Supplementary Table

Table S1. Height, Weight waist circumference, body mass index in non-obese and obese children

	Non-obese	Obese
Height (cm)	147.35±3.01	162.17±4.64
Weight (kg)	39.31±2.41	64.51±5.76*
WC (cm)	75.73±8.54	98.42±6.48*
BMI (kg/m^2)	18.25±1.89	24.44±2.54*
Z-score for BMI	-0.3±1.2	2.0±1.1*
FBG (mM)	4.59±0.58	5.03±0.49

BMI: body mass index; FBG: fasting blood glucose; WC: waist circumference. Analyses were performed by using Student's t-test and followed by F-test to compare the variances. Values are presented as mean ± SEM, n=45, *$p<0.05$ compared to Non obesity subject group.

Supplementary Figures

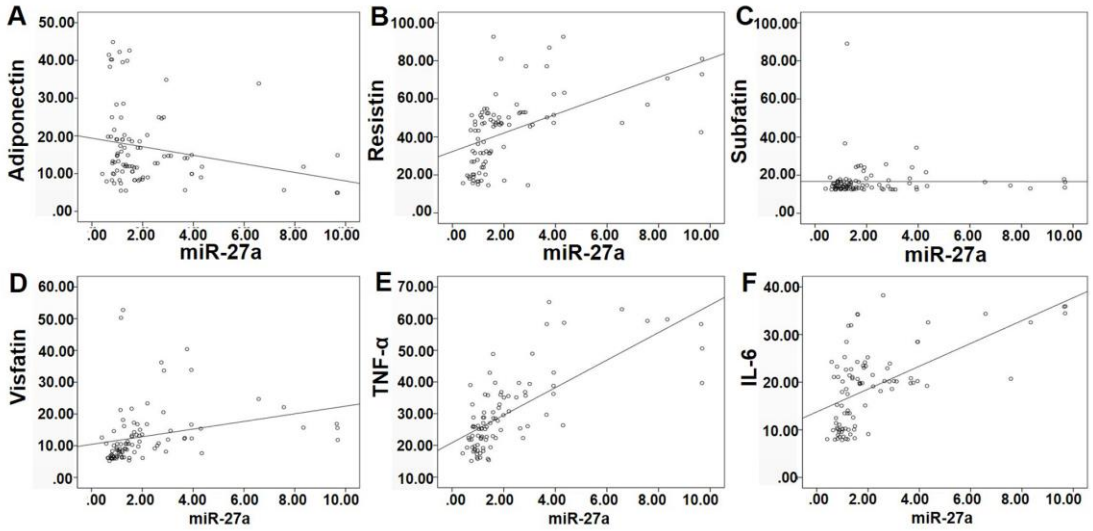

Figure S1. Correlation analyses between miR-27a and adipocytokines in obese children. Correlation between serum miR-27a levels and adiponectin (A), resistin (B), subfatin (C), visfatin (D), TNF-α (E) and IL-6 (F). n=45. Pearson or Spearman correlation was performed to examine the relationship between miR-27a and concentration of adipocytokines in clinical serum samples. Analyses were performed using SPSS version 20.0 (SPSS, Chicago Illinois USA).

