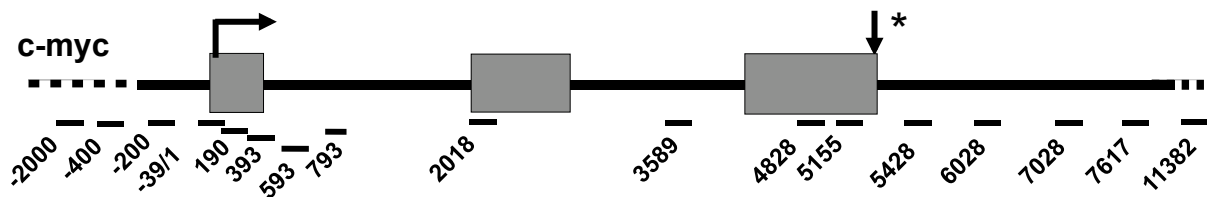
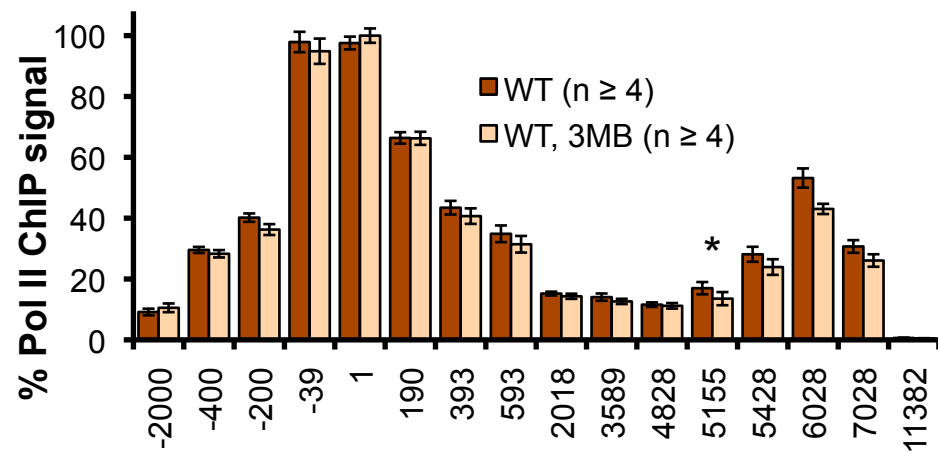


