

Figure S1. Effect of autophagy on autophagy-related gene expression in macrophages induced by LPS with H<sub>2</sub>. Macrophages were treated with LPS, ATP and H<sub>2</sub>, autophagy inducer Rap and autophagy inhibitor 3-MA. The cells were collected to detect (A) LC3, (B) Beclin 1, (C) PINK and (D) Parkin by reverse transcription-quantitative PCR analysis. Data are expressed as the mean ± standard deviation (n=6). \*P<0.05 vs. Con group, \*\*P<0.05 vs. LPS group, ##P<0.05 vs. LPS+H<sub>2</sub> group. LPS, lipopolysaccharide; Rap, rapamycin; 3-MA, 3-methyladenine; LC3, microtubule-associated protein 1 light chain 3; PINK1, PTEN-induced putative kinase 1; H<sub>2</sub>, hydrogen.

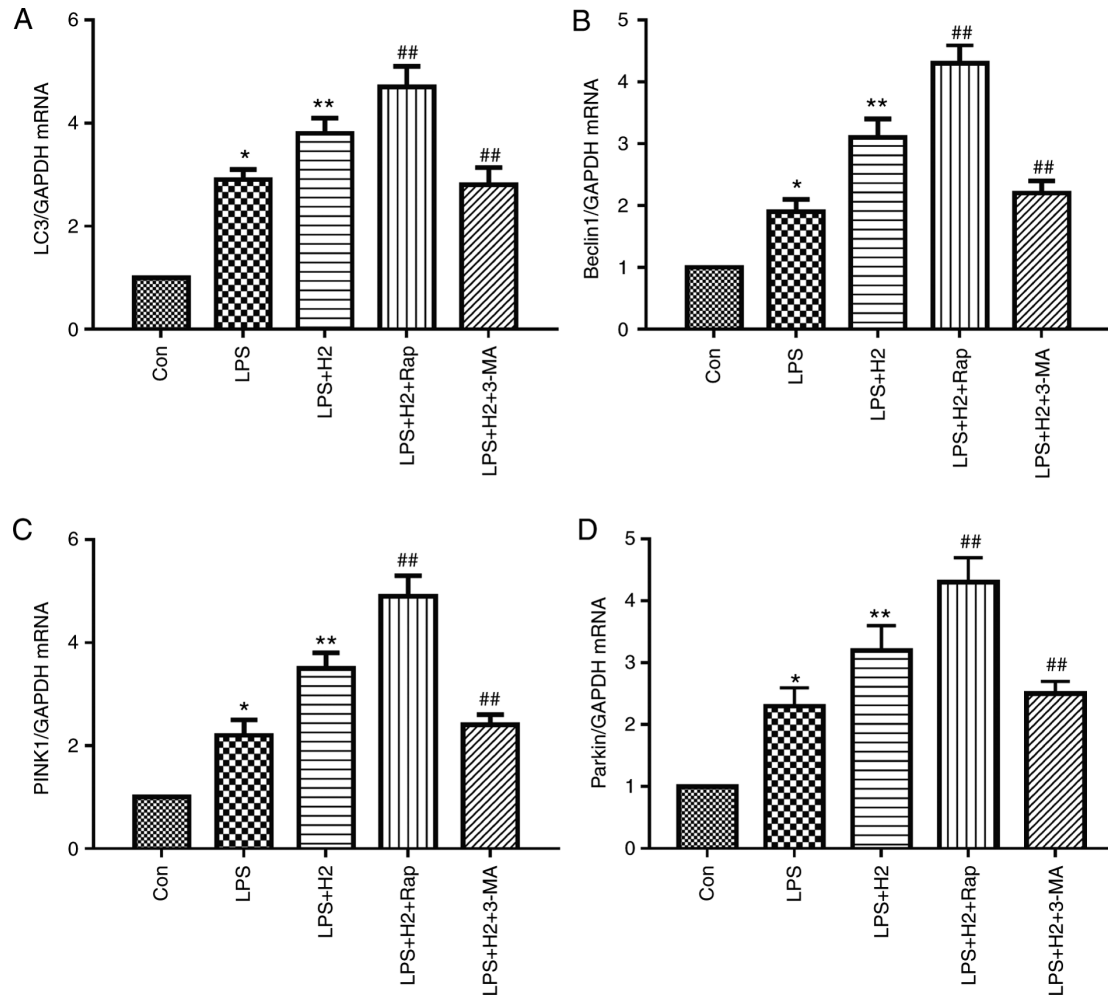


Figure S2. Effect of autophagy-mediated NACHT, LRR and PYD domains-containing protein 3 inactivation on lung injury, biochemical parameters of the liver and kidney and survival rate in LPS-induced macrophages treated with H<sub>2</sub>. Sepsis was produced by CLP. Septic mice were treated with H<sub>2</sub>, autophagy inducer Rap and autophagy inhibitor 3-MA. After 24 h, lung, liver and kidney tissues were collected to detect pathological tissue changes using hematoxylin and eosin staining. CLP, cecal ligation and puncture; Rap, rapamycin; 3-MA, 3-methyladenine; H<sub>2</sub>, hydrogen; Con, control.

