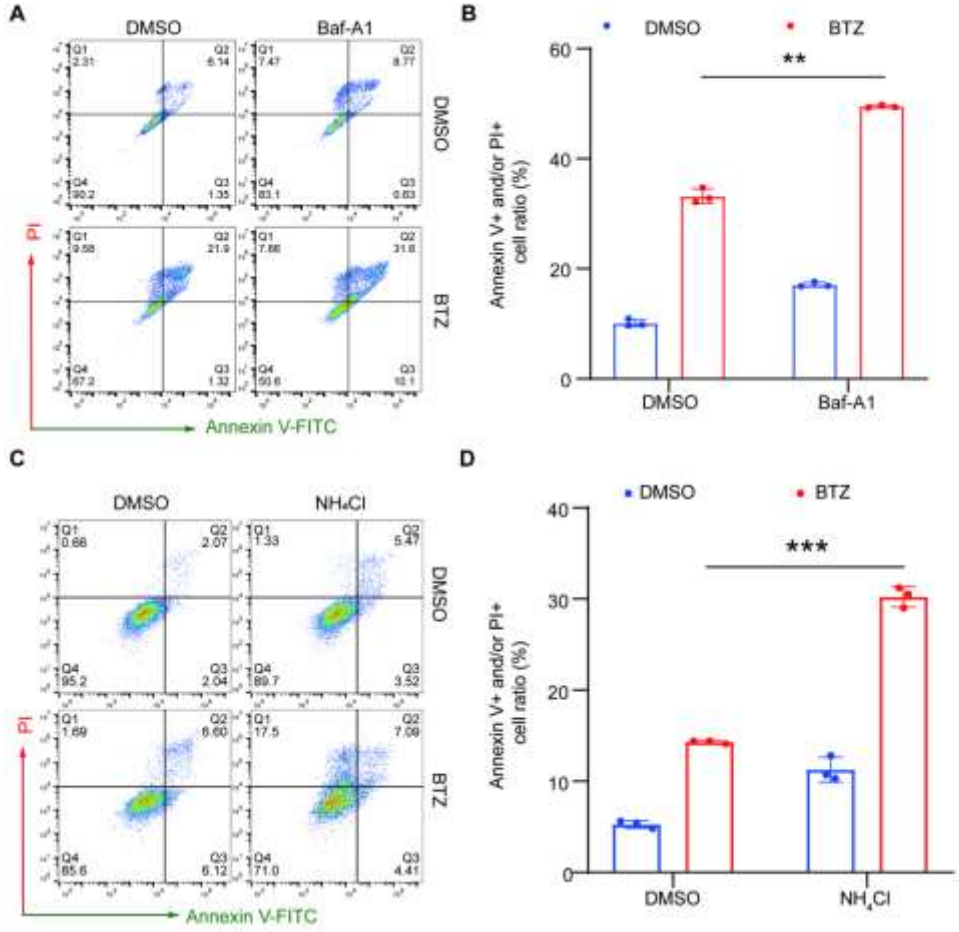
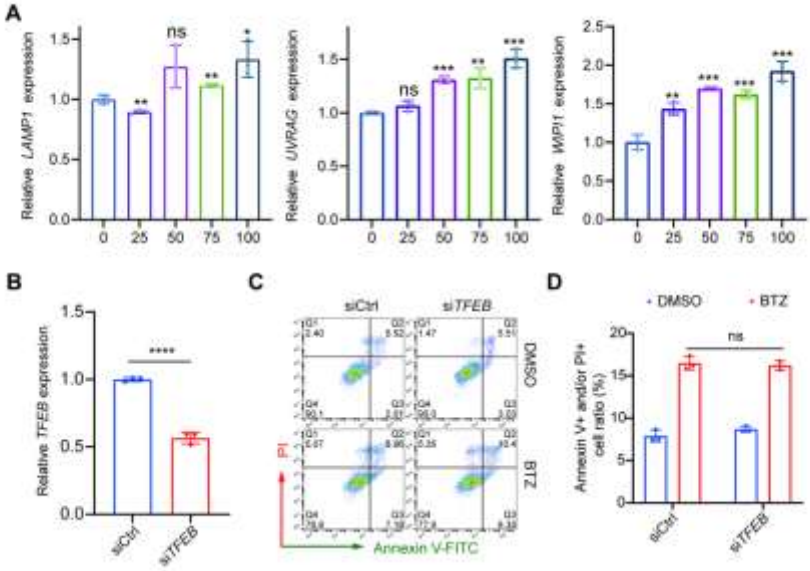
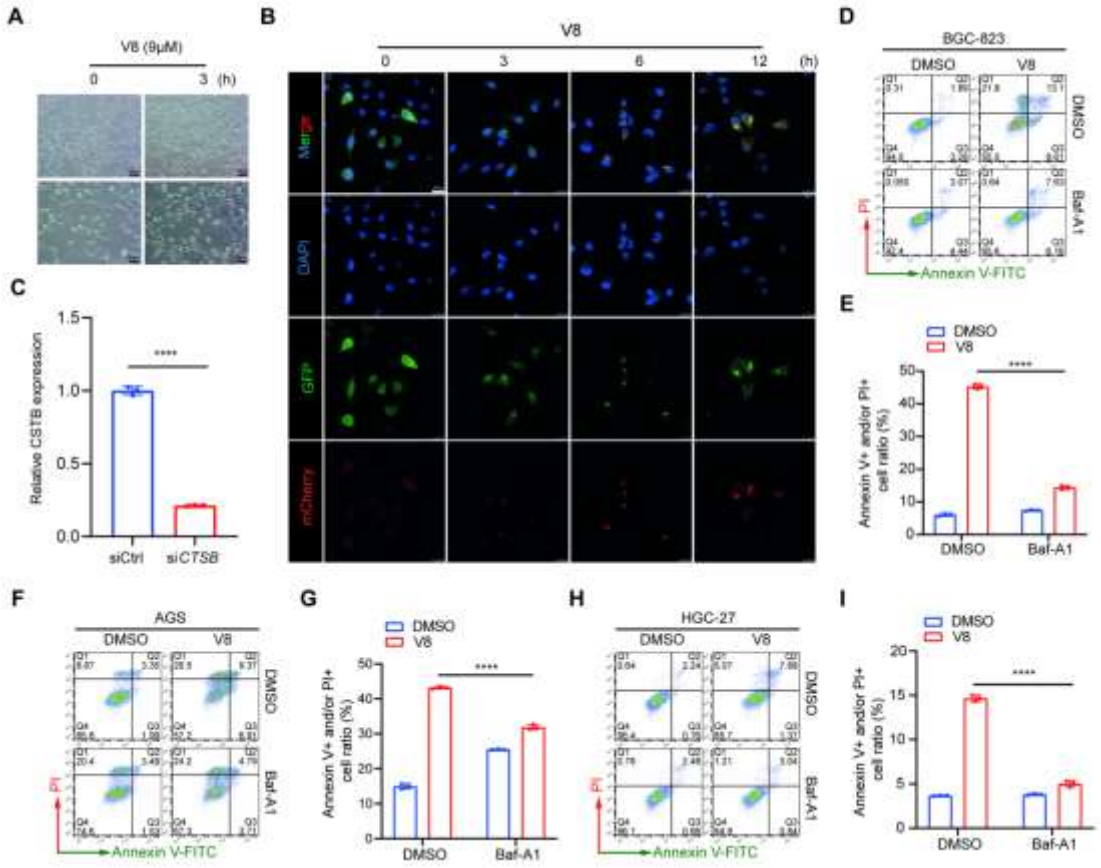