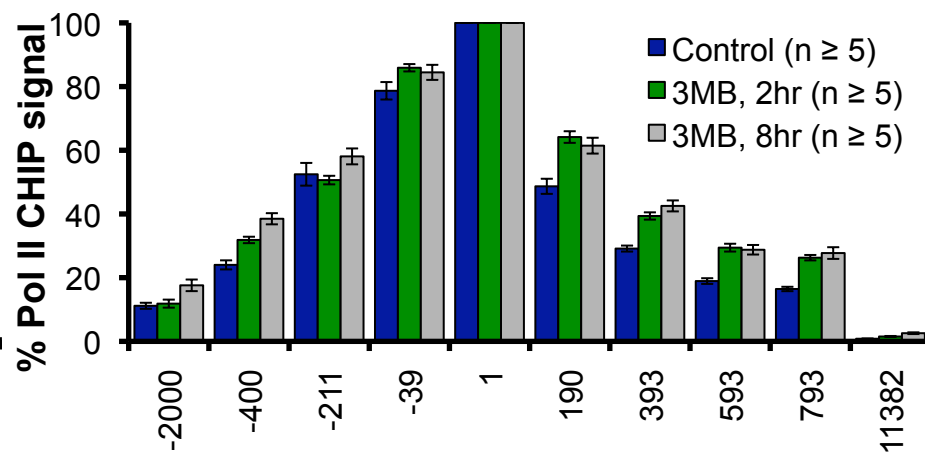
Glover Fig S1



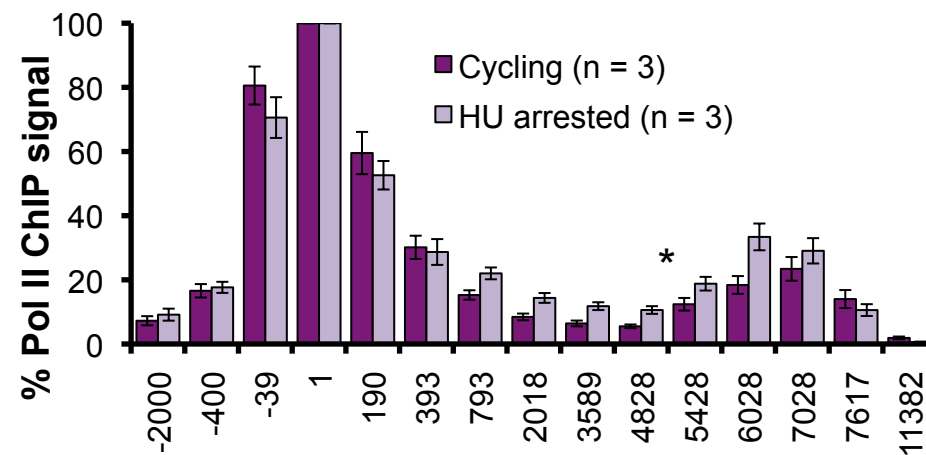
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