

Supporting information

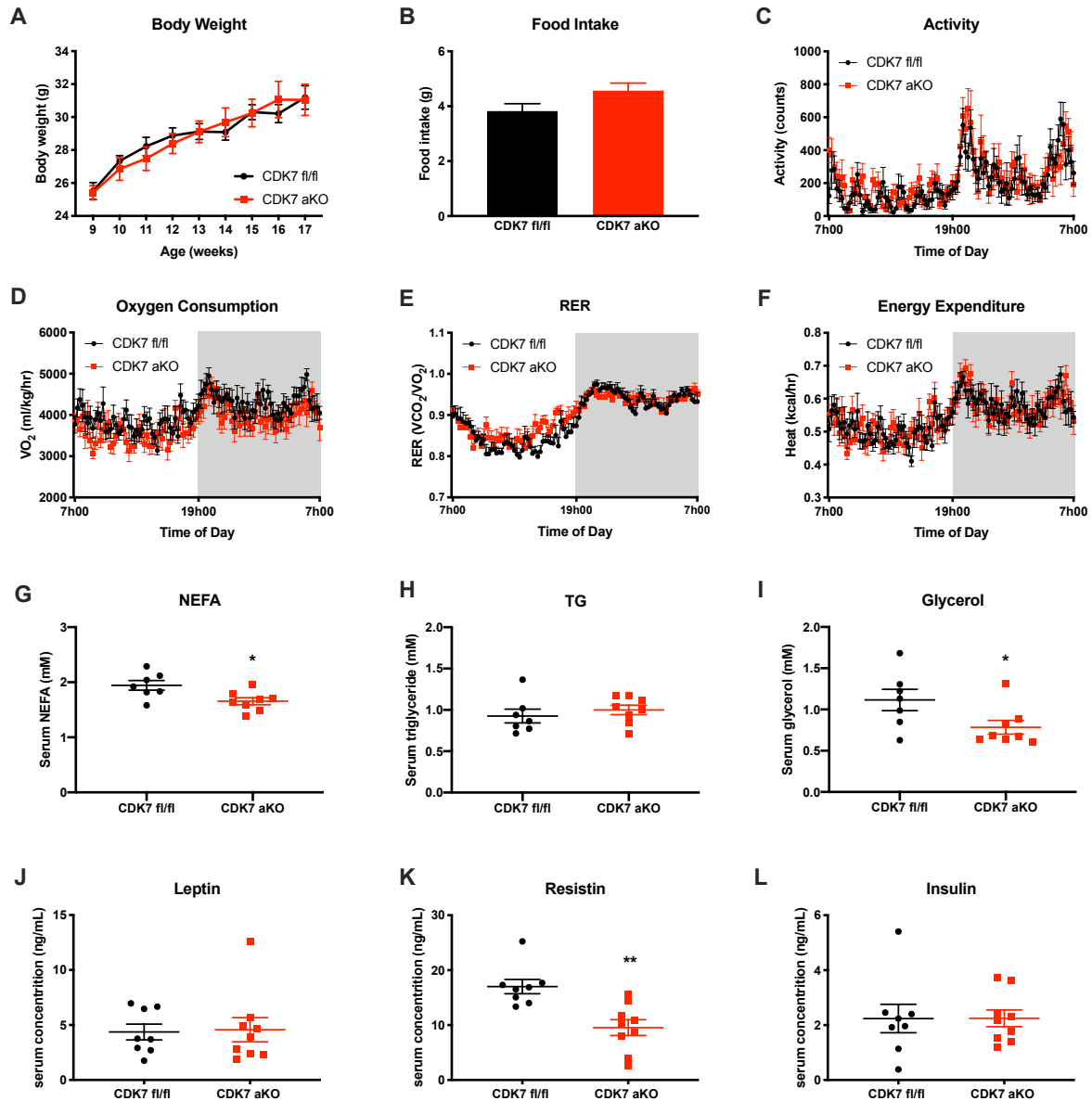


Figure S1. Indirect calorimetry analysis of *CDK7^{fl/fl}* and *CDK7^{aKO}* mice on chow diet. (A) Body weight curve of male *CDK7^{fl/fl}* (control) and *CDK7^{aKO}* mice on chow diet (n = 15 for each group). Food intake (B) of *CDK7^{fl/fl}* and *CDK7^{aKO}* mice during *ad libitum* feeding for 24 h. Activity (C), oxygen consumption (D), average respiratory exchange ratio (E) and energy expenditure (F) of *CDK7^{fl/fl}* and *CDK7^{aKO}* mice on chow diet (male, 24 weeks old, n = 8). Serum non-esterified fatty acids (NEFA) (G), triglyceride (TG) (H), glycerol (I) levels of 24 weeks old mice on chow diet (n = 7-8). Serum leptin (J), resistin (K), insulin (L) levels of *Cdk7^{aKO}* and control littermates after 7 days treatment with saline (male, 9 weeks old, n = 8-9, sacrificed *ad libitum* feeding). All values represent means ± SEM, *p<0.05, **p<0.01.

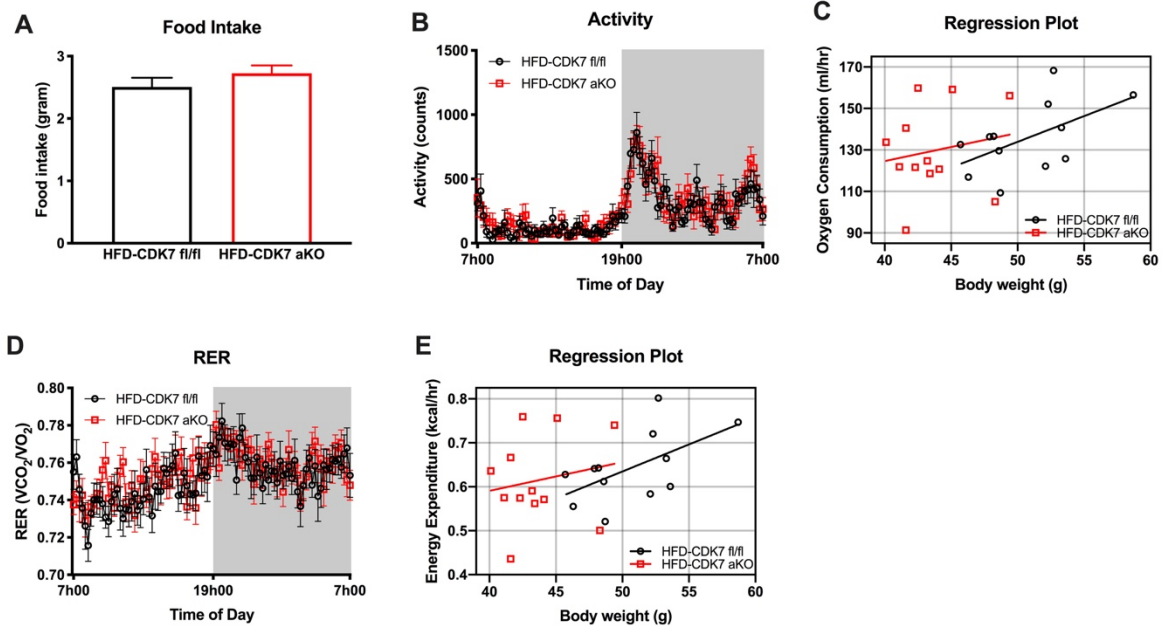


Figure S2. Indirect calorimetry analysis of $CDK7^{fl/fl}$ and $CDK7^{aKO}$ mice on high fat diet. Food intake (A) of $CDK7^{fl/fl}$ and $CDK7^{aKO}$ mice during *ad libitum* HFD feeding for 24 h. Activity (B), regression plot comparing oxygen consumption with body weight (C), respiratory exchange ratio (D) and regression plot comparing energy expenditure with body weight (E) of $CDK7^{fl/fl}$ and $CDK7^{aKO}$ mice on HFD (male, 24 weeks old, $n = 12$). All values represent means \pm SEM.