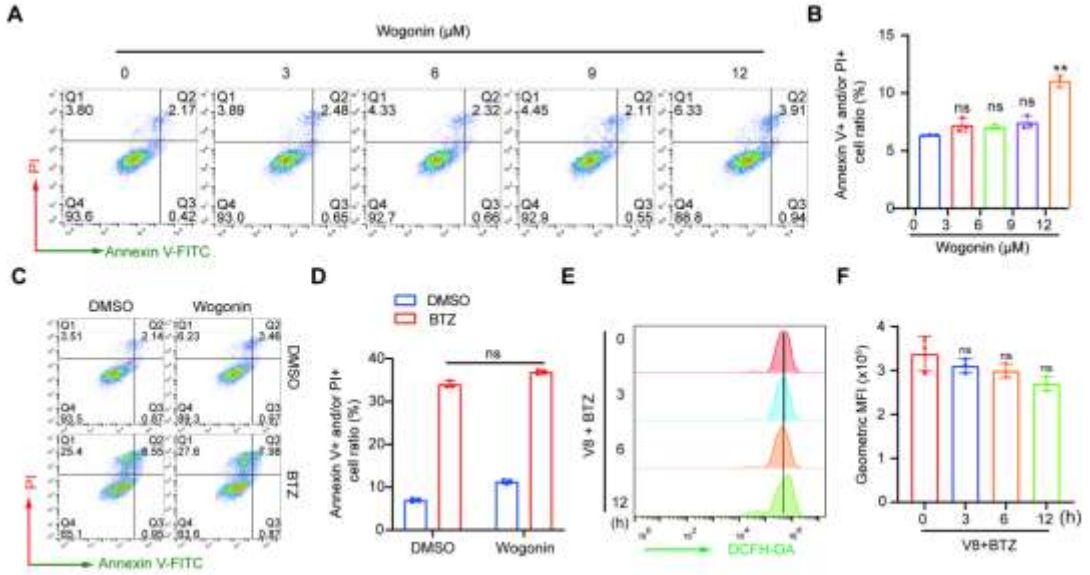
Supplementary Figure 1 Deacidifying lysosome increases the cytotoxicity of BTZ. (A-D) MGC-803 cells were treated with BTZ (100 nM) in the presence of Baf-A1(100 nM) or NH_4Cl(10 mM) for 24 h. The flow cytometry was performed for analysis of apoptosis, and the representative data (A and C) and quantified results (B and D) were shown.



