

Figure S1. Knockdown of HHLA2 inhibits TGF- $\beta$ 1-induced EMT of GBC *in vitro*. (A) TGF- $\beta$ 1 (10 ng/ml) increased the expression of HHLA2 in a time-dependent manner, (B) according to the quantification. (C) EMT was inhibited in the TGF- $\beta$ 1-treated GBC cells with HHLA2 expression knocked down compared with that in the TGF + sh-NC group, as shown by Western blot analysis (n=3), (D) which was also quantified. (E) Immunofluorescence staining showed similar results to western blotting. Scale bars, 100  $\mu$ m. Green, target protein; Blue, DAPI. \*\*P<0.01 and \*\*\*P<0.001 (TGF + shHHLA2 group vs. TGF + sh-NC group) HHLA2, human endogenous retrovirus-H long terminal repeat-associated protein 2; EMT, epithelial-mesenchymal transition; Col-I, collagen I;  $\alpha$ -SMA,  $\alpha$ -smooth muscle actin; shRNA or sh, short hairpin RNA; NC, negative control.

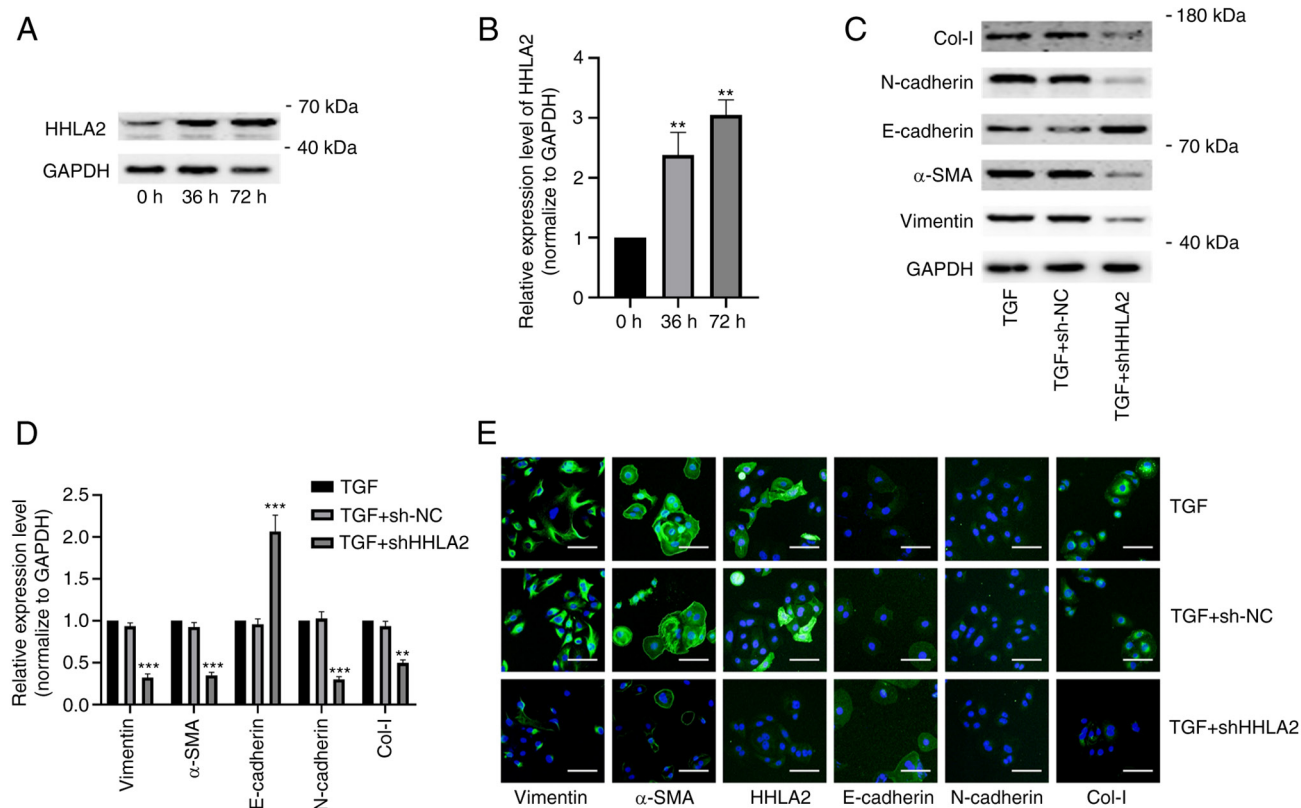


Figure S2. H19 overexpression promotes the EMT process, migration and invasion of GBC cells *in vitro*. (A) Increased EMT was found in the GBC cells overexpressing H19 compared with that in the NC group according to western blot analysis (n=3), (B) which was quantified. (C) Wound healing assay (D) and subsequent quantification showed that H19 overexpression improved cell migration. Scale bars, 100  $\mu$ m. (E) H19 overexpression was found to increase cell invasion, (F) according to the quantification. Scale bars, 100  $\mu$ m. \*\*P<0.01 and \*\*\*P<0.001 (H19 group vs. H19-NC group). Col-I, collagen I;  $\alpha$ -SMA,  $\alpha$ -smooth muscle actin; NC, negative control.

