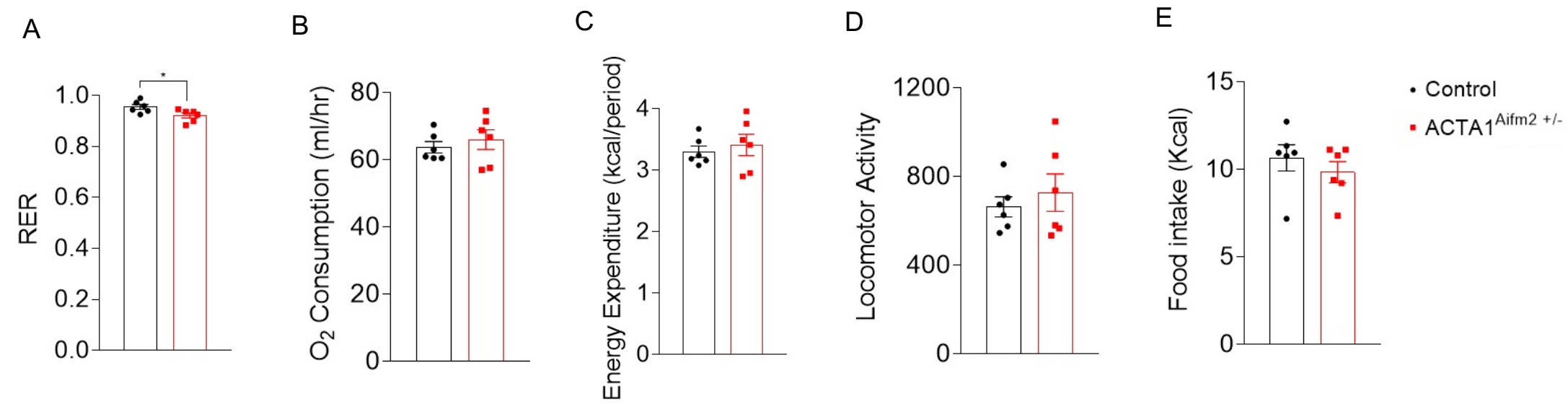


Supplemental Figure 1. The altered glucose utilization in muscle-targeted *Aifm2* knockdown and overexpressing mice is still sustained under exercise regimens of equal duration. The concentration of NAD⁺, NADH (A), NAD⁺/NADH ratio (B), lactate concentration (C), plasma glucose levels (D), plasma FFA levels (E) and ³H-2-deoxyglucose uptake assay (F) of C57BL/6J mice transfected with shAifm2, AIFM2 or control after the same duration of high-intensity exercise ($n = 4$ for control and AIFM2 groups, $n = 5$ for shAifm2 group, means \pm SEM, * $p < 0.05$, ** $p < 0.001$, *** $p < 0.0001$, two-tailed Student's t-test).



Supplemental Figure 2. Muscle-specific *Aifm2* haploinsufficient mice shows a reduced RER at resting. Control (*Aifm2*^{f/+}) and *Aifm2* haploinsufficient mice (ACTA1^{Aifm2 +/-}) at rest are placed on CLAMS. Shown is RER (A), oxygen consumption (B), energy expenditure (C), locomotor activity (D) and food intake of control and ACTA1^{Aifm2 +/-} mice (*n* = 6, means ± SEM, **p* < 0.05).