

Table S1**Regression analysis of time-of-day representative core body temperatures (day and night).**

Normal ambient temperature (21°C)								
	Male				Female			
	ZT5.5		ZT20.5		ZT5.5		ZT17.5	
	WT	<i>Id2</i> -/-						
y-intercept (°C)	37.7	36.4	37.1	37.1	37.6	35.8	37.5	35.9
R ²	0.06	0.001	0.04	0.0001	0.006	0.08	0.006	0.21
Slope	-0.016	-0.007	0.021	0.002	-0.008	0.056	0.009	0.093

Thermoneutral temperature (30°C)								
	Male				Female			
	ZT5.5		ZT17.5		ZT5.5		ZT17.5	
	WT	<i>Id2</i> -/-						
y-intercept (°C)	38.2	37.9	38.3	36.9	38.1	36.9	38.4	38.1
R ²	0.07	0.07	0.02	0.02	0.07	0.0001	0.03	0.03
Slope	-0.027	-0.045	-0.009	-0.026	-0.039	0.003	-0.018	-0.034

Table S2

Mice Body Weights (g) (Mean \pm SEM)							
iBAT Weight Experiment				Temperature Experiment			
Male		Female		Male		Female	
WT (n=15)	<i>Id2</i> ^{-/-} (n=7)	WT (n=10)	<i>Id2</i> ^{-/-} (n=9)	WT (n=19)	<i>Id2</i> ^{-/-} (n=20)	WT (n=17)	<i>Id2</i> ^{-/-} (n=17)
32.76 \pm 1.03	23.84 \pm 0.64 ***	25.84 \pm 1.02	19.83 \pm 1.66 **	31.72 \pm 1.67	24.58 \pm 1.25 ***	21.65 \pm 1.29	19.42 \pm 0.94

Two-Factor ANOVA							
Genotype: $p<0.001$; Sex: $p<0.001$; Interaction: n.s. Tukey post hoc tests for intra-sex differences, ** $p<0.01$, *** $p<0.001$				Genotype: $p<0.001$; Sex: $p<0.001$; Interaction: n.s. Tukey post hoc tests for intra-sex differences, *** $p<0.001$			