



Fig. S1. Irisin protected BMSCs from apoptosis *in vitro*. (a) Representative images of TUNEL staining. Apoptotic cells were identified by TUNEL and nuclei were detected by DAPI staining. Scale bar, 100 μ m. (b) Apoptotic ratio was calculated as TUNEL-positive cells in proportion to the total number of cells. Eight to Ten fields were obtained randomly from each well (n=3). (c) Western blot analyse of cleaved caspase-3 was performed in irisin-treated BMSCs and control groups. All data were measured as mean \pm standard error of the mean (SEM). *p < 0.05. BMSCs, bone marrow mesenchymal stem cells; TUNEL, terminal deoxynucleotidyl transferase-mediated dUTP-biotin nick end labeling assay; DAPI, 2-(4-Amidinophenyl)-6-indolecarbamide dihydrochloride.

Supplementary information

Author contributions:

YY: Conception and design, being accountable for all aspects of the work.

ZW, BL, YH: Conception and design, manuscript revising.

FY: Experiments performing, analyzing the data, assembled the figures and writing the manuscript.

FD, ST: Conception and design, manuscript revising, analyzing the data, experiments performing.

YZ: Operating mice model of Myocardium Infarct Model, helping to measure and analyze cardiac function by echocardiography..

Antibodies:

The following primary antibodies to proteins:

For western blot:

p-PI3k, PI3k (1 : 1,000, Cell Signaling Technology, Danvers, MA, USA); p-Akt, Akt (1 : 1,000, Cell Signaling Technology, Danvers, MA, USA); p-ERK1/2, ERK1/2 (1 : 1,000, Cell Signaling Technology, Danvers, MA, USA); p-P38, P38 (1 : 1,000, Cell Signaling Technology, Danvers, MA, USA); p-JNK, JNK (1 : 1,000, Cell Signaling Technology, Danvers, MA, USA); cleaved caspase3 (1 : 500, Cell Signaling Technology, Danvers, MA, USA); β -actin (1 : 3,000, KANGCHEN, Shanghai, China); anti-rabbit, anti-goat secondary antibody (1 : 5,000, Abcam, Cambridge, MA, USA)

For immunofluorescence:

α -SMA (1 : 400, Abcam, Cambridge, MA, USA); CD31 (1 : 200, BD Bioscience, San Jose, CA, USA); vWF (1 : 50, Abcam, Cambridge, MA, USA); anti-rabbit, anti-goat and anti-mouse secondary antibody (1 : 400, Abcam, Cambridge, MA, USA)