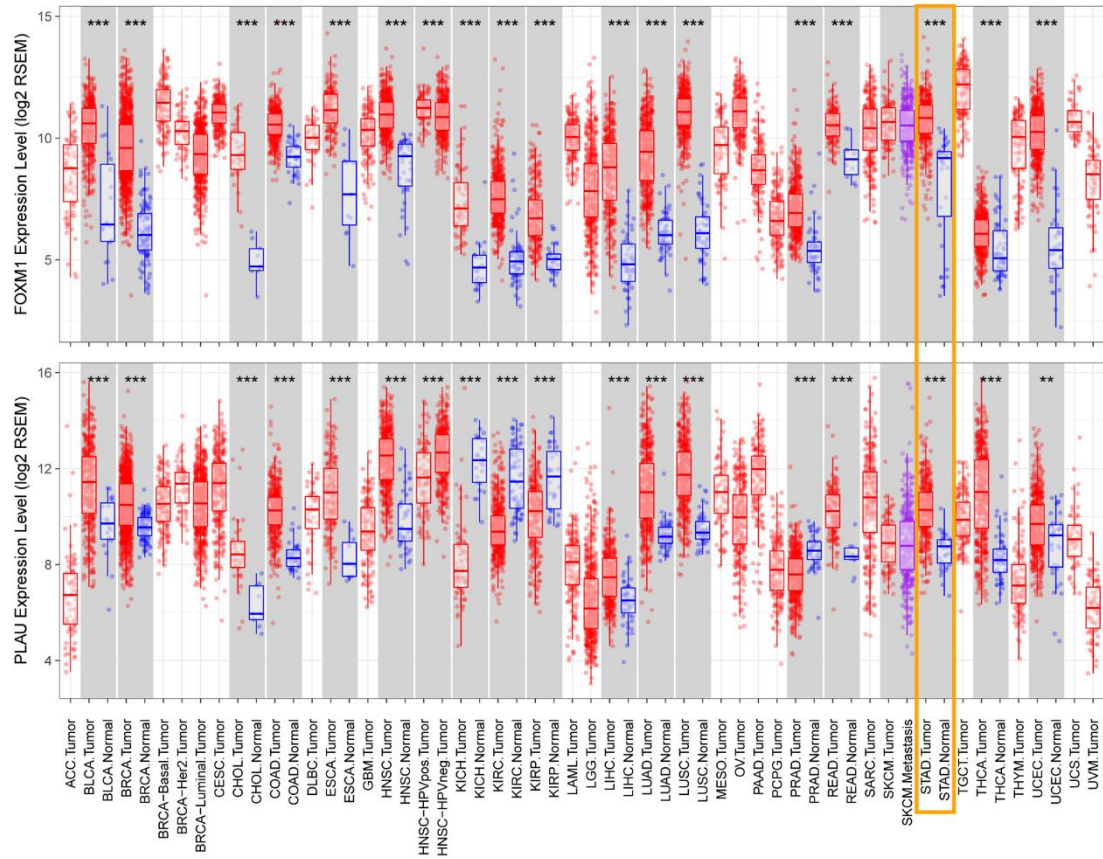


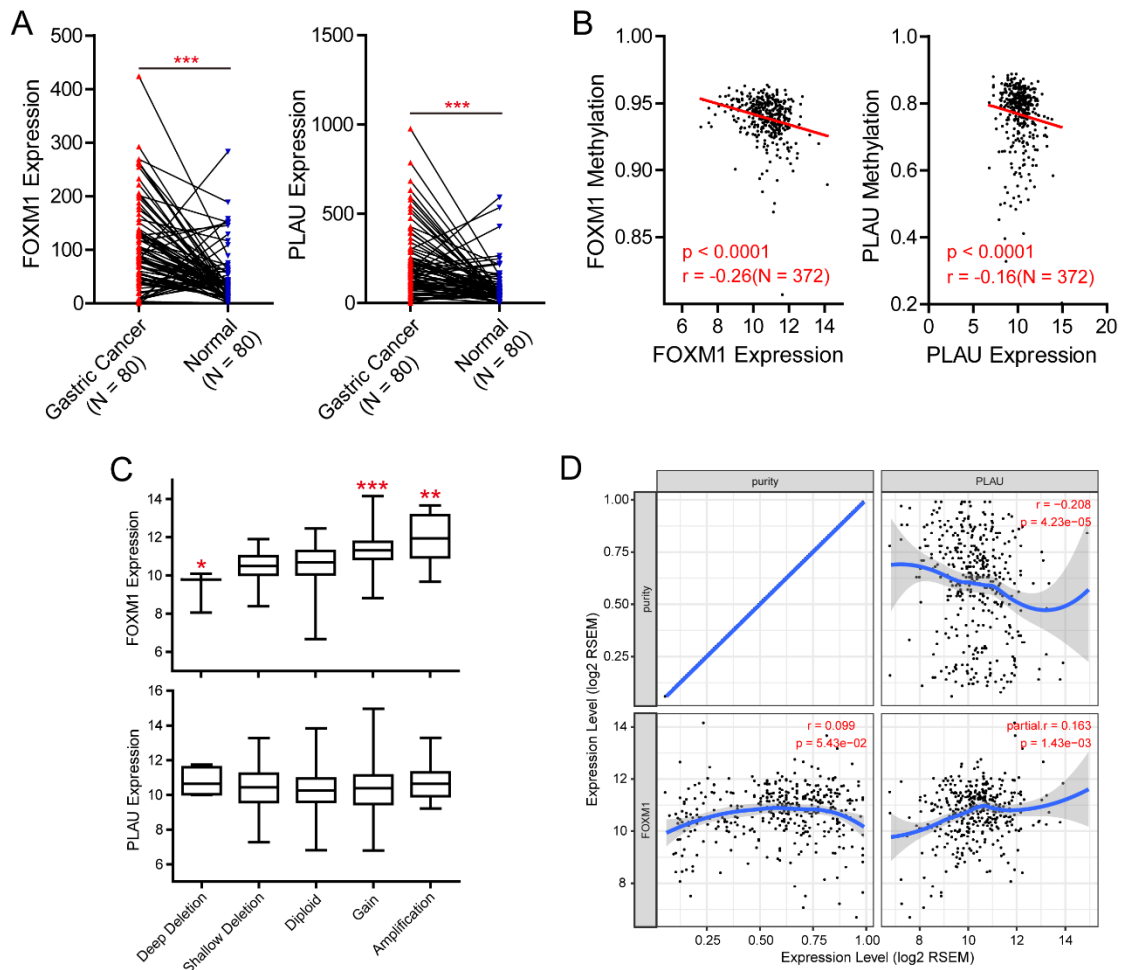
## Supplementary Materials

### Supplementary Figure 1. Box plot of FOXM1 and PLAU expression in 32 cancer types.

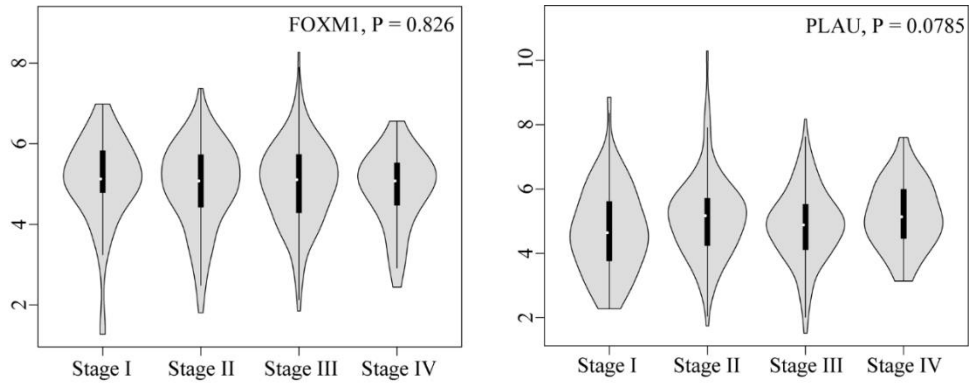
FOXM1 and PLAU are overexpressed in gastric cancer (marked in yellow box). \*\*\*:  $p < 0.001$ , \*\*:  $p < 0.01$ , \*:  $p < 0.05$ . Red represents expression value in cancer while blue represents expression in normal control. Purple represents SKCM metastases group.



