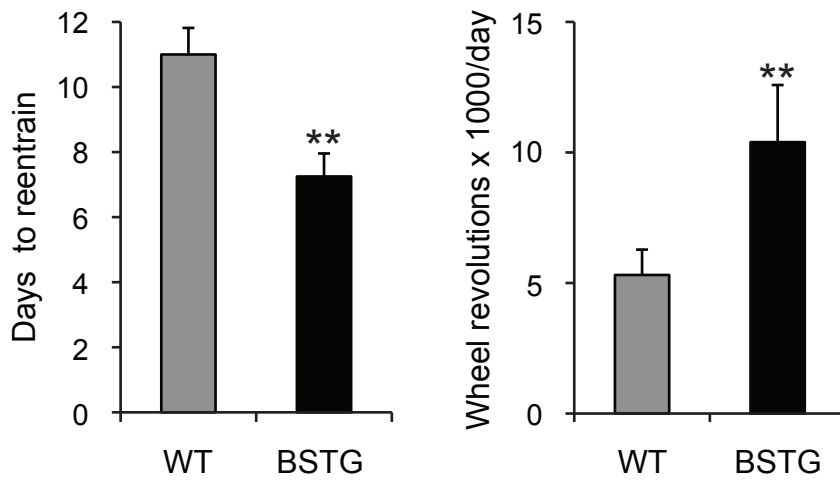
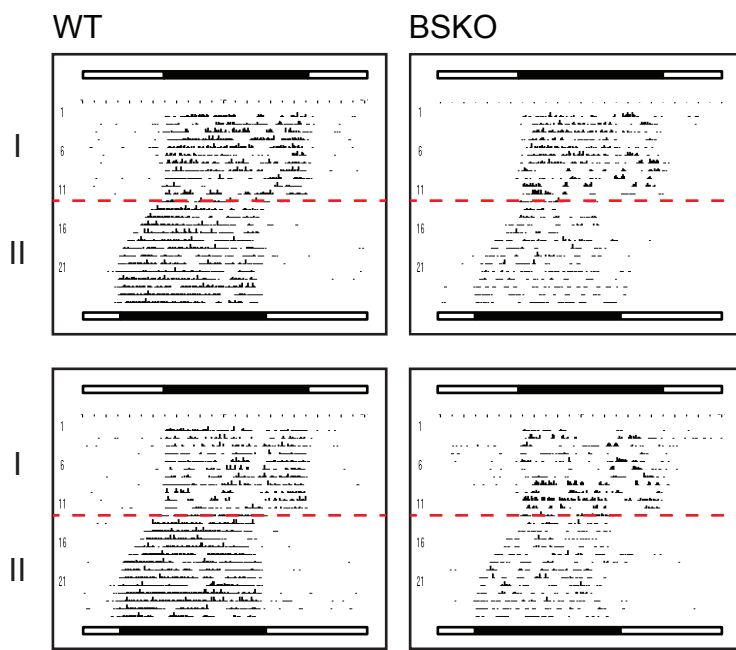