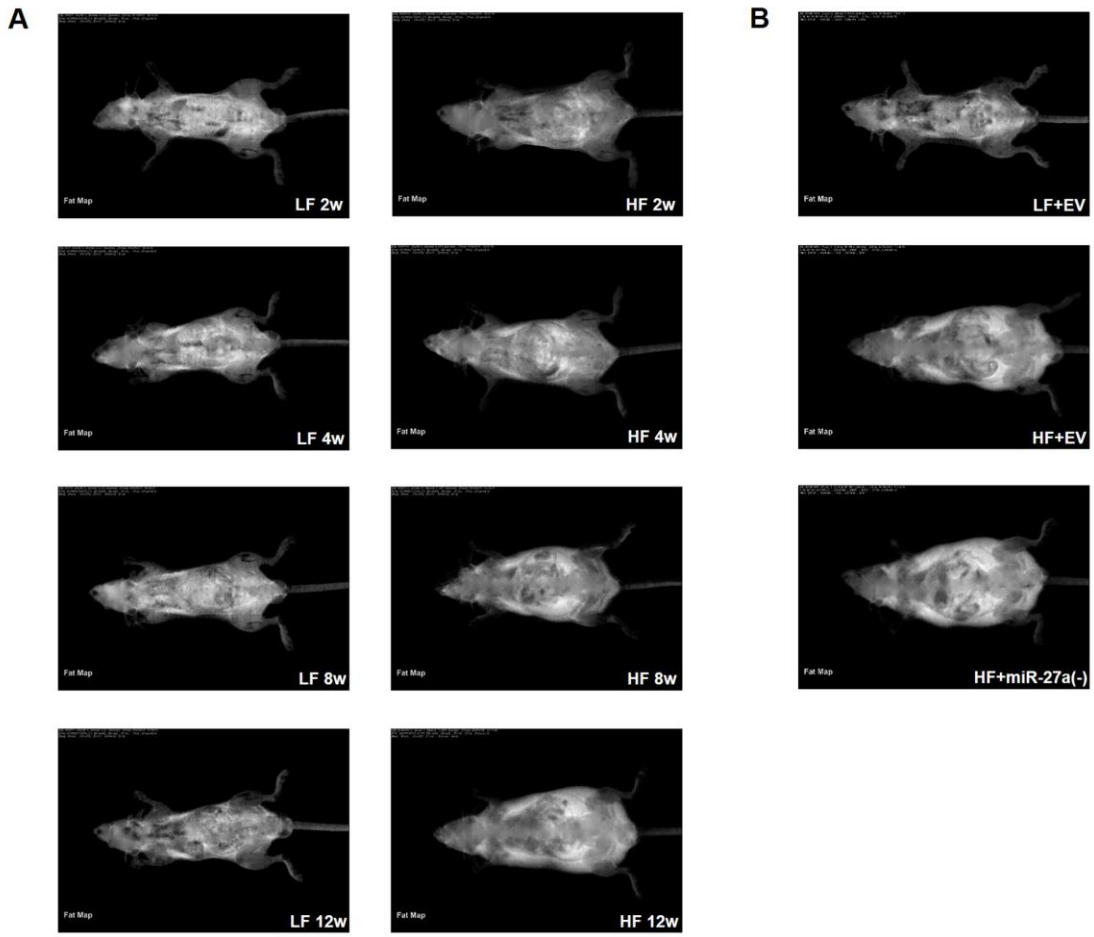

Figure S2. Relative body fat distribution. (A) Dexa Scan of body fat distribution in LF and HF from 2w, 4w, 8w to 12w. LF: low-fat diet group, HF: high-fat diet group, n=5. (B) The Dexa Scan of body fat distribution in LF+EV, HF+EV and HF+miR-27a(-) group. LF+EV: low-fat diet+empty vector group, HF+EV: high-fat diet+empty vector group, HF+miR-27a(-): high-fat diet+miR-27a knockdown adenovirus group. n=5.

