Electronic Supplementary Material (ESI) for Food & Function.

Table S1 Primers used in this study.

Gene	Primer sequence	Annealing temperature (℃)	Product size (bp)
GAPDH	F:5’GGAAAGCTGTGGCGTGAT3' R:5’AAGGTGGAAGAATGGGAGTT3’	60	308
SIRT1	F:5’AGGGAACCTCTGCCTCATCTAC3' R:5’GGCATACTCGCCACCTAACC3'	60	99
PGC-1α	F:5’GAGAACAAGACTATTGAGCGAA CC3' R:5’GGACTTGCTGAGTTGTGCGTAT3'	60	258

Figure S1 Rat models of SIRT1 deficiency were successfully established. (A) The effect of SIRT1 knockdown was detected by quantitative reverse transcription-PCR. (B, C) The effect of SIRT1 knockdown was detected by western blot. Different lowercase letters (a, b, c, d) represent significant differences ($P < 0.05$, one way ANOVA, n = 8).

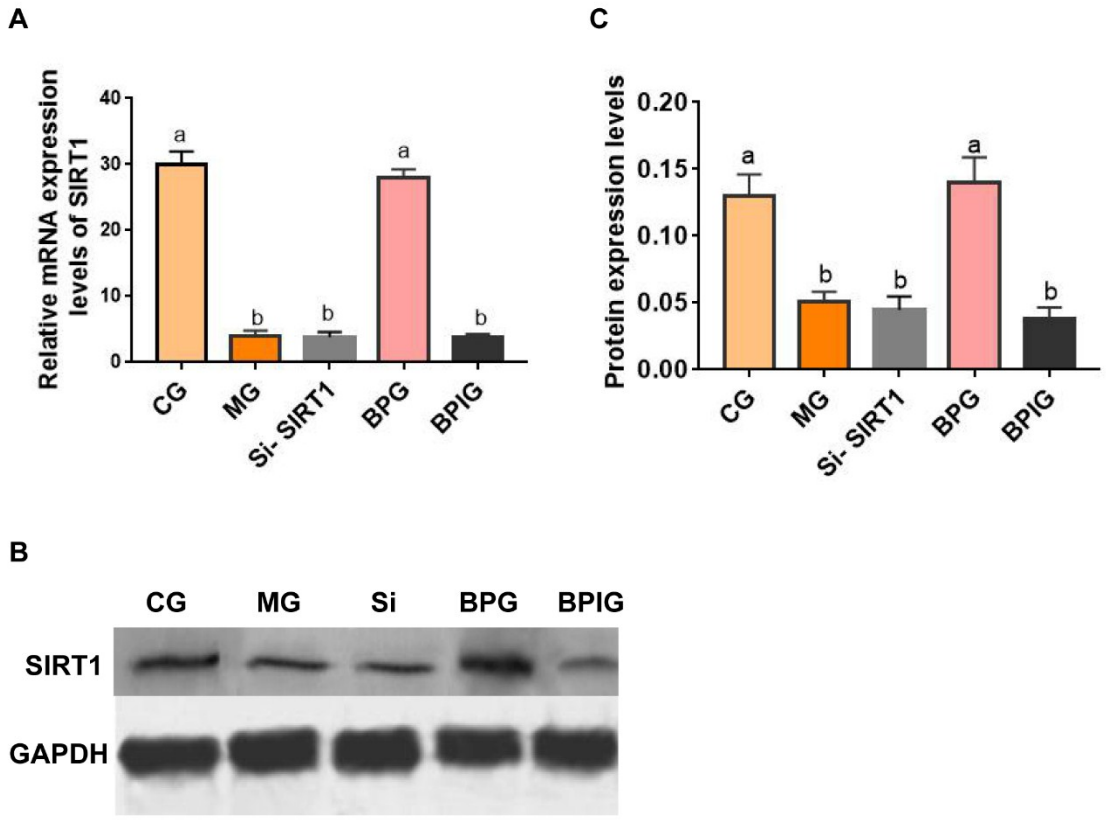

Figure S2 SIRT1 deficiency triggered mitochondrial dysfunction. (A) Degree of mitochondrial swelling was measured by the absorbance value of hepatic mitochondrial suspension at 520 nm. (B) The area of hepatic necrosis was measured by section of liver tissue using the Olympus BX41 image system. (C, D, E, and F) Effect of SIRT1 on mitochondrial respiratory function was evaluated by state 4 and 3 respiration rates, RCR, and ADP/O ratio. (G) Mitochondrial synthesis function of ATP, ADP, AMP, and EC. (H and I) Mitochondrial function biomarkers were detected by biochemical markers kit. Different lowercase letters (a, b, c, d) represent significant differences ($P < 0.05$, one way ANOVA, $n = 8$).