Figure S2

A

22 month old



B

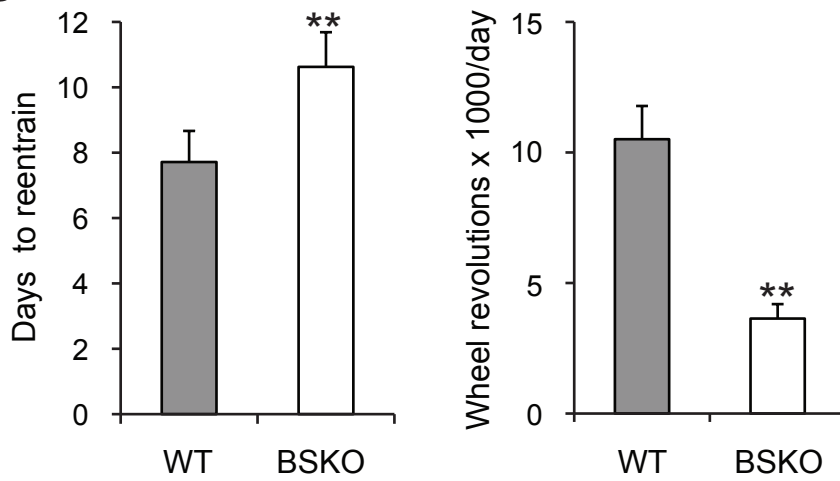


Figure S3

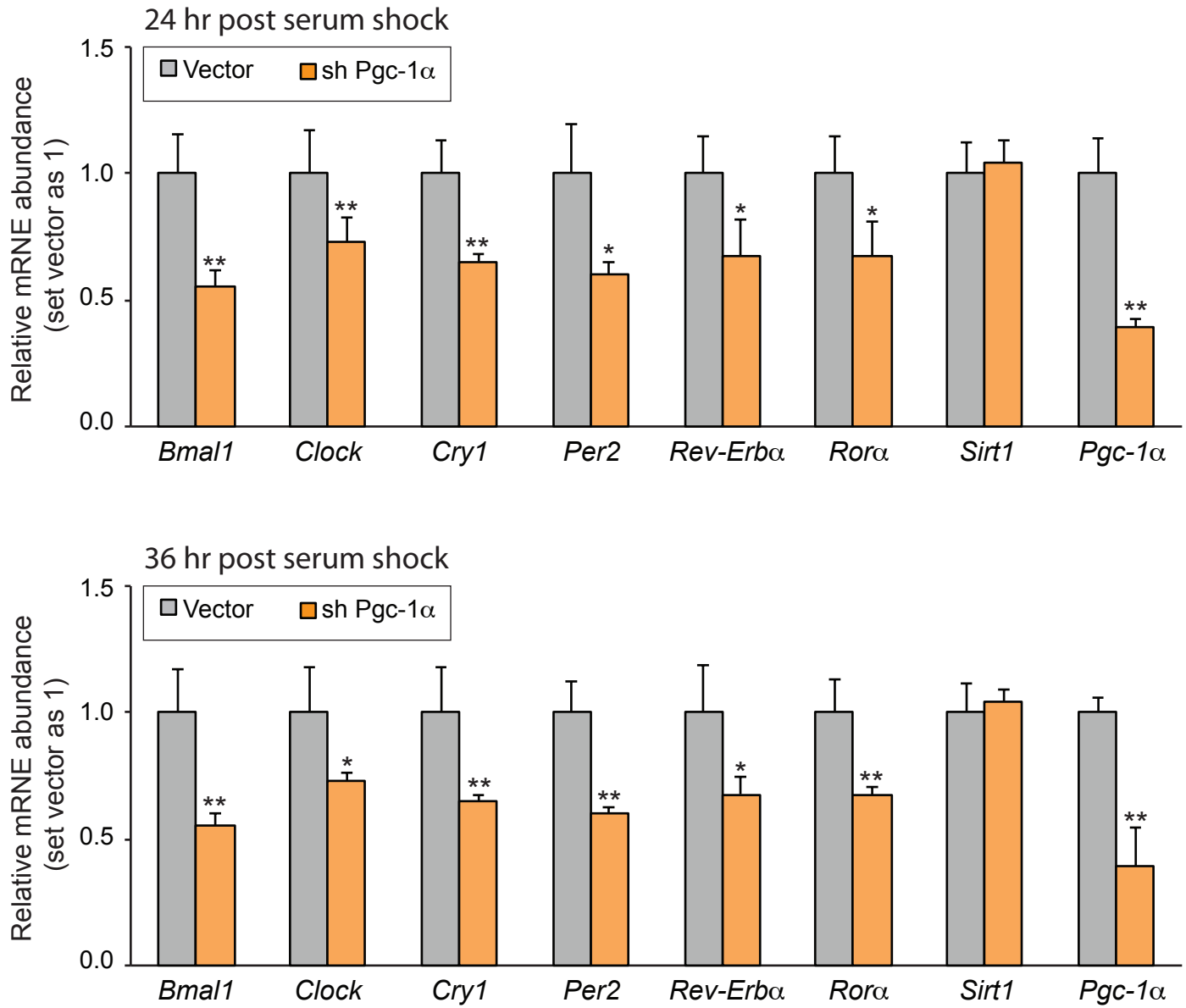