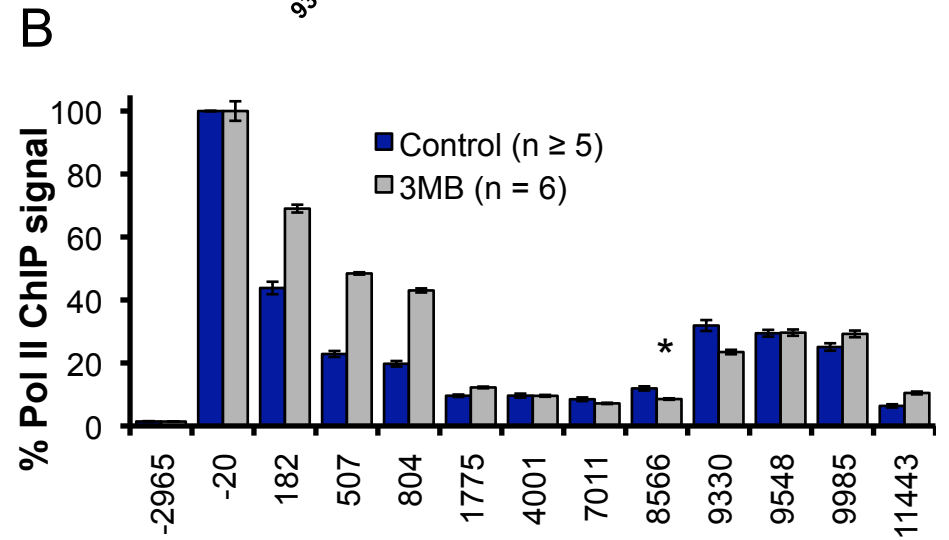
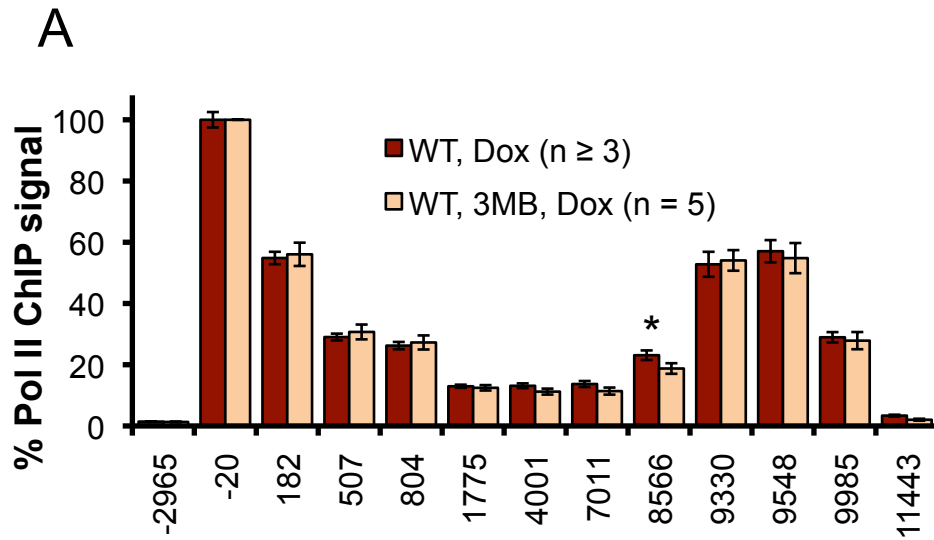
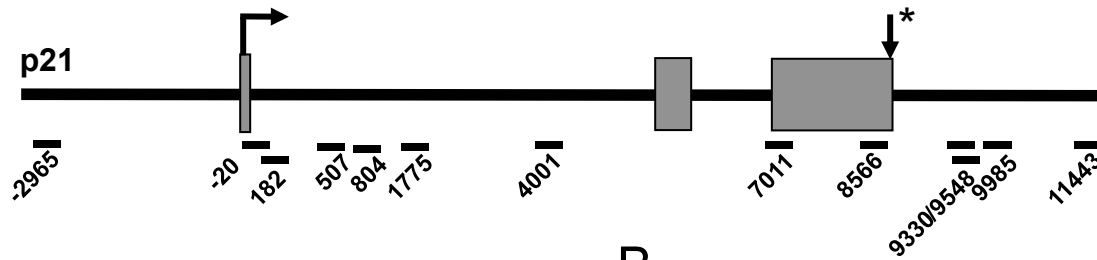
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