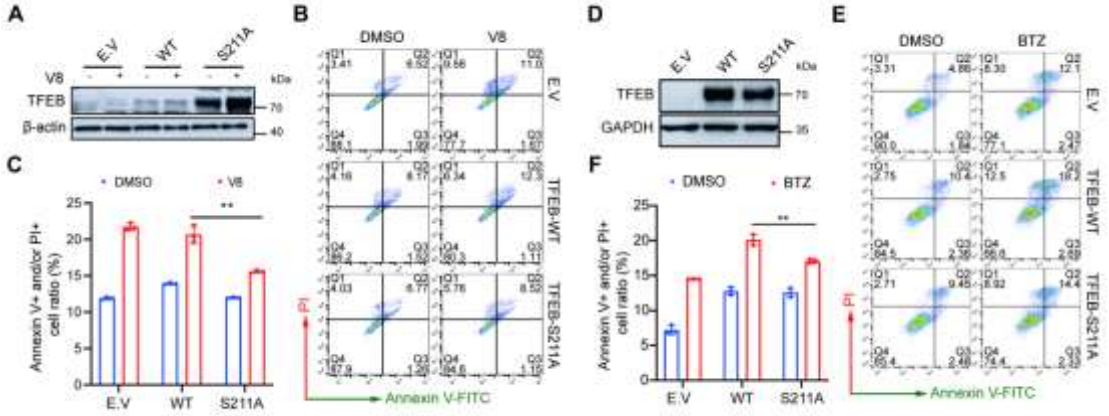
Supplementary Figure 2 Effect of BTZ on TFEB signaling pathway. (A) MGC-803 cells were treated with BTZ for 24 h at indicated concentration. Real-time PCR was carried out for analysis of indicated gene expression, and the relative expression of genes was evaluated by qPCR. (B) The expression of TFEB was determined by real-time PCR in MGC-803 cells after transfection of siRNA against *TFEB* gene. (C and D) Flow cytometry was used for analysis of apoptosis in MGC-803 cells treated with BTZ (100 nM) following transfection of specific siRNA against *TFEB* gene. The representative images (C) and quantified results (D) were shown.



