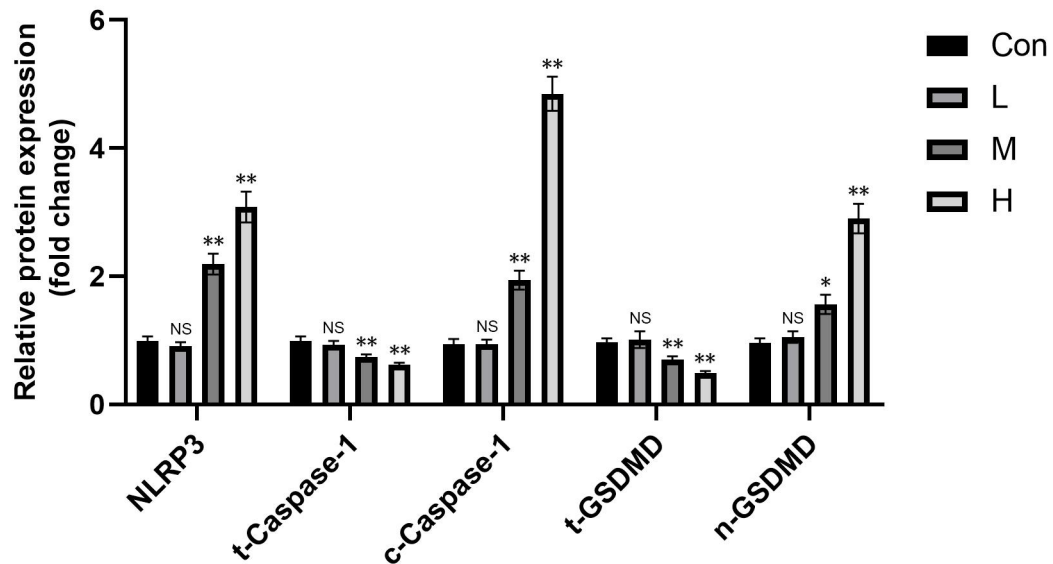
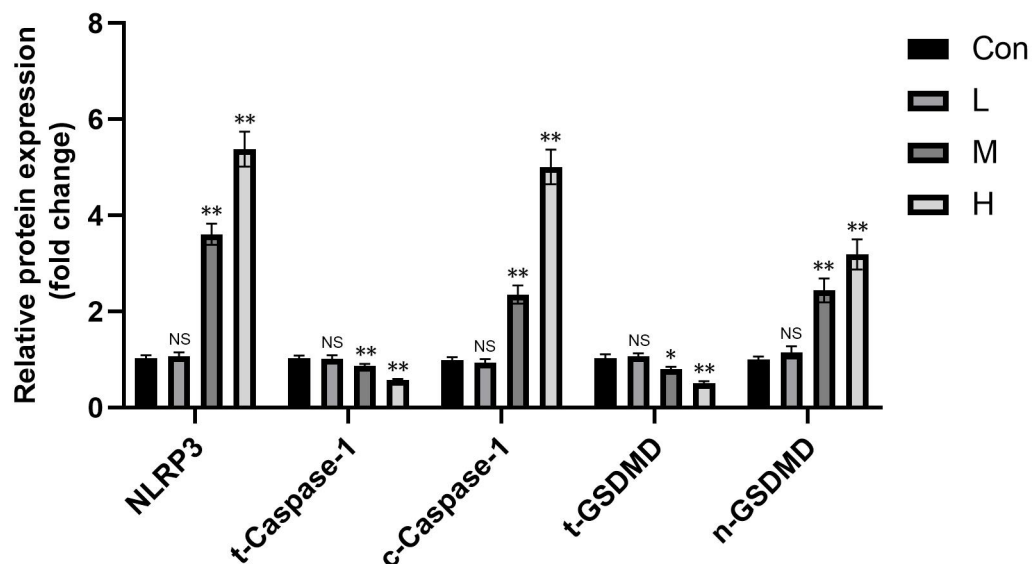