Figure S4

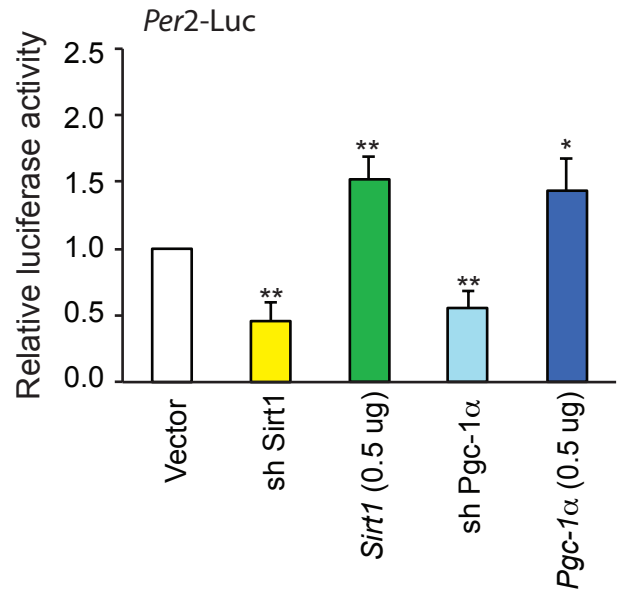
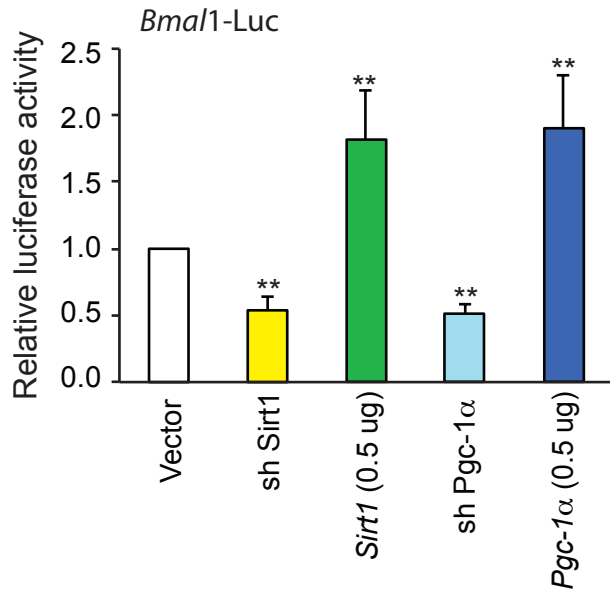