Supplementary Figure 3 V8 induces lysosomal cell death in gastric cancer cells. (A) MGC-803 cells were treated with V8 as indicated followed by photographing under microscope. The representative images were shown (scale bar: upper 100 μm; lower 50 μm). (B) MGC-803 cells were transfected with lentivirus containing mCherry-GFP-LC3, followed by treatment with V8 (9 μM) for indicated time. The representative images of immunofluorescence were shown (scale bar: 50 μm). (C) Real-time PCR was performed for analysis of *CSTB* gene expression in MGC-803 cells after transfection of specific siRNA, and the relative expression of gene was examined by qPCR. (D-I) Gastric cancer cells were treated with V8 (12 μM) in the presence of Baf-A1 (100 nM) for 24 h. The representative images (D, F, H) and quantification results (E, G, I) of apoptosis analysis were shown.

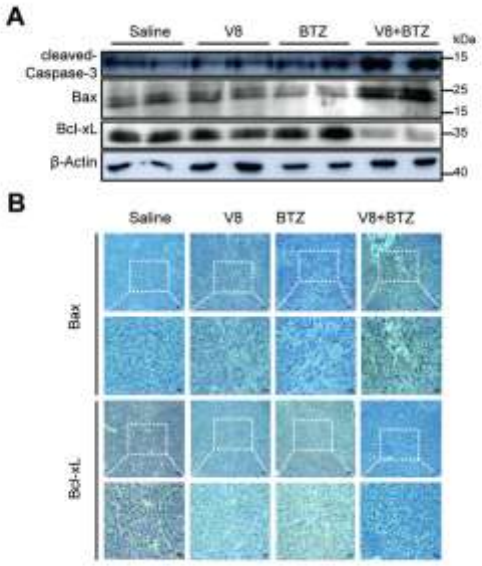


Supplementary Figure 4 Effect of BTZ combined with wogonin or V8 on MGC-803 cells. (A and B) Cells were treated with wogonin at the indicated concentration for 24 h. Cell death was analyzed by flow cytometry. The representative images (A) and quantified data (B) were shown. (C and D) Cells were treated with wogonin (12 μM) or BTZ (100 nM) alone and the combination for 24 h, followed by cell death analysis. The representative images (C) and quantified data (D) were shown. (E and F) Cells were treated with V8 (9 μM) or BTZ (100 nM) alone and the combination for 24 h. After that, cells were stained with DCFH-DA, followed by flow cytometry analysis. The quantified data were draw from three replicates.



Supplementary Figure 5 Role of TFEB in apoptosis of MGC-803 cells induced by V8 and BTZ. (A-E) Cells were transiently transfected with empty

vector (E.V), wild type (WT) and S211A mutant form of TFEB, respectively. The ectopic expression of TFEB was examined by western blot analysis (A and D). After transfection, cells were treated with V8 (9 μM) or BTZ (100 nM) for 24 h, followed by flow cytometry analysis for apoptosis. The representative images (B and E) and quantified results (C and F) were shown.



Supplementary Figure 6 Effect of V8 and BTZ combination on tumor cell apoptosis *in vivo*. (A) Total protein of tumor tissues was harvested, followed by western blot analysis for expression of active-caspase 3, Bax and Bcl-xL using β-actin as loading control. (B) Immunohistochemistry was performed for analysis of Bax and Bcl-xL expression. Representative images were shown (scale bar: upper 50 μm; lower 20 μm).