

Supplementary information

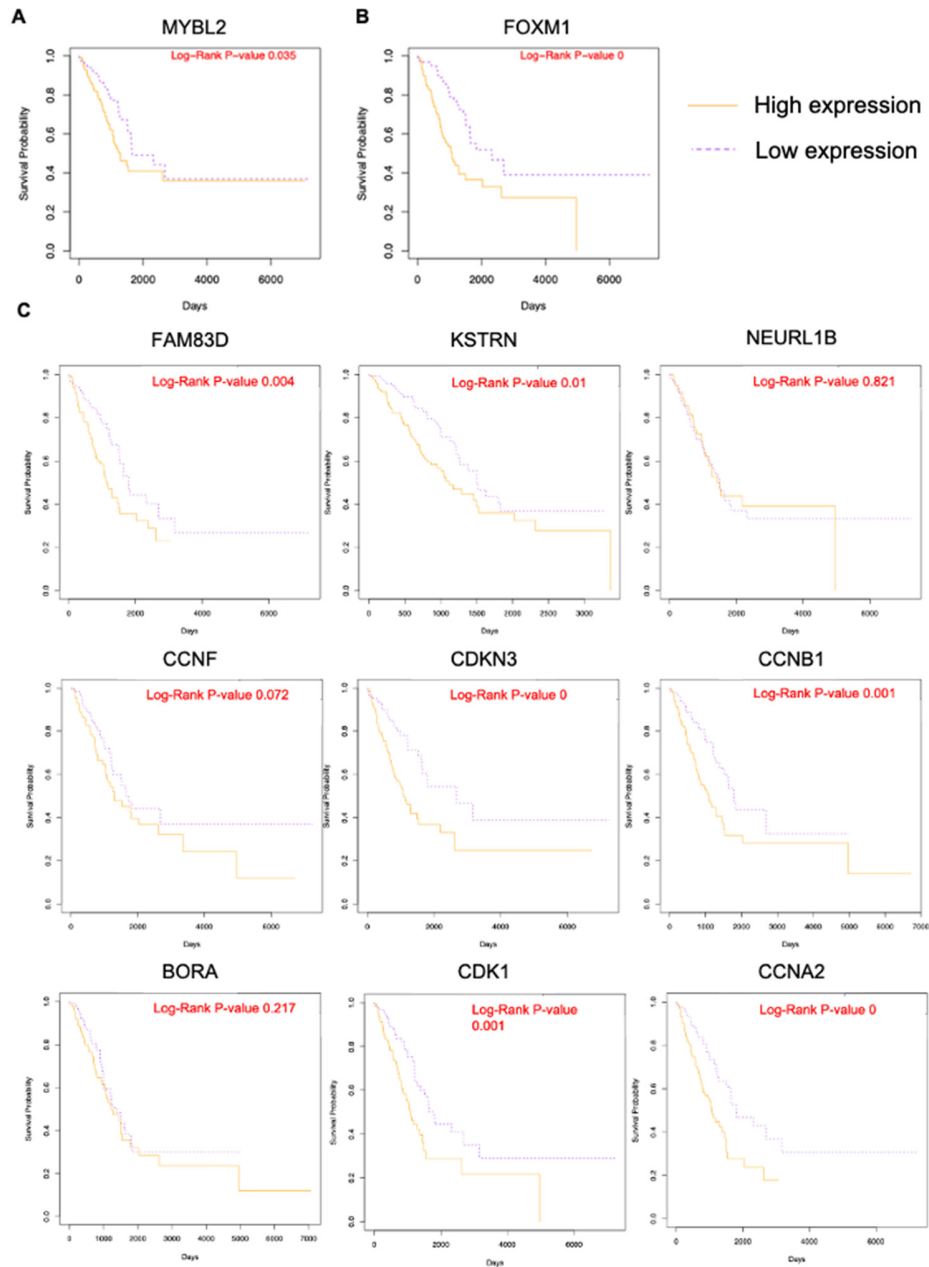
**Characterizing and targeting genes regulated by transcription factor MYBL2 in lung adenocarcinoma cells.**