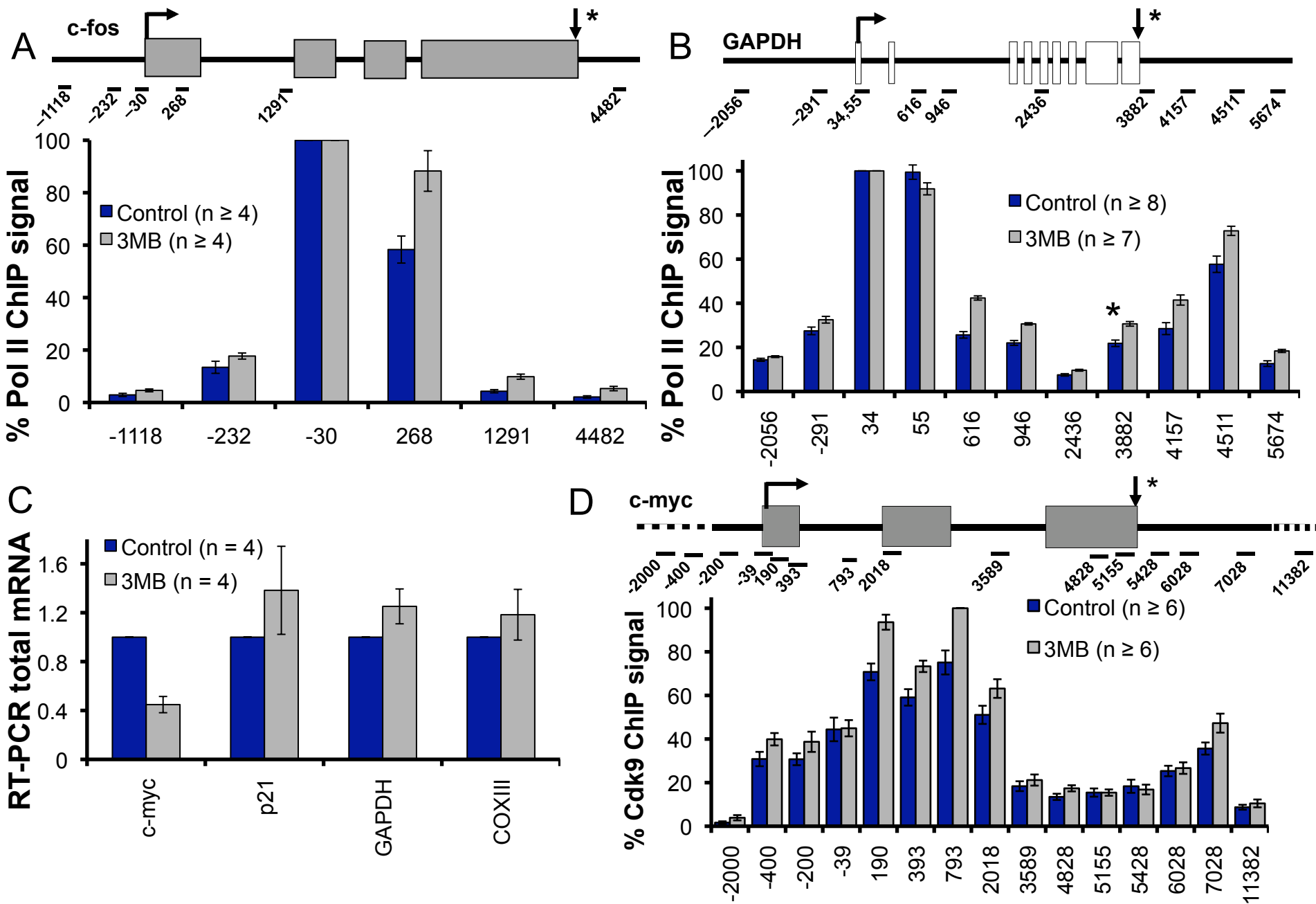
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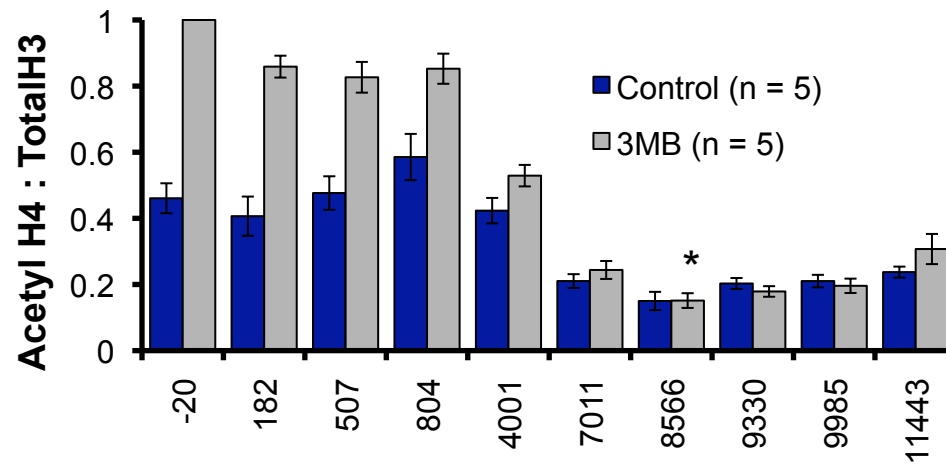
