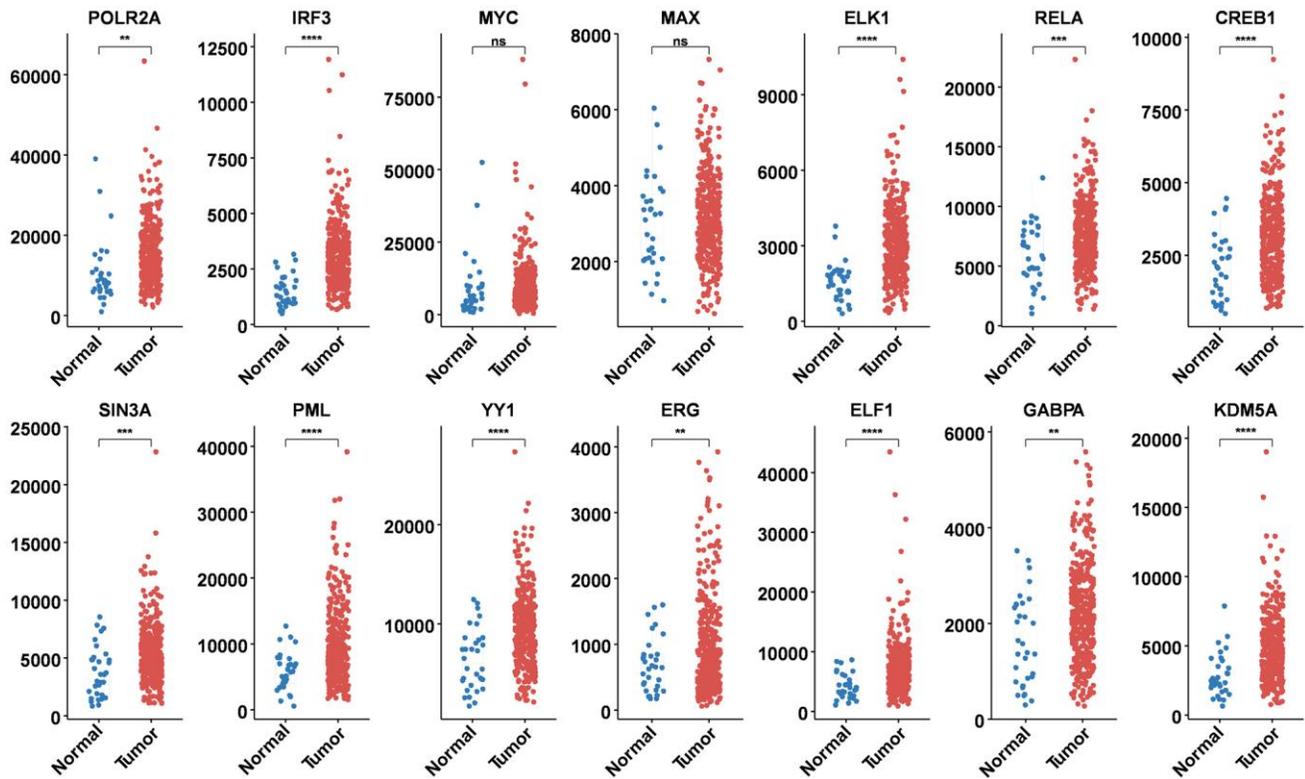
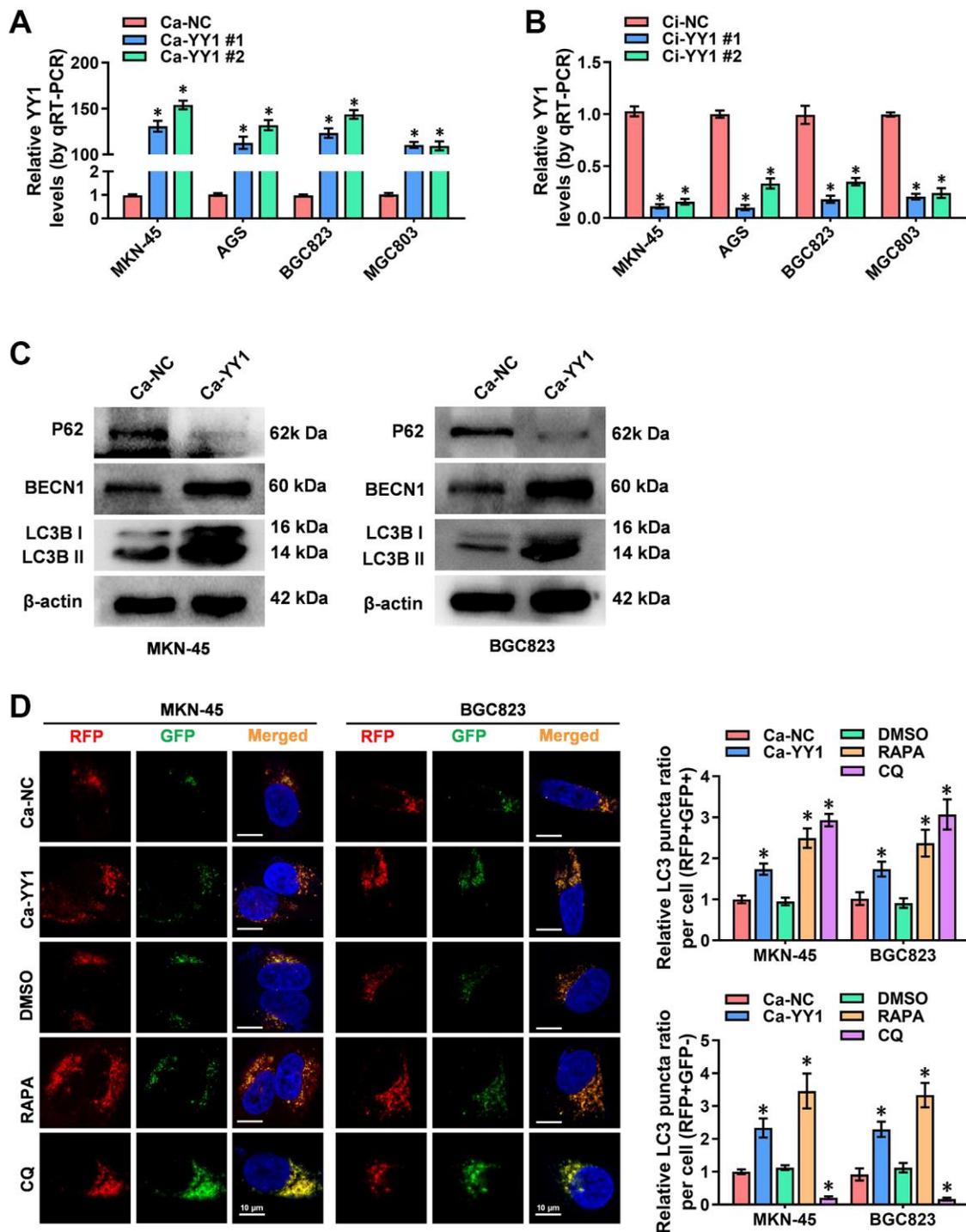


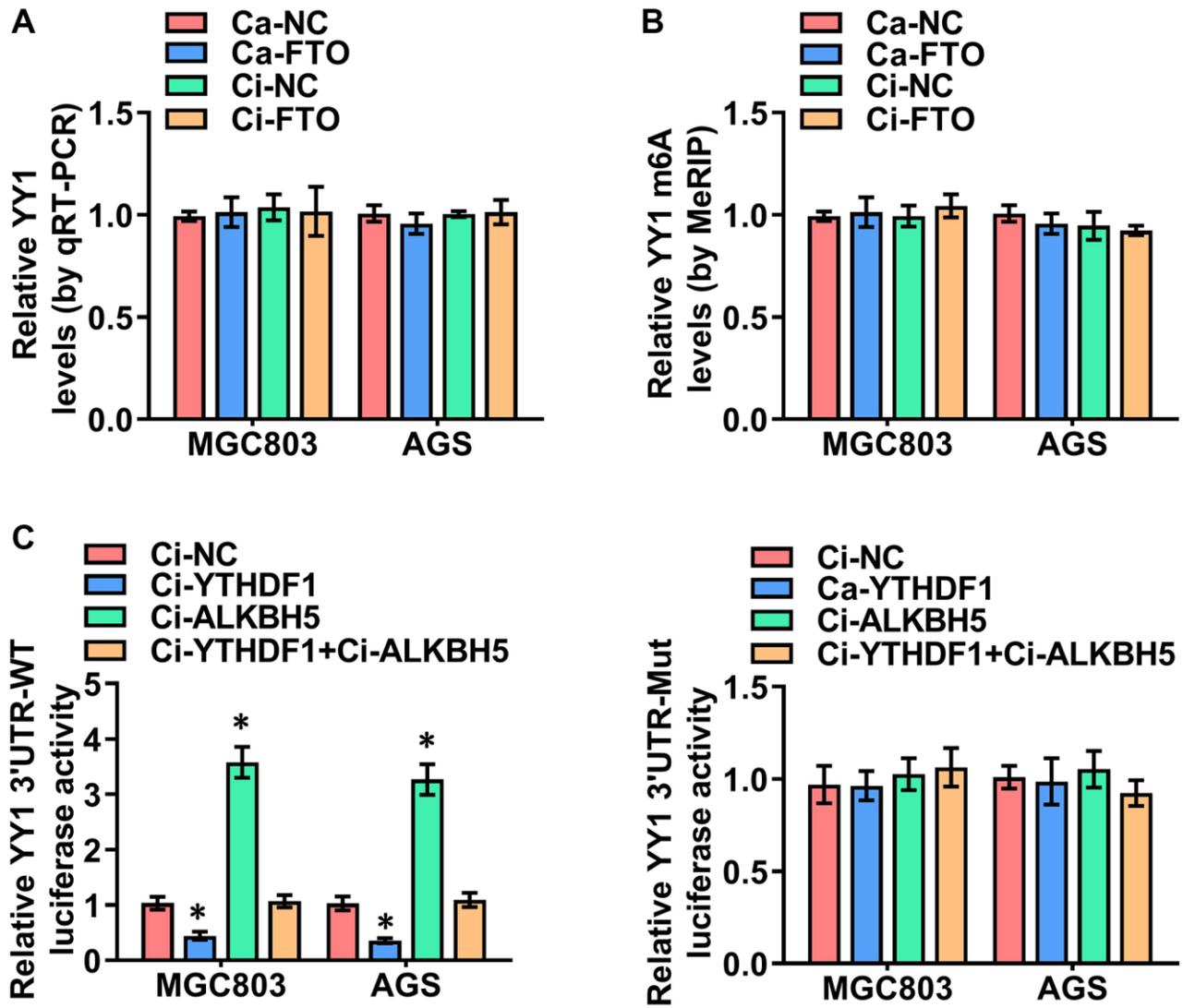
SUPPLEMENTARY FIGURES



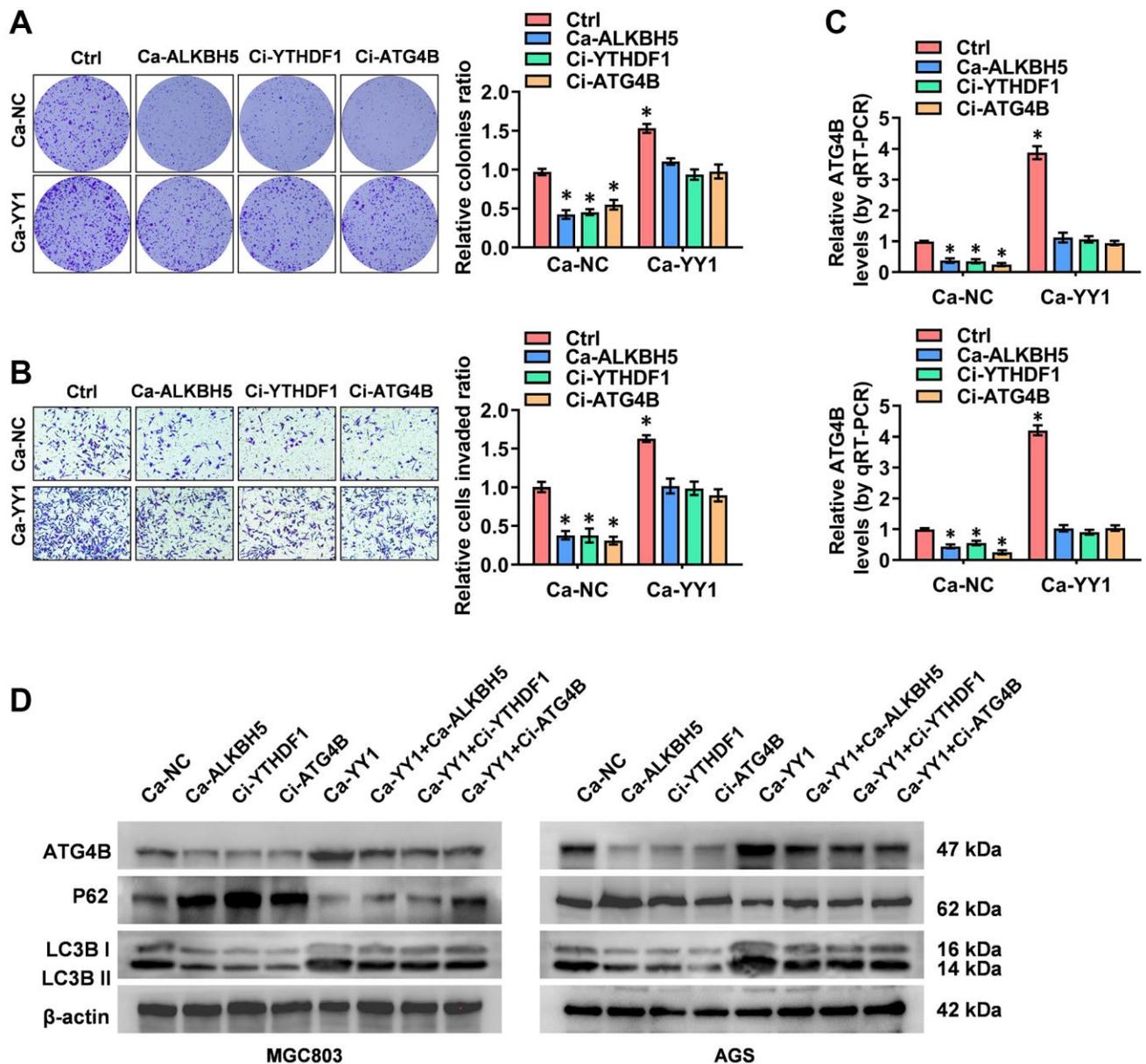
Supplementary Figure 1. Expression profiles of 14 transcription factors related in autophagy from TCGA database.



Supplementary Figure 2. YY1 promotes autophagy in cancer. (A, B) Real - time qRT - PCR analysis verifying the effective activation or repression in MGC803, AGS, MKN-45 and BGC823 cells transfected with Ca-NC, Ca-YY1 #1, #2, or Ci-NC, Ci-YY1 #1, #2. (C) Western