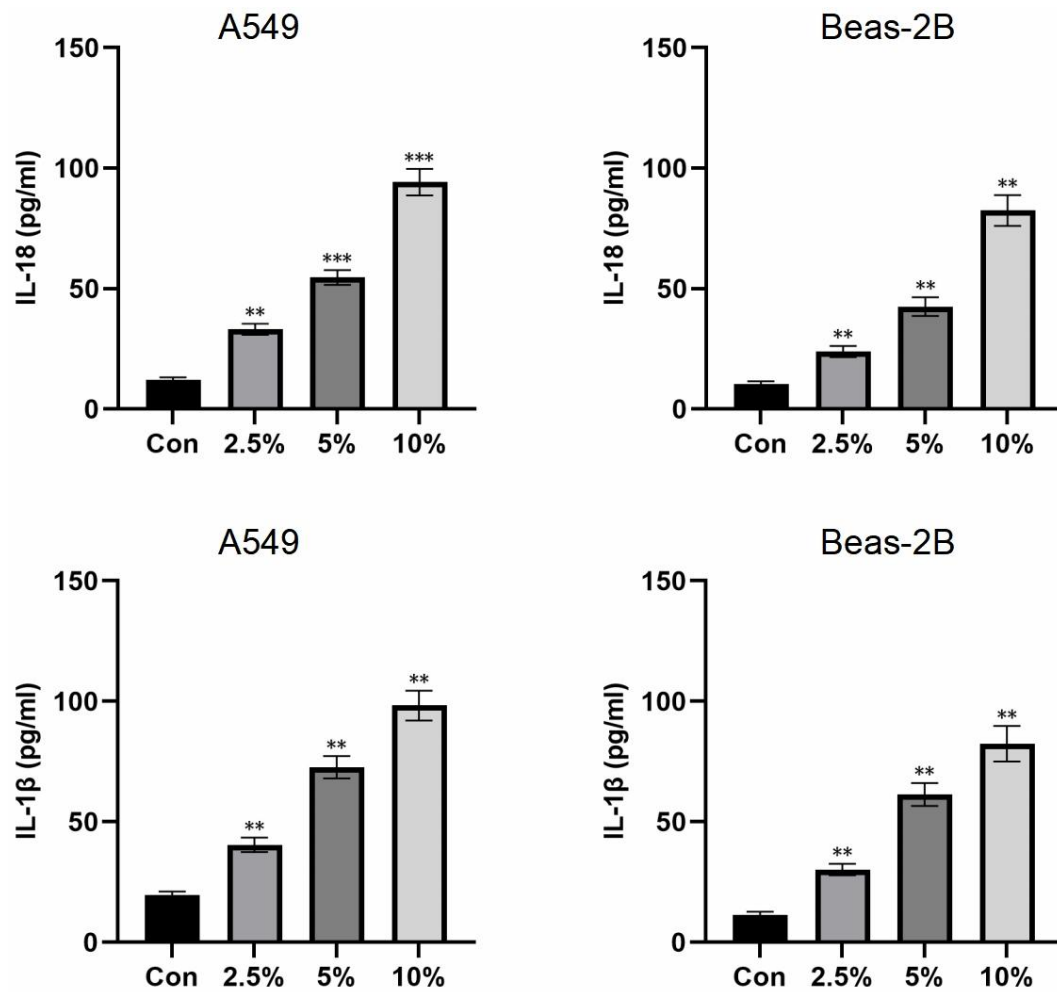
Supplementary Information



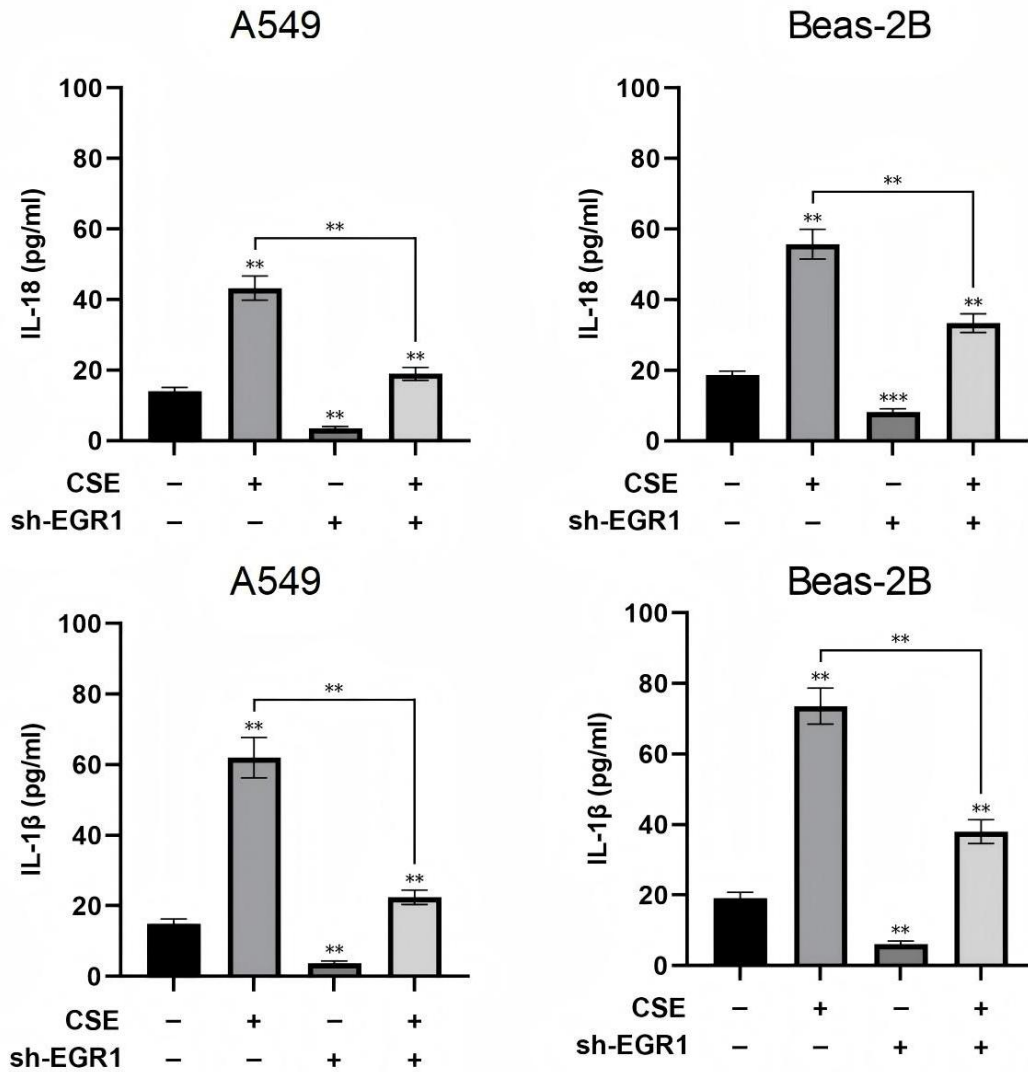
Supplementary Fig. 1 Relative protein expression levels of NLRP3, c-Caspase-1, and GSDMD-N in A549 cells were quantified by densitometry and normalized to β -actin. * $P < 0.05$, ** $P < 0.01$.