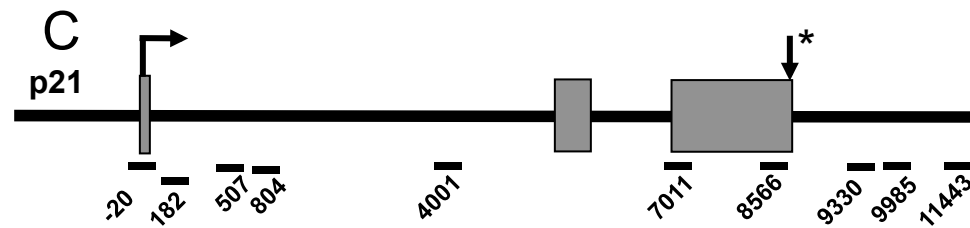
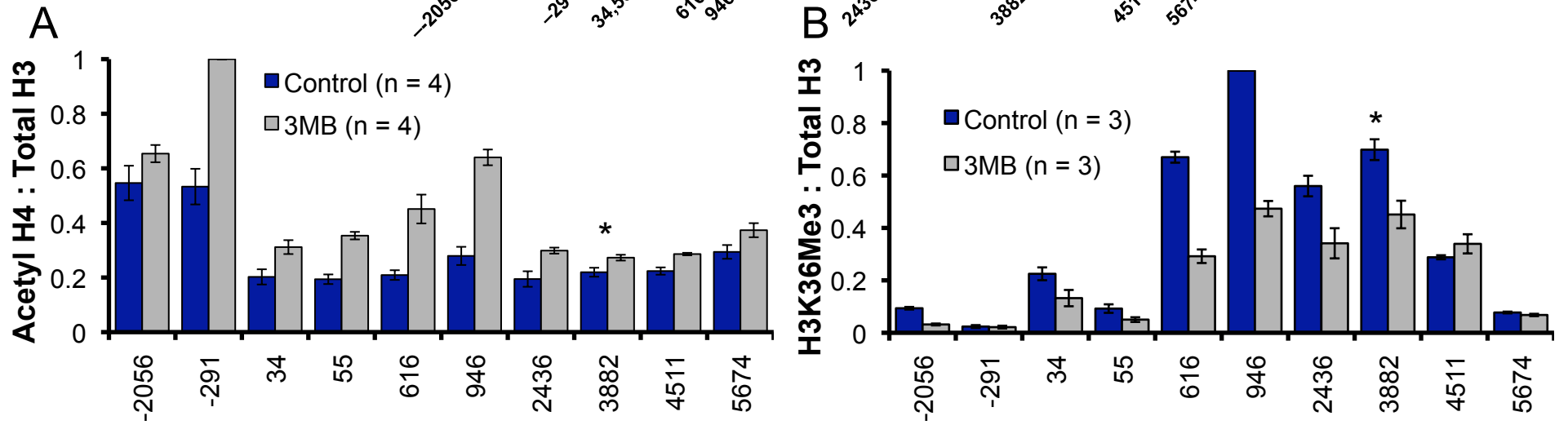
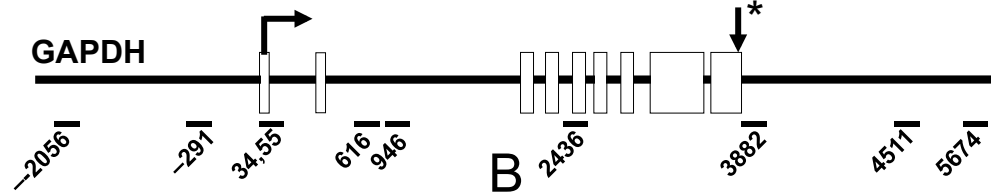
Glover Fig S2