blotting showing the expression of the autophagy-associated proteins of LC3B, p62, and BECN1 in YY1-overexpressing or YY1 knockdown cells. (D) Representative images (left panel) and quantification (right panel) showing the immunofluorescence staining intensity with mRFP-GFP-LC3 in MKN-45 and BGC823 cells treated with the empty vector (Ca-NC) or Ca-YY1, and those treated with DMSO, CQ (Chloroquine, 20 μ mol/L) or RAPA (Rapamycin, 1 μ mol/L) as positive controls for inactivated or activated autophagy. Scale bar: 10 μ m. * P < 0.05 vs. Ca-NC, Ci-NC, DMSO.



Supplementary Figure 3. YY1 was regulated via m6A-ALKBH5-YTHDF1 axis. (A, B) qRT-PCR and MeRIP assays displaying the mRNA and m6A levels in MGC803 and AGS cells induced for the overexpression or knockdown of FTO. (C) dual luciferase assay displaying the 3'-UTR activity of YY1 in MGC803 and AGS cells transfected with Ci-YTHDF1 and co-transfected with Ci-ALKBH5. * $P < 0.05$ vs. Ca-NC, Ci-NC.



Supplementary Figure 4. YY1 drives cancer progression and autophagy in an m6A-dependent manner. (A, B) Representative images (left) and the quantification (right) of colony formation (A) and transwell (B) assays showing the growth and migration of MGC803 cells transfected with Ca-NC, Ca-YY1 or co-transfected with Ca-ALKBH5, Ci-YTHDF1 or Ci-ATG4B. (C) Real - time qRT - PCR assay indicating the levels of ATG4B in MGC803 and AGS cells transfected with Ca-YY1, or co-transfected with Ca-ALKBH5, Ci-YTHDF1 or Ci-ATG4B. (D) Western blotting showing the expression of the autophagy-associated proteins of LC3B and p62 in MGC803 and AGS cells transfected with Ca-YY1, or co-transfected with Ca-ALKBH5, Ci-YTHDF1 or Ci-ATG4B. * $P < 0.05$ vs. Ca-NC+Ctrl.