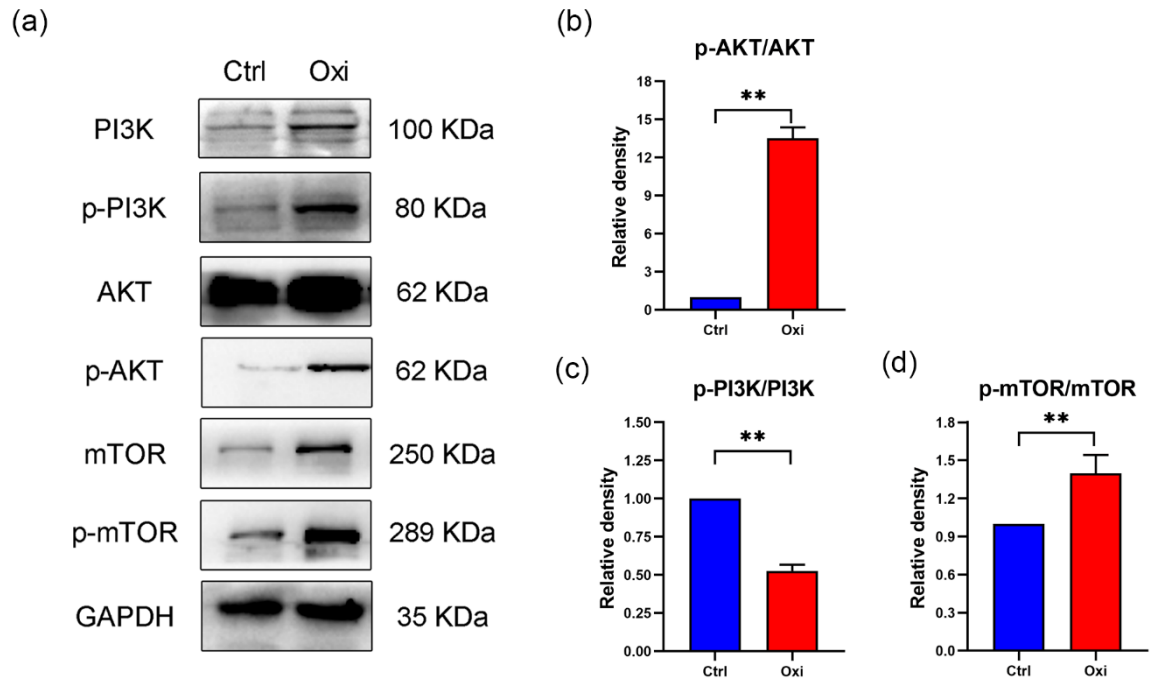
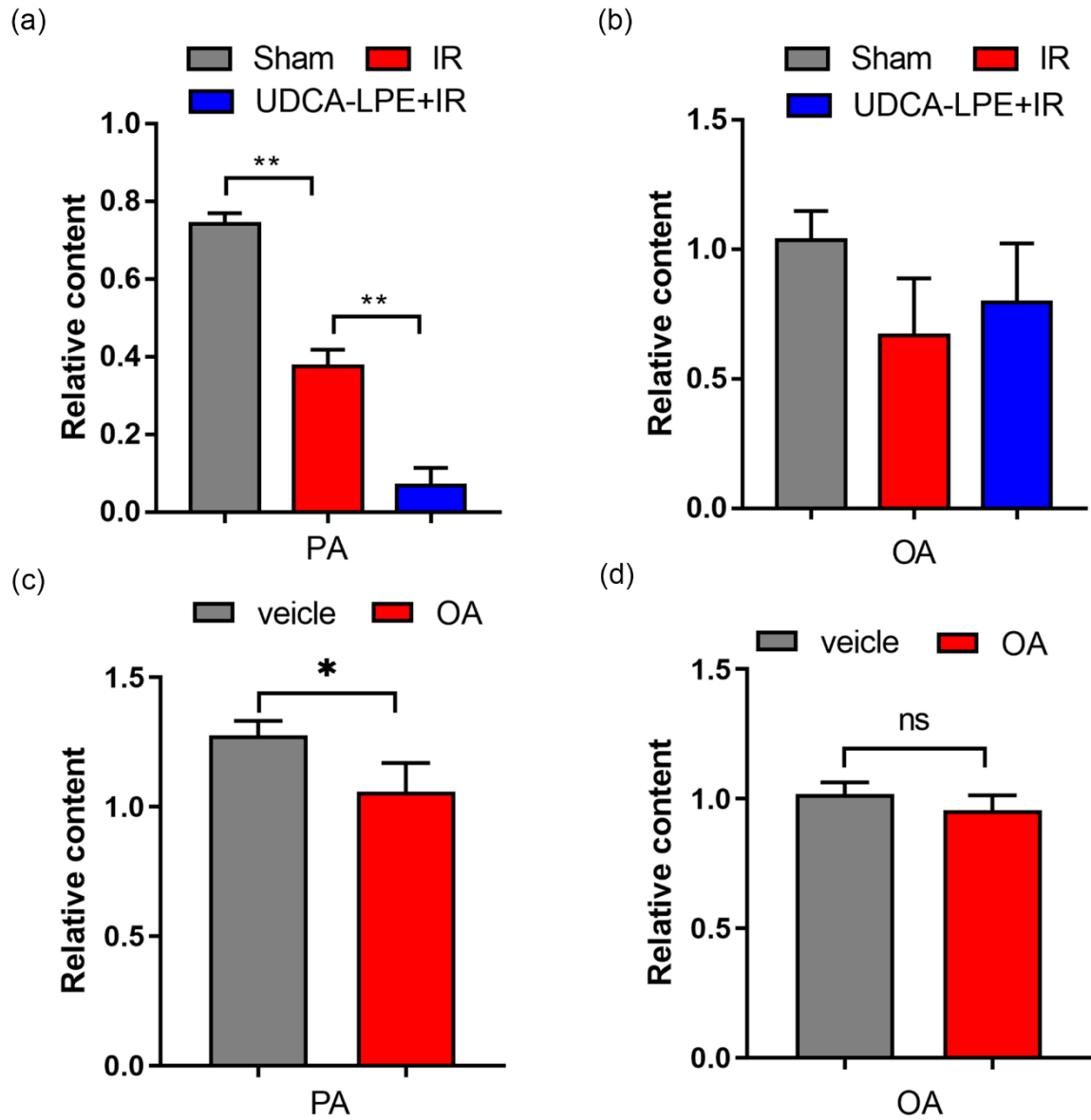