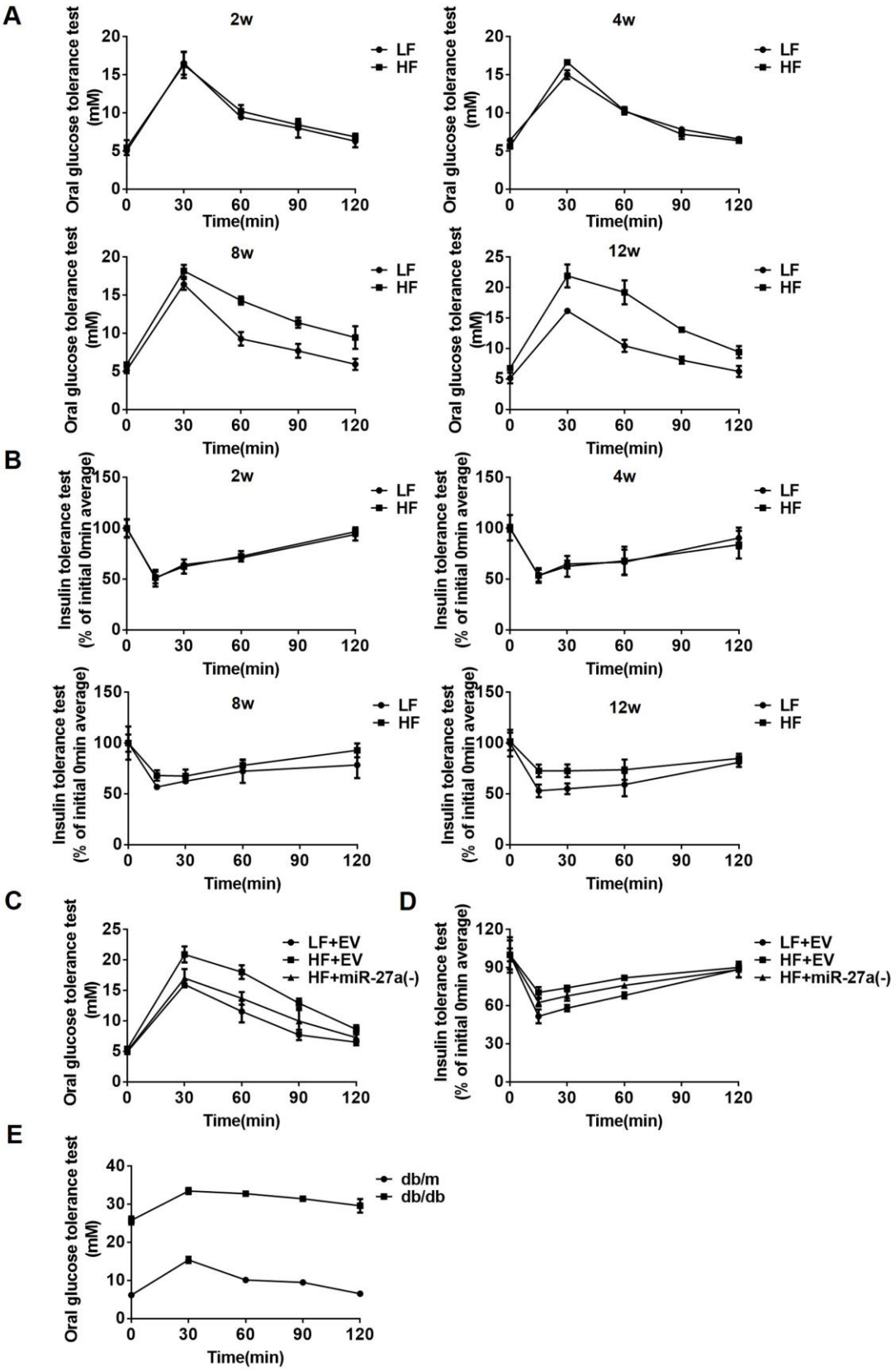

Figure S3. Line charts of oral glucose tolerance test and insulin tolerance test. (A) Line charts of oral glucose tolerance test in LF and HF from 2w, 4w, 8w to 12w. LF: low-fat diet group, HF: high-fat diet group, n=5. (B) Line charts of insulin tolerance

test in LF and HF from 2w, 4w, 8w to 12w. n=5. (C) Line charts of oral glucose tolerance test in LF+EV, HF+ EV and HF+miR-27a(-) group. LF+EV: low-fat diet+empty vector group, HF+EV: high-fat diet+empty vector group, HF+miR-27a(-): high-fat diet+miR-27a knockdown adenovirus group. n=5. (D) Line charts of insulin tolerance test in LF+EV, HF+EV and HF+miR-27a(-) group. n=5. (E) Line charts of oral glucose tolerance test in db/m and db/db group. n=5.