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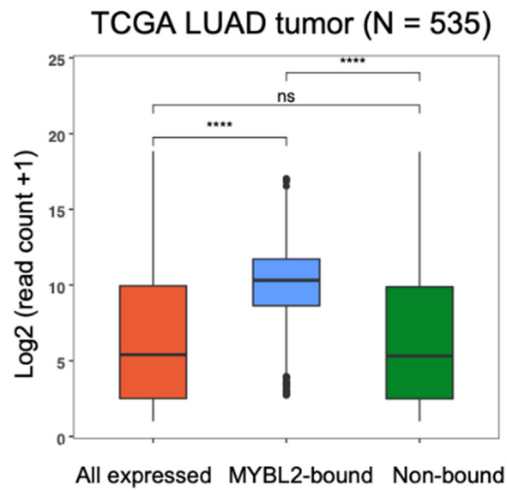
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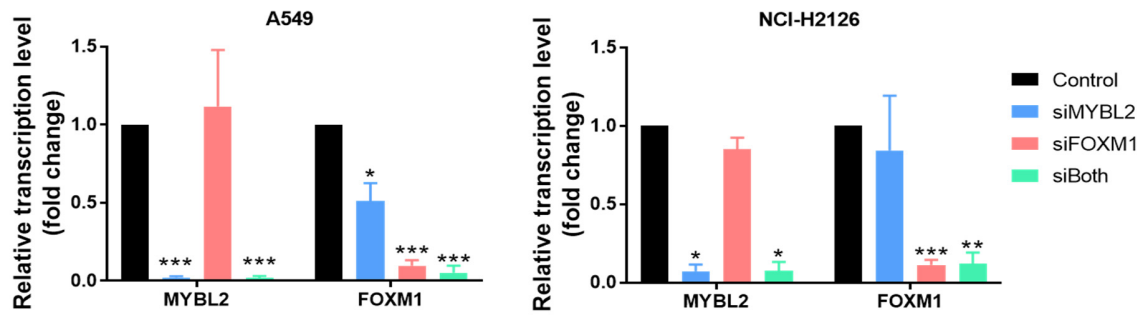
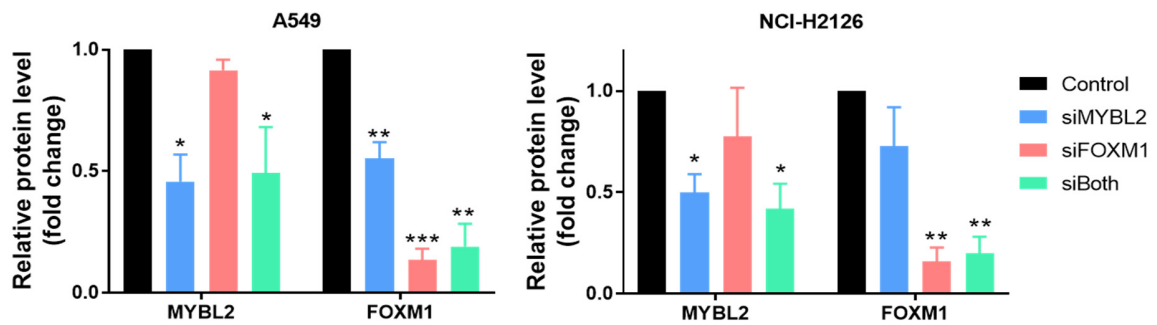
## Supplementary Figures