**FIGURE S1:** (a) HepG2 and LO2 cells were treated with different concentration of H<sub>2</sub>O<sub>2</sub> for 3h, cell viability was measured by CCK8 assay. (b) Level of GSH in HepG2 cells after treatment with various concentrations of OA. (c, d, e) Relative TNF- $\alpha$ , IL-1 $\beta$  and IL-6 expression of HepG2 cells treated with various concentrations of OA. Values are expressed as the mean  $\pm$  s d from three independent experiments. \*\*P<0.01, \*P<0.05. Bars indicate the standard deviation of the mean.

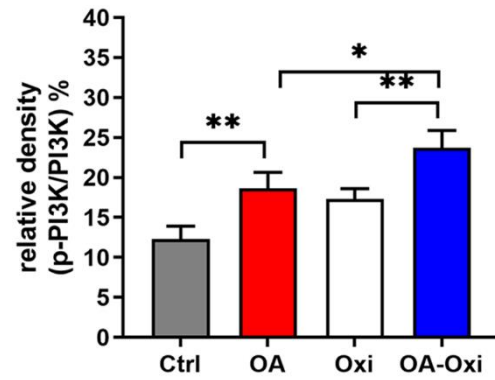
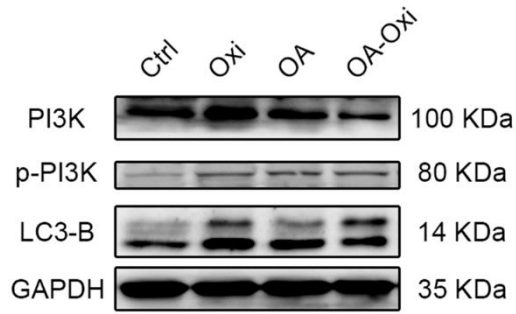


**FIGURE S2:** H<sub>2</sub>O<sub>2</sub> induced the Phosphorylation of the AKT/mTOR pathway. (a) Western blot analysis of (p)PI3K/(p)AKT/(p)mTOR protein levels with or without H<sub>2</sub>O<sub>2</sub> treatment. (b, c, d) Densitometry analysis of (p)PI3K/(p)AKT/(p)mTOR protein levels. \*\*P<0.01, \*P<0.05, compared with control group. Data are plotted as the mean ± s d from three independent experiments. Bars indicate the standard deviation of the mean.



**FIGURE S3:** (a, b) Relative PA and OA content of mouse liver after surgical procedure. (c, d) Relative PA and OA content of HepG2 cells after treated with OA. \*\*P<0.01, \*P<0.05, compared with control group. Data are plotted as the mean  $\pm$  s d from three independent experiments. Bars indicate the standard deviation of the mean.

(a)



**FIGURE S4:** (a) Western blot analysis of (p)PI3K and LC3- II protein levels after oxidative stress in HepG2 cells with or without OA treatment. Values are expressed as the mean  $\pm$  s d from three independent experiments. \*\* $P < 0.01$ , \* $P < 0.05$ . Bars indicate the standard deviation of the mean.

# Graphical abstract

