Supplementary data

Curcumin alleviates hepatic steatosis by improving mitochondrial function in postnatal overfed rats and fatty L02 cells through SIRT3 pathway

Short title: Curcumin regulates hepatic mitochondrial function

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Table S1 Compositions (percentage by weight) of a normal diet and a high fat diet

	Normal diet (%)	High fat diet (%)
Casein	18.92	18.92
L-Cystine	0.28	0.28
Corn starch	48.34	39.34
Maltodextrin	3.32	3.32
Sucrose	13.0	13.0
Cellulose	4.74	4.74
Soybean oil	6.0	6.0
Lard	0.0	9.0
Vitamin mix	1.14	1.14
Mineral mix	4.26	4.26
Total	100.00%	100%
Energy (kcal/100g)	392.60	438.24

The compositions were consistence with our previous study[1] and were produced by the diet manufacturing company Slac (Shanghai, China).

Table S2 Serum liver enzymes and lipid biochemical parameters in rats at W3 and W13

	NL	NH	SL	SH	SL-CUR	SH-CUR
W3						
ALT (U/L)	27.50±1.78	---	29.17±1.30	---	---	---
AST (U/L)	151.00±11.30	---	161.80±9.54	---	---	---
TG (mmol/L)	0.59±0.13	---	0.64±0.13	---	---	---
CHO (mg/dL)	2.01±0.13	---	2.05±0.04	---	---	---
HDL-c (mmol/L)	0.54±0.06	---	0.53±0.03	---	---	---
W13						
ALT (U/L)	33.13±2.34	43.50±5.89[c]	35.50±3.70	60.50±9.34[a, b]	34.50±3.09[c]	39.88±7.64[c]
AST (U/L)	105.40±22.45	129.00±17.94	105.80±9.94	138.30±22.51	103.90±10.21	102.50±14.98
TG (mmol/L)	0.35±0.02	0.62±0.06[a]	0.47±0.05[a]	0.79±0.11[a, b]	0.33±0.04[b, c]	0.54±0.09[a]
CHO (mg/dL)	1.03±0.06	1.45±0.10[a]	1.42±0.11[a]	1.68±0.17[a]	1.10±0.02[b, c]	1.35±0.11[a]
HDL-c (mmol/L)	0.34±0.02	0.19±0.01[a, b]	0.27±0.02[a, c]	0.15±0.02[a, b]	0.34±0.03[b, c]	0.22±0.02[a, b, c]

Data are expressed as the mean ± SEM. n = 6 at W3 and n = 8 at W13 in each group. Student's unpaired *t*-test at W3 and one-way analysis of variance (ANOVA) with a post hoc least significant difference (LSD)-t test at W13 were performed. [a]p<0.05 versus NL group AT W13; [b]p<0.05 versus SL group at W13; [c]p<0.05 versus SH group at W13

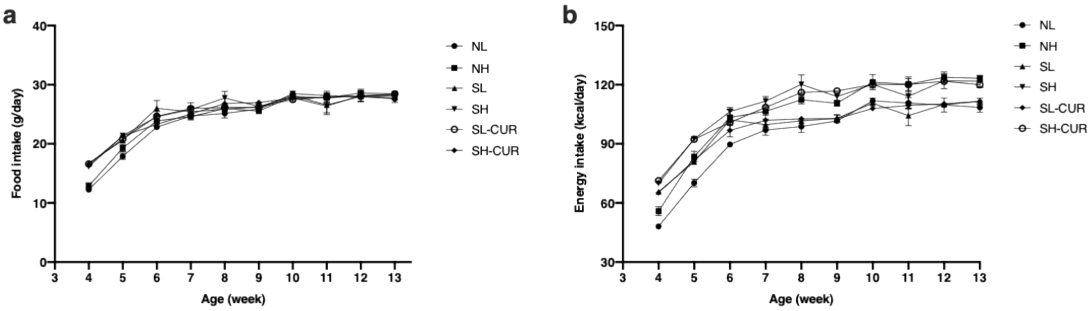

Fig. S1 Effects of CUR on food intake (a) and energy intake (b) in rats from W4 to W13. Data are expressed as the mean ± SEM. n = 6 at W3 and n = 8 at W13 in each group