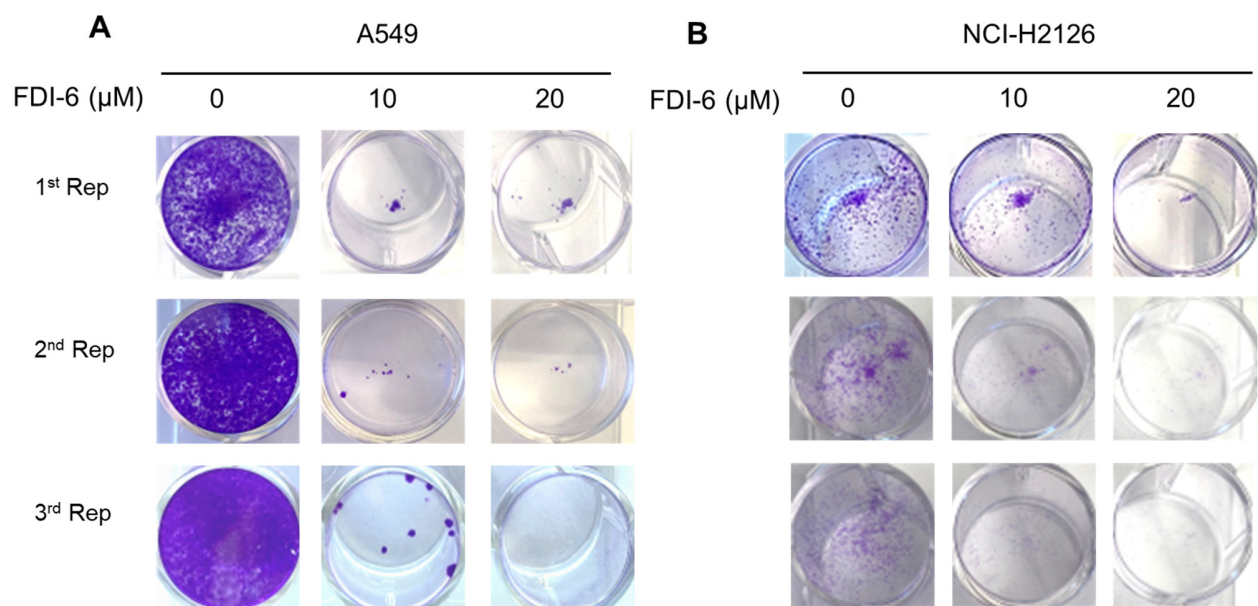
**Supplementary Figure S1. Lung adenocarcinoma patient survival analysis.** Kaplan-Meier survival plots comparing differences in survival between lung adenocarcinoma patient samples with the highest and lowest quartiles gene expression of (A) *MYBL2* (B) *FOXM1* and (C) target genes of *MYBL2* and *FOXM1*. Survival analysis was conducted using TCGA LUAD gene expression and clinical data.



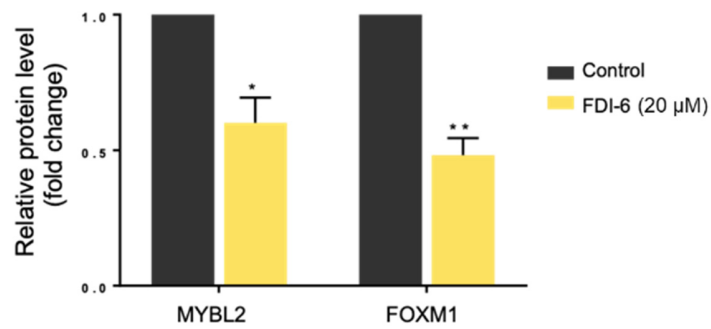
**Supplementary Figure S2. MYBL2-bound genes are expressed high in lung adenocarcinoma.** A boxplot showing gene expression levels of all expressed, genes with MYBL2-bound, and non-bound promoters. TCGA LUAD gene expression data and MYBL2 ChIP-seq in A549 lung adenocarcinoma cells were used to generate this plot (\*\*\*\*,  $P$  value < 0.0001).

**A****B**

**Supplementary Figure S3. The expression levels of MYBL2 and FOXM1 after knockdown experiments in A549 and NCI-H2126 lung adenocarcinoma cells.** A549 and NCI-H2126 cells were transfected with negative control scrambled siRNA (NC), MYBL2 siRNA (siMYBL2), FOXM1 siRNA (siFOXM1) or both MYBL2 and FOXM1 (siBoth). (A) RT-qPCR and (B) Western blot experiments were performed to measure MYBL2 and FOXM1 gene and protein expression levels. Data represent the mean SE (n=3). \*, *P* value ≤ 0.05, \*\*, *P* value ≤ 0.01, \*\*\*, *P* value ≤ 0.001.

