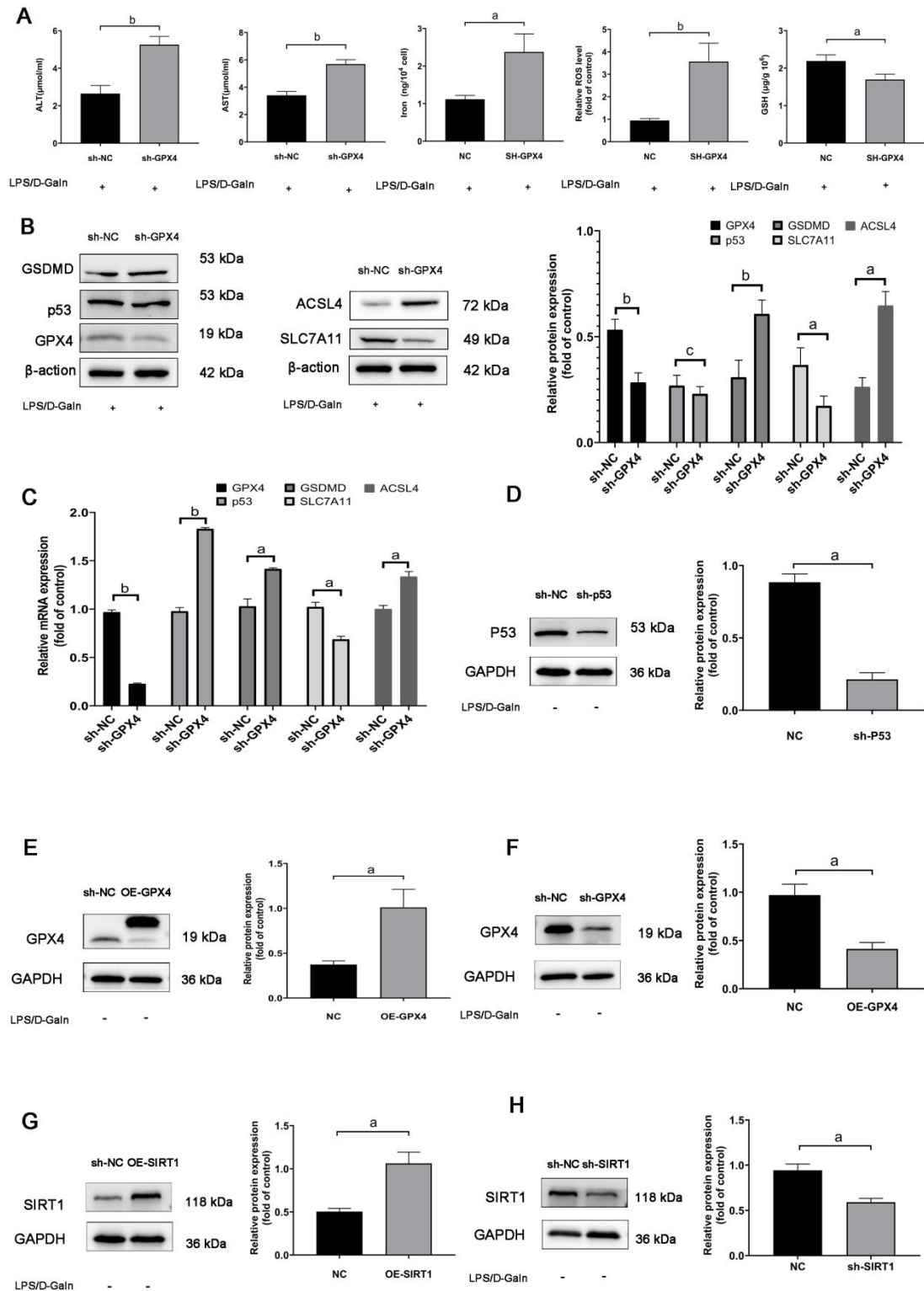


**Supplementary Figure 1 Immunofluorescence expression of Gasdermin D protein in liver tissue (100 ×).** A: Inhibition of the p53/Glutathione peroxidase 4/Gasdermin D signaling pathway attenuates GSDMD immunofluorescence expression in liver tissue. A1: Normal group microscope image; A2: Model group microscope image; A3: p53 inhibitor group microscope image; A4: ferroptosis inhibitor group microscope image; A5:

GSDMD<sup>-/-</sup> group microscope image. B: Percentage of GSDMD immunofluorescence area. C: Activation of the p53/Glutathione peroxidase 4/Gasdermin D signaling pathway exacerbated GSDMD immunofluorescence expression in liver tissue. C1: Normal group microscope image; C2: Model group microscope image; C3: p53 inducer group microscope image; A4: ferroptosis inducer group microscope image. D: Percentage of GSDMD immunofluorescence area. <sup>a</sup>*P* < 0.05, <sup>b</sup>*P* < 0.01.



**Supplementary Figure 2 Knockdown of glutathione peroxidase 4 aggravates acute liver injury *in vitro*.** A: The levels of AST, ALT, Iron, GSH and ROS were changed in serum samples of HL7702 cells ( $n = 3$ ). B: Western blot analyses of p53, GPX4, SLC7A11, ACSL4 and GSDMD proteins were

performed. C: qRT-PCR analyses of p53, GPX4, SLC7A11, ACSL4 and GSDMD were performed. D: p53 knockdown validation experiment. E: GPX4 overexpression validation experiment. F: GPX4 knockdown validation experiment. G: SIRT1 overexpression validation experiment. H: SIRT1 knockdown validation experiment. <sup>a</sup>*P* < 0.05, <sup>b</sup>*P* < 0.01.