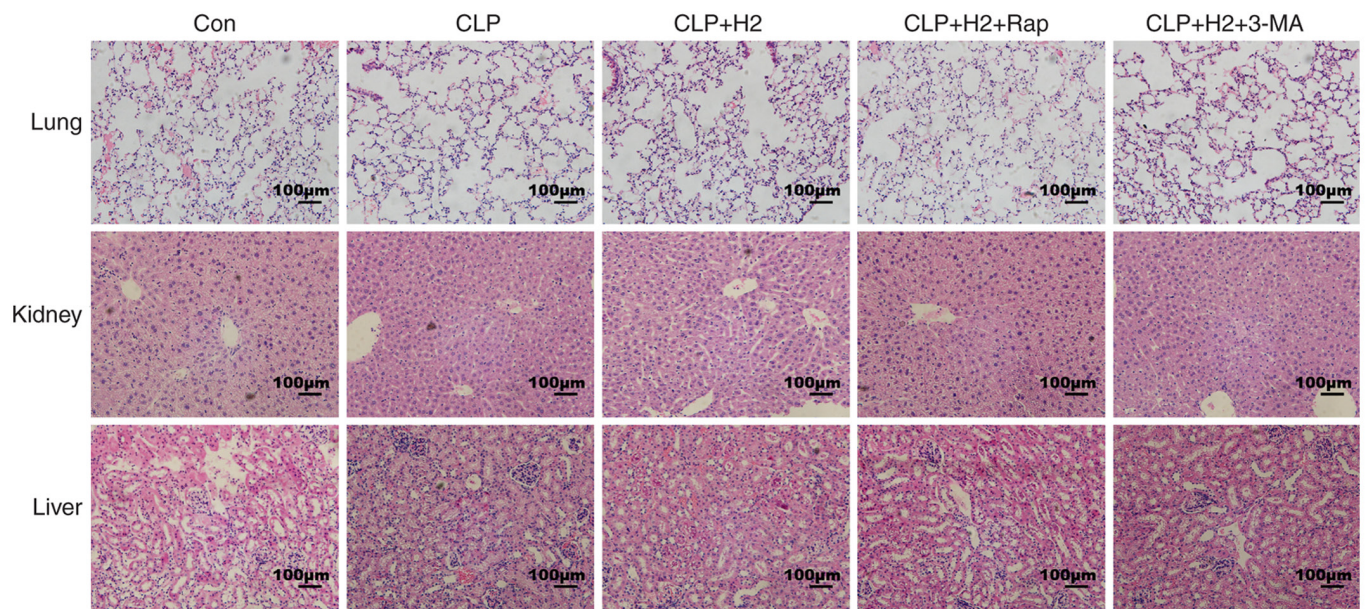


Table SI. Histological findings and scoring standard.

Histological score	Lung	Liver	Kidney
1	Normal	Normal	Normal
2	Edema, congestion, mild infiltration by alveolar macrophages, small area of hemorrhage	Swollen hepatocytes, disappearance of sinus hepaticus, mild periportal neutrophil and macrophage infiltration	Edema, congestion, mild leukocyte infiltration in glomeruli, vacuolar degeneration in the nucleus of epithelial cells
3	Large area of hemorrhage, severe macrophage infiltration and proliferation, consolidation involving half of the lung	Changes seen above; in addition, lightly dyed nuclei or obscure nuclei of hepatocytes, vacuolar degeneration or ballooning degeneration of hepatocytes, severe periportal neutrophil and macrophage infiltration	Changes seen above; in addition, acute tubular atrophy, severe leukocyte infiltration in glomeruli, protein casts in the medulla, glomerulosclerosis
4	Changes seen above; in addition, severe hemorrhage and consolidation involving almost the entire lung	Changes seen above; in addition, granulomas with lipid-laden macrophages, lymphoplasmocytic reaction, focal necrosis of hepatocytes	