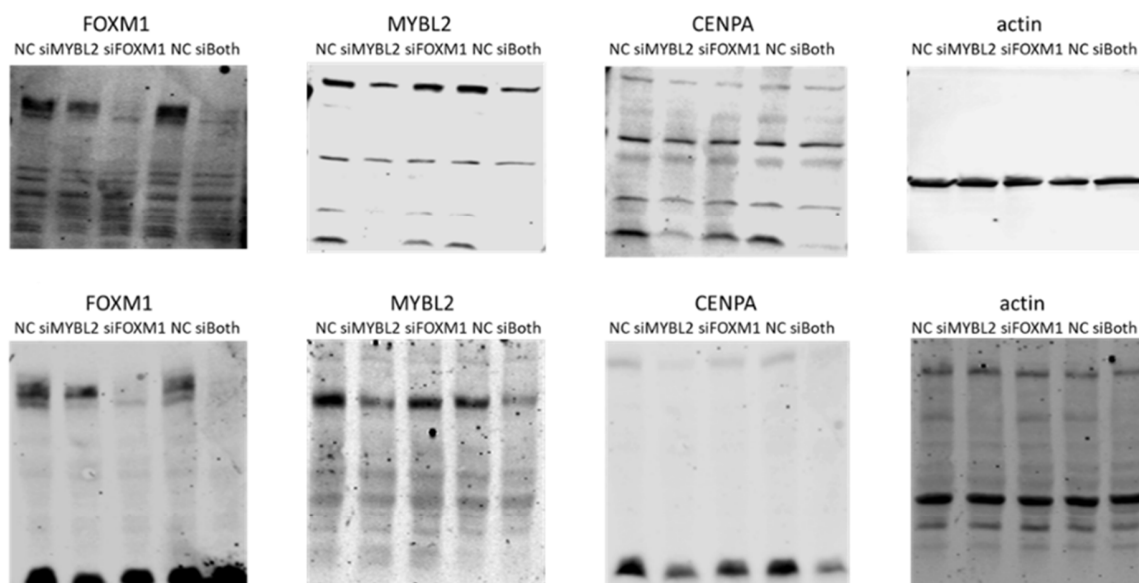


**Supplementary Figure S4. Colony formation images of A549 and NCI-H2126 lung adenocarcinoma cells.** (A) A549 cells were treated with different concentrations (0, 10, 20  $\mu$ M) of FDI-6 for 24h, and then incubated for 14 days. (B) NCI-H2126 cells were treated with different concentrations (0, 10, 20  $\mu$ M) of FDI-6 for 24h, and then incubated for 14 days (n=3).

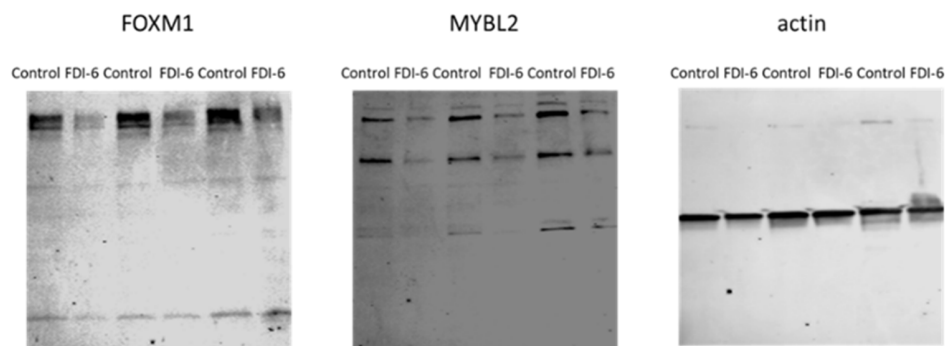


**Supplementary Figure S5. The protein levels of MYBL2 and FOXM1 in the nucleus fraction after treatment of FDI-6 in A549 lung adenocarcinoma cells.** A549 lung adenocarcinoma cells were treated with FDI-6 (20 $\mu$ M) or DMSO control. After 24h, western blot was performed by lysing nuclear fractions of A549 lung adenocarcinoma cells with 1X RIPA. Data represent the mean SE (n=3). \*,  $P$  value  $\leq 0.05$ , \*\*,  $P$  value  $\leq 0.01$ .

**A** Figure 4F Western blot analysis of FOXM1, MYBL2, CENPA and beta-actin (lane 4-5)



**B** Figure 5C Western blot analysis of FOXM1, MYBL2, and beta-actin (lane 3-4)



**Supplementary Figure S6. Original western blot images.** (A) Original western blot images of Figure 4F. Upper images are A549 cells, and lower image are NCI-H2126 cells. NC: negative control, siBoth: siMYBL2 and siFOXM1. (B) Original western blot images of Figure 5C.