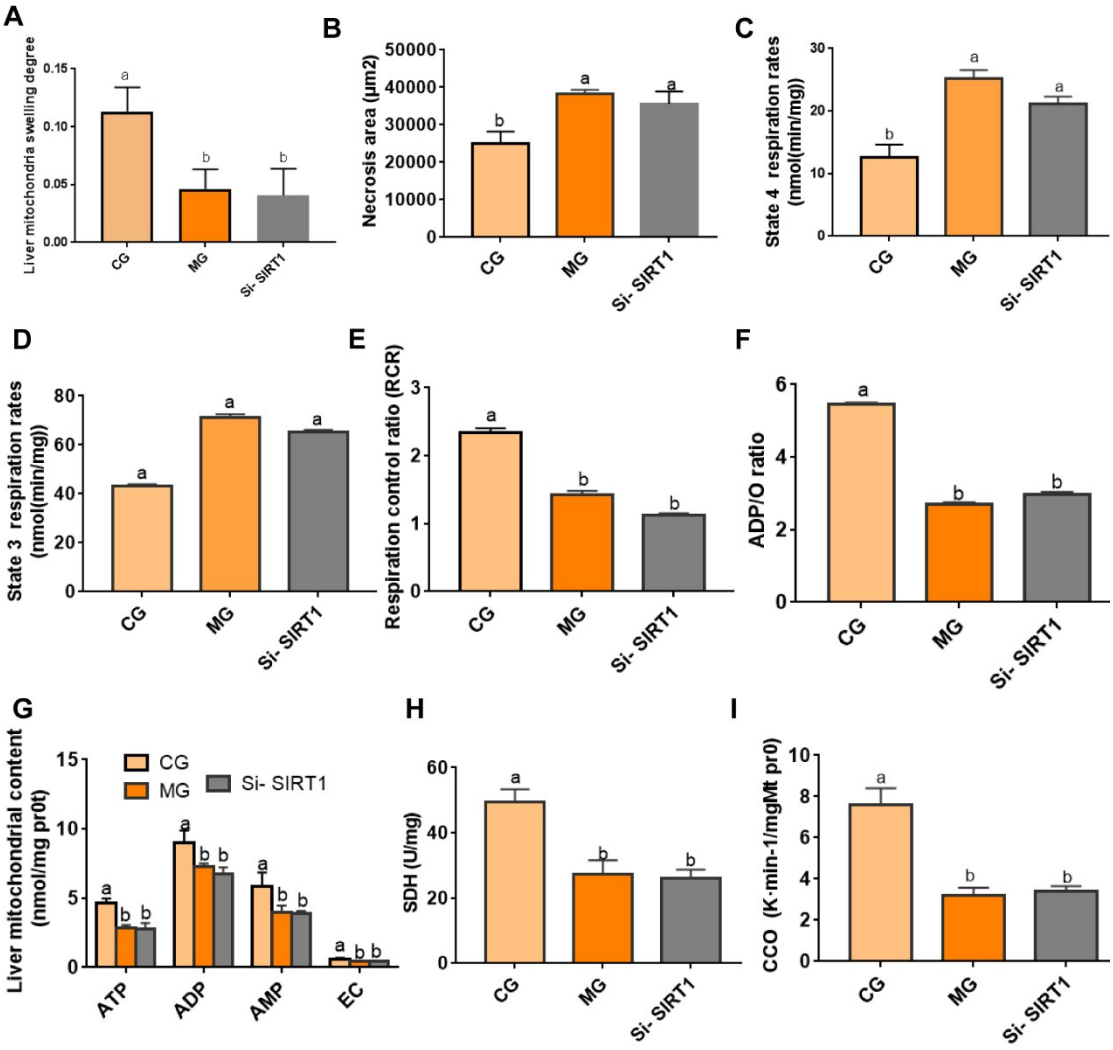

Figure S3 SIRT1 deficiency leads to oxidative stress activation. (A, B and C) Oxidative stress biomarkers were detected by biochemical markers kit. (D) Expression of SOD and GSH was measured by quantitative reverse transcription-PCR. Different lowercase letters (a, b, c, d) represent significant differences ($P < 0.05$, one way ANOVA, $n = 8$).