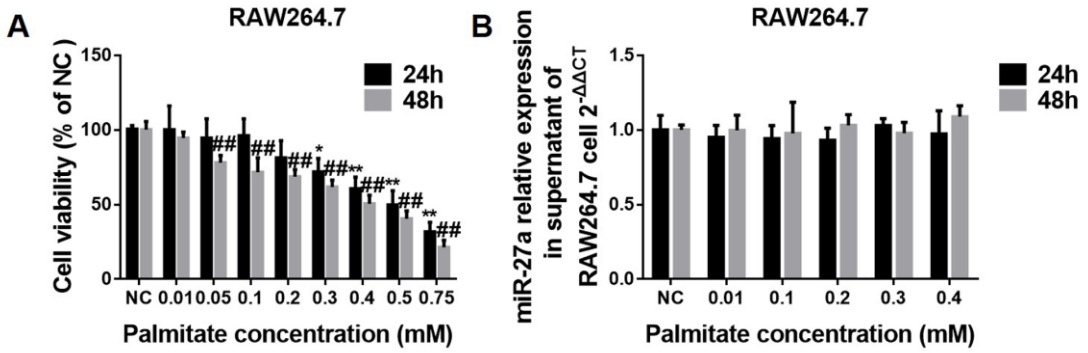

Figure S4. Effect of palmitate on cell viability and miR-27a expression in RAW264.7 cells. (A) Survival rate of RAW264.7 cells incubated for 24 h or 48 h with various concentrations of palmitate. Statistical analysis was performed using Student's t-test and followed by F-test to compare the variances. Data represent mean ± SD, n=6, **p<0.01 compared to 24 h NC (control) group, ##p<0.01 compared to 48 h NC (control) group. (B) MiR-27a expression in supernatant of RAW264.7 cells treated with palmitate for 24 h or 48 h.

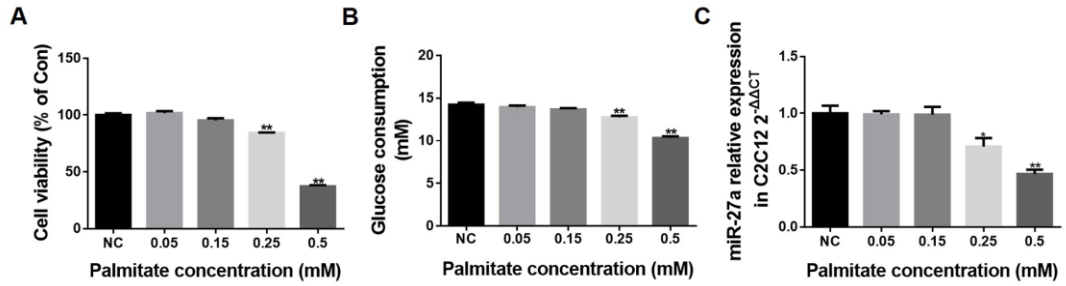

Figure S5. Effect of palmitate on cell viability, glucose consumption and miR-27a expression in C2C12 cells. (A) Survival rate of C2C12 cells incubated for 48 h with various concentrations of palmitate. Statistical analysis was performed using Student's t-test and followed by F-test to compare the variances. Data represent mean ± SD, n=6, **p<0.01 compared to NC (control) group. (B) Glucose consumption in C2C12 cells treated with various concentrations of palmitate for 48 h. Statistical analysis was performed using Student's t-test and followed by F-test to compare the variances. Data represent mean ± SD, n=6, **p<0.01 compared to NC (control) group. (C) MiR-27a expression in C2C12 cells treated with various concentrations of palmitate for 48 h. Statistical analysis was performed using Student's t-test and followed by F-test to compare the variances. Data represent mean ± SD, n=6, *p<0.05 and **p<0.01 compared to NC (control) group.