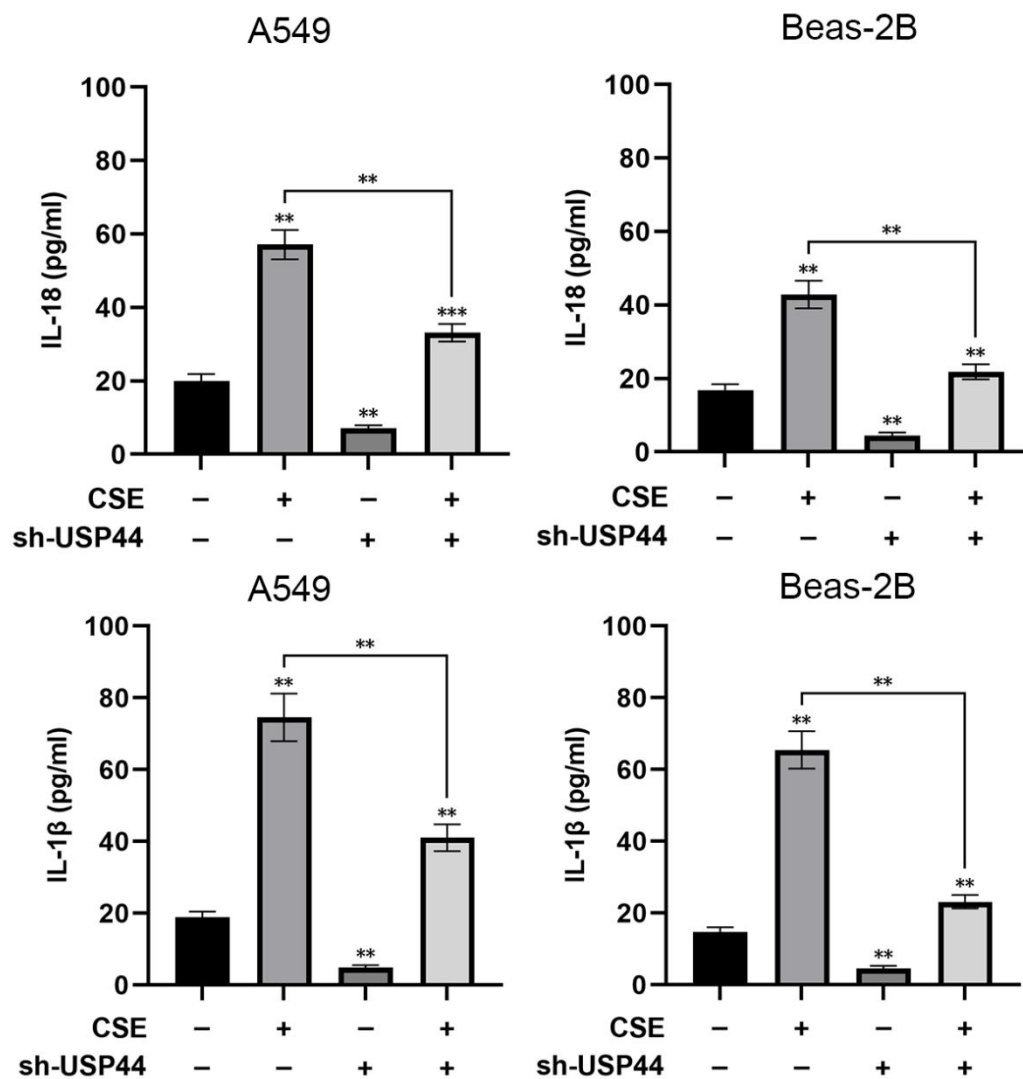
Supplementary Fig. 2 Relative protein expression levels of NLRP3, c-Caspase-1, and GSDMD-N in Beas-2B cells were quantified by densitometry and normalized to β -actin. * $P < 0.05$, ** $P < 0.01$.



