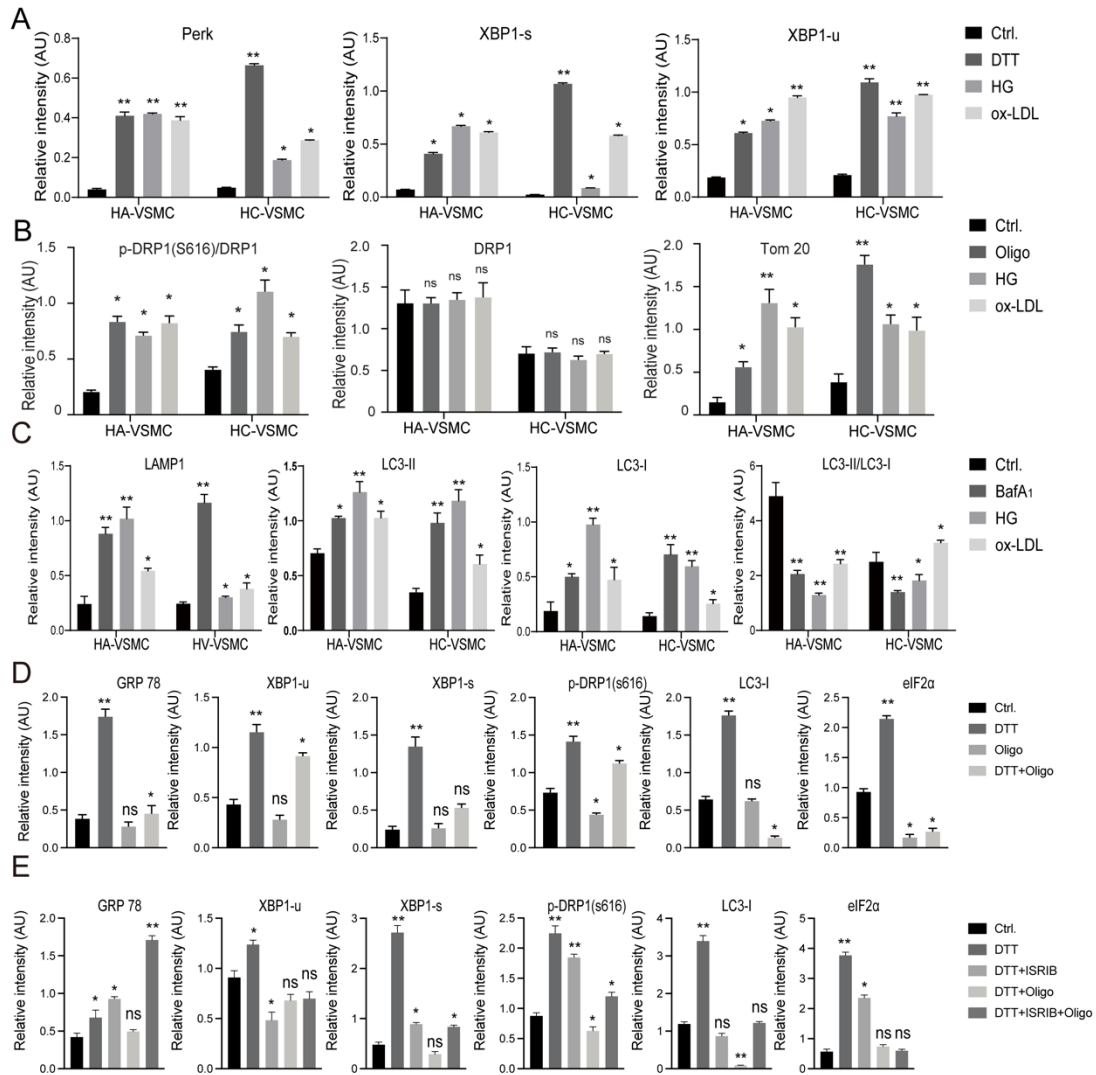


Supplementary Figure 1 **A** Fluorescence staining for multiple organelles such as the nucleus, endoplasmic reticulum (ER), mitochondria, and lysosomes by live-cell imaging. **B** Dynamic changes in organelles observed by live-cell imaging. Scale bar

=10 μ m. **C** Quantitative analysis of the number of ER whorls in PVSMC(S) and PVSMC(V) (n=30 cells in each group). **D** Quantitative analysis of the changes in the area, perimeter, and branch length between PVSMC(S) and PVSMC(V) (n=30 cells in each group). **E** Quantitative analysis of the changes in fluorescence intensity of lysosome between PVSMC(S) and PVSMC(V). **F** Quantitative analysis of the number of ER whorls in HA-VSMC and HC-VSMC under the treatment of DMSO, DTT, HG and ox-LDL (n=30 cells in each group). **G** Quantitative analysis of changes in the area, perimeter, and branch length in HA-VSMC and HC-VSMC under the treatment of DMSO, oligomycin A1, HG, and ox-LDL (n=30 cells in each group). **H** Quantitative analysis of the changes in fluorescence intensity of lysosome in HA-VSMC and HC-VSMC under DMSO, BafA₁, HG and ox-LDL (n=30 cells each group).



Supplementary Figure 2 **A** Quantitative analysis of the protein expression of PERK, XBP1-s and XBP1-u (n=3 times each group). **B** Quantitative analysis of the protein expression of p-DRP1(S616), DRP1, and Tom 20 (n=3 times each group). **C** Quantitative analysis of the protein expression of LAMP1, LC3-I, LC3-II and LC3-II/LC3-I (n=3 times each group). **D** Quantitative analysis of the protein expression of GRP78, XBP1-u, XBP1-s, p-DRP1(S616), LC3-I, and eIF2 α in the treatment of DMSO (Ctrl.), Tg, Oligo, and combined DTT and oligo (n=3 times each group). **E** Quantitative analysis of the protein expression of GRP78, XBP1-u, XBP1-s, p-DRP1(S616), LC3-I, and eIF2 α in the treatment of DMSO, Tg, ISRIB, Oligo, and these combined treatments (n=3 times each group).