Figure S5

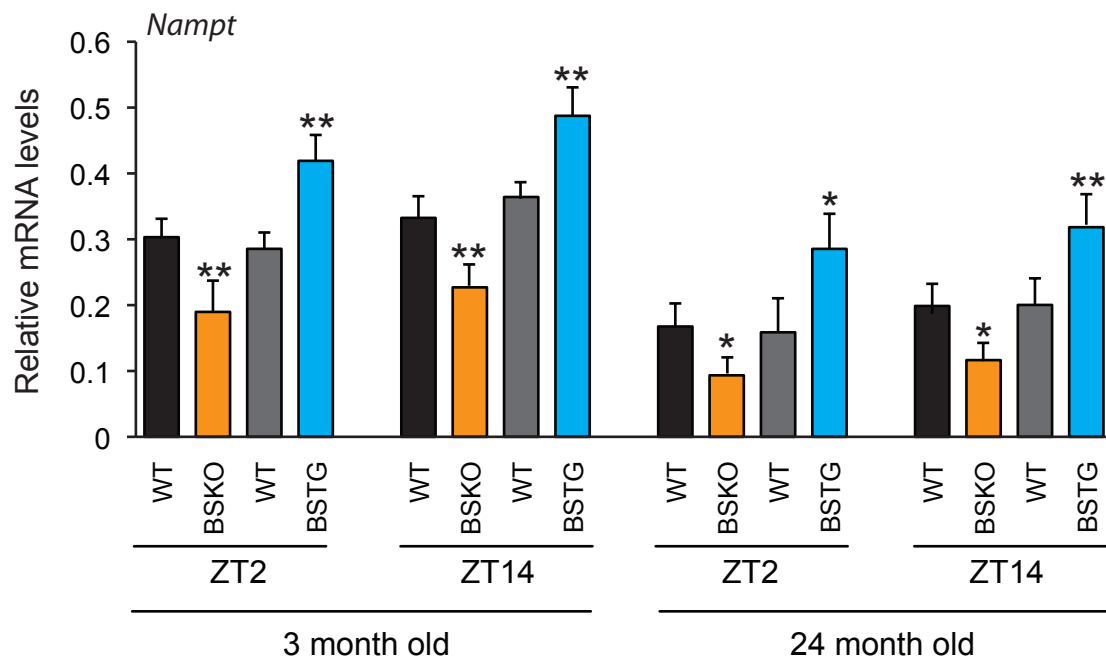


Table S1

Primers used for quantitative Real-Time PCR

Gene	Forward primer	Reverse primer
<i>Bmal1</i>	5'-CTTGCAAGCACCTTCCTTCC	5'-GGGTCATCTTTGTCTGTGTC
<i>Clock</i>	5'-GAGTTCTGATGGTCAGTCAC	5'-ACCCAGCTCCTTAATGAGG
<i>Cry1</i>	5'-TTCCTCCCTTGAAGCTCTC	5'-GAAGCAAAAATCGCCACCTG
<i>Per2</i>	5'-GCGAAGCGCTTATTCCAGAG	5'-AGTCTGAAGGCATCATCAGG
<i>Rev-Erba</i>	5'-GCAAATCAGATCTCAGGTGC	5'-AGGTGATAACACCACCTGTG
<i>Rora</i>	5'-ACGCCACCTACAACATCTC	5'-ACATATGGGTTCCGGTTTGA
<i>Sirt1</i>	5'-TCTGTCTCCTGTGGGATTCC	5'-GATGCTGTTGCAAAGGAACC
<i>Pgc-1a</i>	5'-TCACACCAAACCCACAGAAA	5'-TCTGGGGTCAGAGGAAGAGA
<i>Nampt</i>	5'-TACAGTGGCCACAAATTCCA	5'-AATGAGCAGATGCCCTATG
<i>Rpl19</i>	5'-AAGCCTGTGACTGTCCATTC	5'-CTTCTTGATTCCCGGTATC

Primers used for in situ hybridization constructs

	Forward primer	Reverse primer
<i>Bmal1</i>	5'-AATTCTCAGGGCAGCAGATGG	5'-GTGCTGTGGATTGTGCAGAAGC
<i>Per2</i>	5'-ATGAATGGATACGTGGACTTC	5'-GATTTCTCCTCCATGCACTCC
<i>Sirt1</i>	5'-AAAGATAATAGTTCTGACTGG	5'-TTGTGACACAGAGACGGCTGG

shRNA sequences used in this study

shRNA	Sense sequence
<i>Sirt1</i>	AAGTTGACCTCCTCATTGTTA
<i>Pgc-1a</i> (Sigma, 2365s21c1)	TAACATATGCAGACCTAGATAC
<i>Pgc-1a</i> (Sigma, 2732s21c1)	TCCAGTAAGCACACGTTTATT

Primers used for luciferase reporter constructs

Promoter	Primer
<i>Bmal1</i>	Forward: 5'-GTCTCGAGGGGCTACAACAGAACAACACTAACC
	Reverse: 5'-GTAAGCTTGGCTCGCTGCGAGCGCCCGC
<i>Per2</i>	Forward: 5'-GTGCTAGCTGTAGAGCAAGACAAGAAAAGC
	Reverse: 5'-GTCTCGAGGCTGCCGCCGCGTCGCCCTCCGC

Primers used for ChIP assay

	Forward primer	Reverse primer
Set1	5'-ACGCTTGGAGGTCAAGAGAA	5'-TCCCTCTCCAGCTCCATCTA
Set2	5'-TTGGGCACAGCGATTGGTGG	5'-TCCGGCGCGGGTAAACAGG
3'UTR	5'-CTGTGTGCATCGGACAGTC	5'-CGAAGCCACCATCTGAAAC

Table S2

Strains used in this study

Name	Strain	Paired WT	Background (backcross generation)	Reference/Source
NesCre	Nes-Cre/+	-	C57BL/6 (-)	MIT transgenic core
BSKO	Nes-Cre/+; <i>Sirt1</i> ^{flx/flx}	<i>Sirt1</i> ^{flx/flx}	C57BL/6 (>8)	Li <i>et al</i> (2007), Cohen <i>et al</i> (2009)
BSTG	Nes-Cre/+; <i>Sirt1</i> ^{STOP/+}	<i>Sirt1</i> ^{STOP/+} and Nes-Cre/+	C57BL/6 (6)	Firestein <i>et al</i> (2008)
Sir2d	<i>Sirt1</i> -KI/+	+/+	C57BL/6 (>8)	Bordone <i>et al</i> (2007)