Supplementary Fig. 3 ELISA was used to detect the effect of different concentrations of CSE on the levels of IL-18 and IL-1 β in the supernatants of A549 and Beas-2B cells. ** $P < 0.01$, *** $P < 0.001$.



Supplementary Fig. 4 ELISA was used to detect the levels of IL-18 and IL-1β in the supernatants of CSE-induced A549 and Beas-2B cells after EGR1 knockdown. ** $P < 0.01$, *** $P < 0.001$.



Supplementary Fig. 5 ELISA was used to detect the levels of IL-18 and IL-1β in the supernatants of CSE-induced A549 and Beas-2B cells after USP44 knockdown. ** $P < 0.01$, *** $P < 0.001$.

Supplementary Table 1: Details of the Western Blot antibody used in this study.

Antibody Target	Catalog Number	Vendor	Working Dilution
NLRP3	R014488	Epizyme, China	1:1000
Caspase1	R013737	Epizyme, China	1:1000
GSDMD	P30823	Abmart, China	1:1000
PERK	R011978	Epizyme, China	1:2000
p-PERK	R013713	Epizyme, China	1:1000
eIF2 α	YT1507	Immunoway, China	1:2000
p-eIF2 α	YP0093	Immunoway, China,	1:1000
ATF4	YM8169	Immunoway, China	1:1000
EGR1	55117-1-AP	Proteintech, China,	1:1000
USP44	YT4841	Immunoway, China	1:1000
TRAF6	YM8516	Immunoway, China	1:1000
β -Actin	TA-09	ZSGB-BIO, China	1:5000

Supplementary Table 2: Plasmids used in this study.

Plasmid Name	Supplier
pEnCMV-EGR1(human)-3×FLAG	Miaoling Plasmids, China
pLV3-U6-EGR1(human)-shRNA-CopGFP-Puro	Miaoling Plasmids, China
pLV3-U6-USP44(human)-shRNA-CopGFP-Puro	Miaoling Plasmids, China
pLV3-U6-USP44(mouse)-shRNA-CopGFP-Puro	Miaoling Plasmids, China
pCDNA3.1-6×His-Ubiquitin-wt	Miaoling Plasmids, China
pENCMV-USP44(human)-3×Myc	Miaoling Plasmids, China
pCMV-TRAF6(human)-3× FLAG-Neo	Miaoling Plasmids, China
pCDNA3.1-6×His-Ubiquitin-K48	Miaoling Plasmids, China
pCDNA3.1-6×His-Ubiquitin-K63	Miaoling Plasmids, China
pCMV-TRAF6(human)-K104R-3×FLAG-Neo	Miaoling Plasmids, China
pCMV-TRAF6(human)-K124R-3×FLAG-Neo	Miaoling Plasmids, China
pCMV-TRAF6(human)-K331R-3×FLAG-Neo	Miaoling Plasmids, China
pCMV-TRAF6(human)-K356R-3×FLAG-Neo	Miaoling Plasmids, China
pCMV-TRAF6(human)-K489R-3×FLAG-Neo	Miaoling Plasmids, China