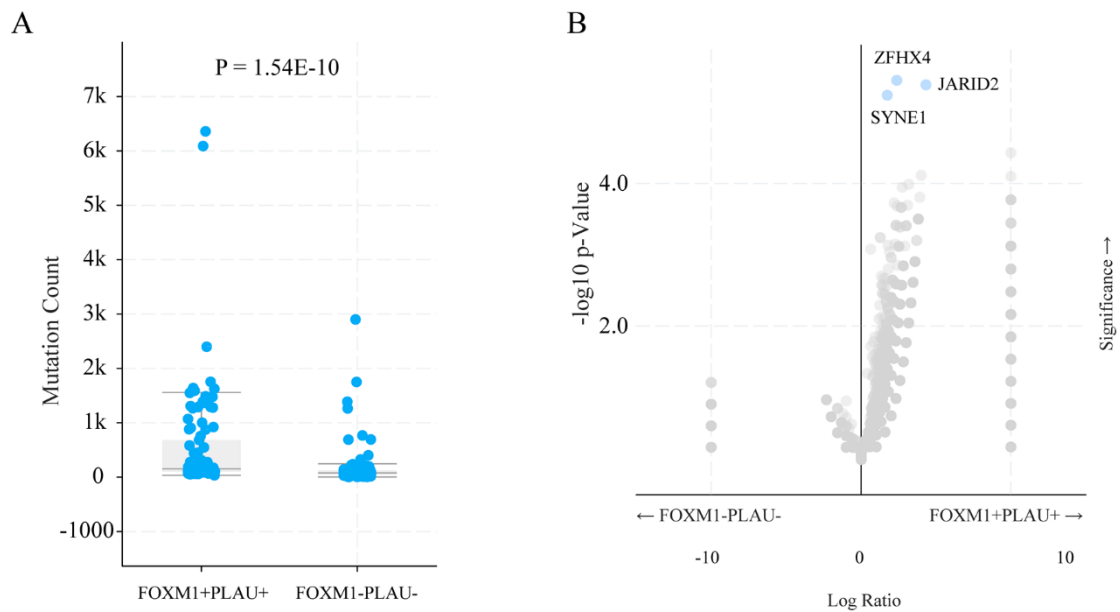
**Supplementary Figure 2.** FOXM1 and PLAU are overexpressed in gastric (A, data from GSE27342, red represents cancer, blue represents normal control); FOXM1 and PLAU expression are negatively correlated with methylation level, Pearson  $r$  and  $p$  values are presented (B); FOXM1 and PLAU expression and copy number variation, FOXM1 expression is associated with CNV (C); Correlation of FOXM1 and PLAU expression adjusted by tumor cell proportion (D). \*\*\*:  $p < 0.001$ , \*\*:  $p < 0.01$ , \*:  $p < 0.05$ .



**Supplementary Figure 3.** The expression of FOXM1 and PLAU are not associated with tumor stages,  $P = 0.826$  and  $0.0785$ , respectively.

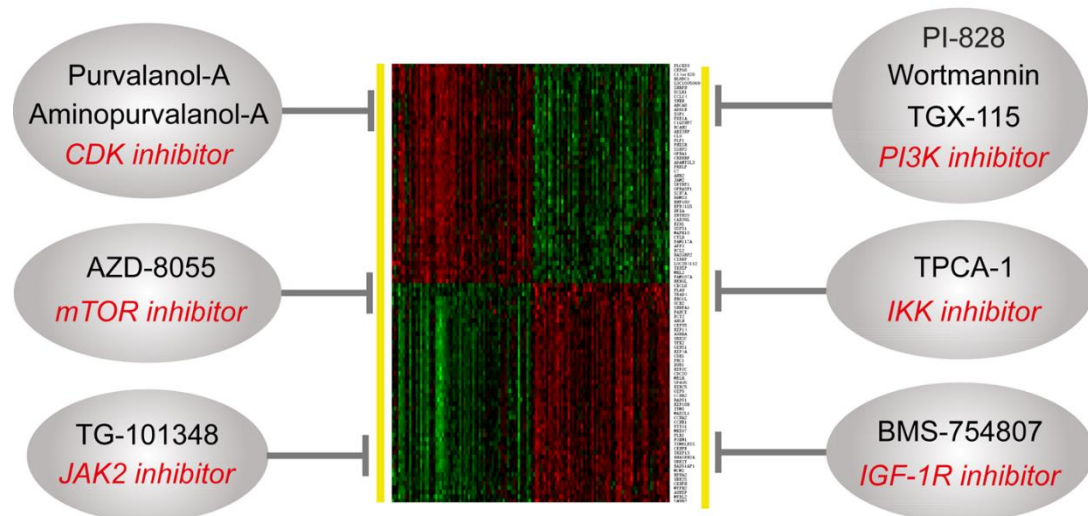


**Supplementary Figure 4.** The mutation count in FOXM1+PLAU+ group is significantly higher than FOXM1-PLAU- group (A). JARID2, ZFH4 and SYNE1 mutations are significantly enriched in FOXM1+PLAU+ group (B).





**Supplementary Figure 7.** Data mining results from LINC dataset suggests several inhibitors that could reverse the expression pattern of genes differentially expressed in FOXM1+/PLAU+ subgroup compared with FOXM1-/PLAU- subgroup.



### Supplementary Tables

**Supplementary Table 2.** Top 50 up/down genes in FOXM1+PLAU+ group compared with FOXM1-PLAU- group.

**Supplementary Table 1.** Number of patients in each group in figure 1.

**Supplementary Table 3.** The differences of Mutation and clinical attributes between FOXM1+PLAU+ and FOXM-PLAU- groups.

**Supplementary Table 4.** Mutations enriched in FOXM1+PLAU+ and FOXM1+PLAU+ group.

**Supplementary Table 5.** Protein changes of key signaling pathways from RPPA data of TCGA.

**Supplementary Table 6.** Drugs targeting genes expression patterns of FOXM1+PLAU+ group.