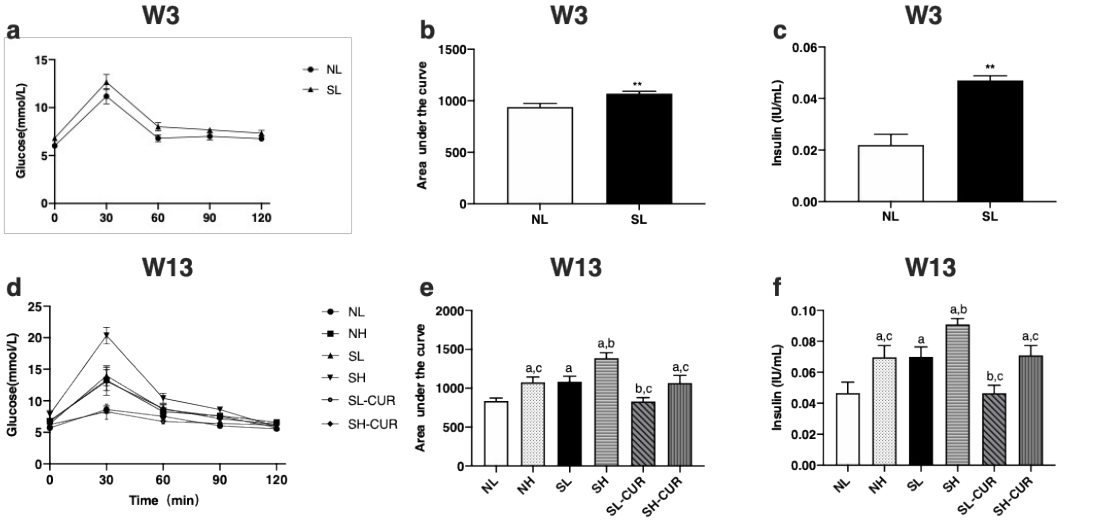

Fig. S2 Effects of CUR on IPGTT results, AUC and serum levels of insulin in rats at W3 (a-c) and W13 (d-f). Data are expressed as the mean ± SEM. n = 6 at W3 and n = 8 at W13 in each group. Statistical analysis was performed using Student's unpaired *t*-test at W3 and ANOVA with a post hoc least significant difference (LSD)-t test at W13. **p<0.01 versus NL group at W3; [a]p<0.05 versus NL group at W13; [b]p<0.05 versus SL group at W13; [c]p<0.05 versus SH group at W13

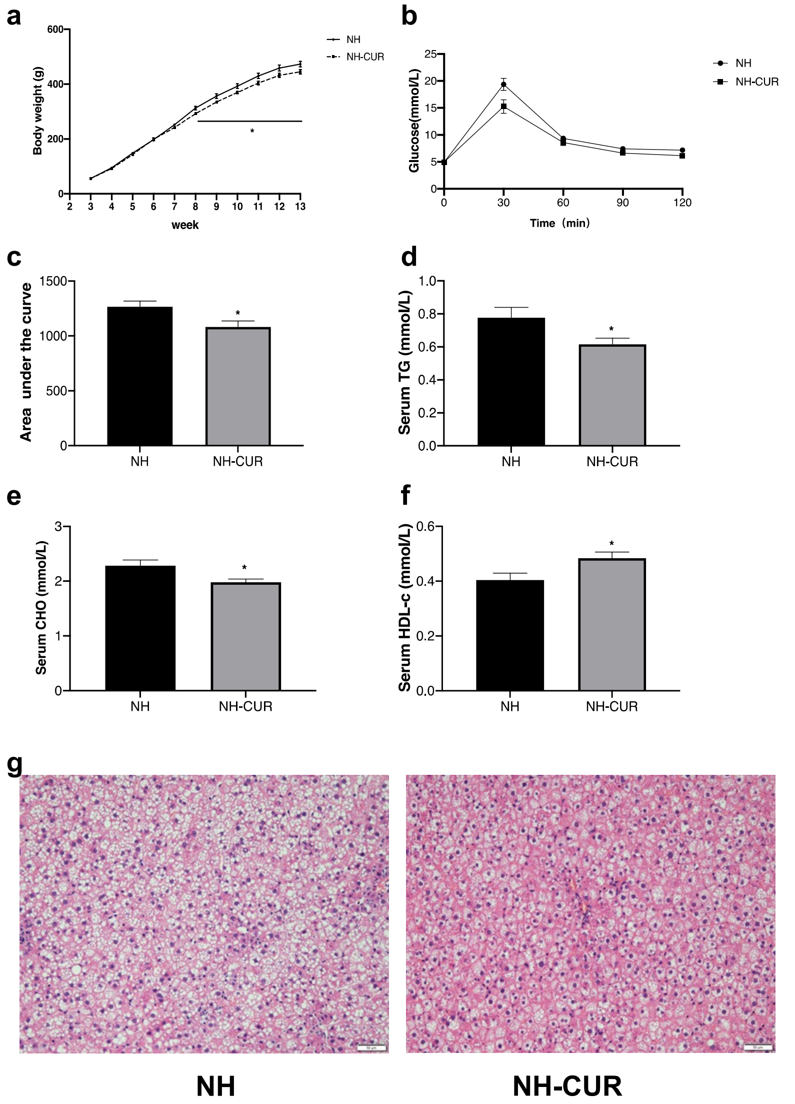

Fig. S3 Effects of CUR on NH rats. Body weight line (a)、IPGTT results and AUC (b-c), serum TG (d), CHO (e) and HDL-c (f) levels and hepatic H&E staining (g) in NH rats and NH-CUR rats at W13. Data are expressed as the mean ± SEM. n = 8. Statistical analysis was performed using Student's unpaired *t*-test. *p<0.05 versus NH group

Reference

1. Yang F, Zhou N, Zhu X, Min C, Zhou W, Li X (2021) n-3 PUFAs protect against adiposity and fatty liver by promoting browning in postnatally overfed male rats: a role for NRG4. J Nutr Biochem 93:108628. https://doi.org/10.1016/j.jnutbio.2021.108628