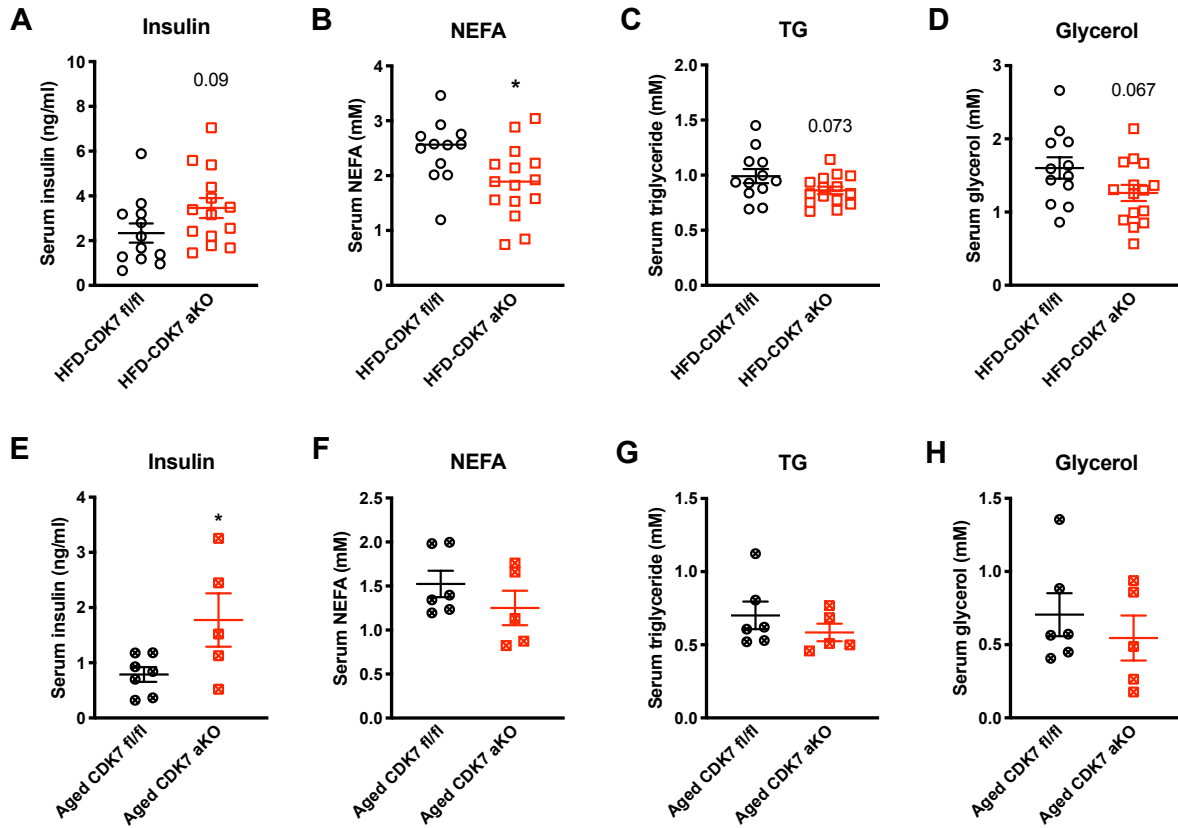


Figure S3. Serum parameters of *CDK7^{fl/fl}* and *CDK7^{aKO}* mice. Serum insulin (A), non-esterified fatty acid (NEFA) (B), triglyceride (TG) (C), and glycerol (D) concentrations of HFD *CDK7^{fl/fl}* and *CDK7^{aKO}* mice (male, 25 weeks old, n = 12-15). Serum insulin (E), non-esterified fatty acid (NEFA) (F), triglyceride (TG) (G), and glycerol (H) concentrations of aged *CDK7^{fl/fl}* and *CDK7^{aKO}* mice (male, 56 weeks old, n = 5-6). Values represent means \pm SEM, * $p < 0.05$.