Glover Fig. S3

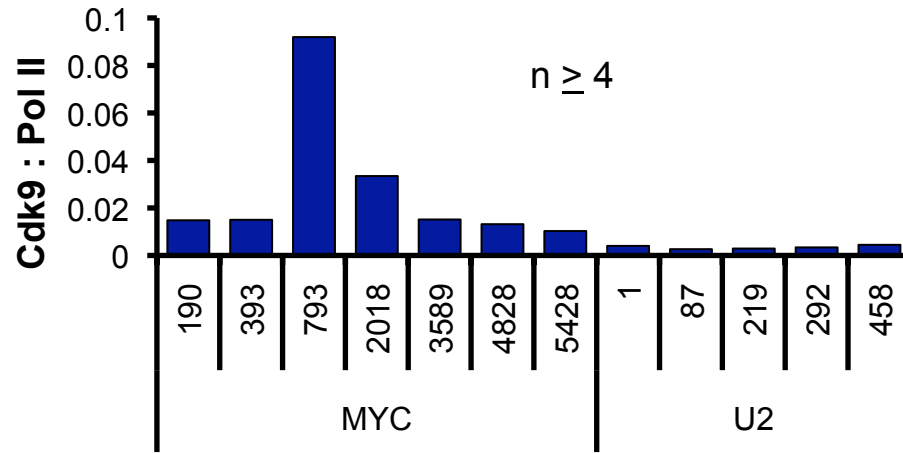


Glover Fig. S4

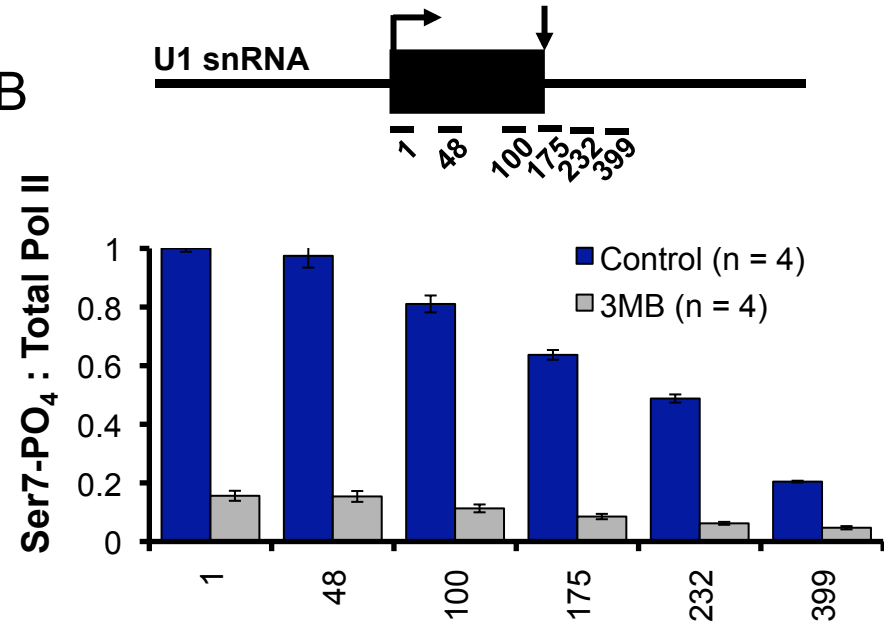


Glover Fig. S5

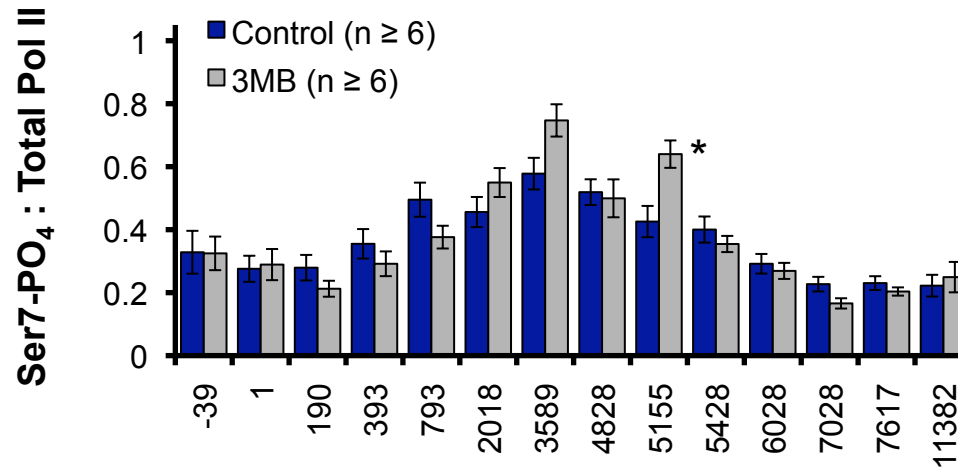
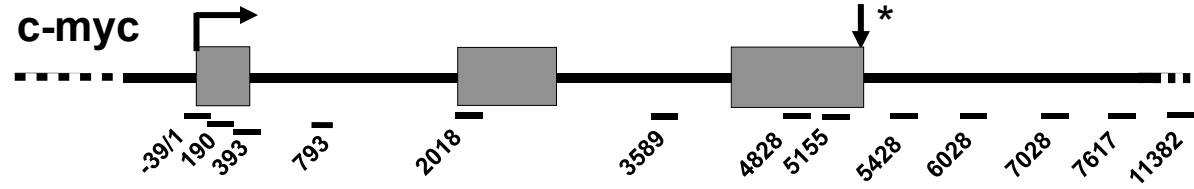
A



B



C



SUPPLEMENTARY FIGURE LEGENDS

Figure S1. A) **3-MB-PP1 does not affect transcription in wild type cells.** Relative ChIP signals for pol II along the c-myc gene in wild type HCT116 cells (WT) before and after 3-MB-PP1 treatment. Means and s.e.m.'s are shown.

B) Suppression of c-myc promoter-proximal pausing after 2 or 8 hr treatment of HCT116 *Cdk7^{as/as}* cells with 3-MB-PP1. Relative ChIP signals for pol II are shown.

C) Cell cycle arrest does not alter promoter-proximal pausing on c-myc. Relative ChIP signal ratios of total pol II on c-myc in HCT116 *Cdk7^{as/as}* control cells and cells arrested at G1/S by serum starvation (0.5% FBS 24 hr) followed by release into 10% serum +2mM hydroxyurea for 8hr before cross-linking.

Figure S2. A) **3-MB-PP1 does not affect pol II distribution on p21 in wild type cells.** Relative ChIP signals for pol II along the p21 gene activated with doxorubicin (Dox) in wild type HCT116 cells (WT) before and after 3-MB-PP1 treatment.

B) *Cdk7* inhibition depresses paused polymerase on the uninduced p21 gene. Relative pol II ChIP signals before and after 3-MB-PP1 treatment in HCT116 *Cdk7^{as/as}* cells. Means and s.e.m.'s are shown.

Figure S3. A, B) ***Cdk7* inactivation suppresses promoter-proximal pausing on uninduced c-fos and GAPDH.** Relative pol II ChIP signals + and - 3-MB-PP1 in HCT116 *Cdk7^{as/as}* cells normalized to the maximal signal in each data set. Means and s.e.m.'s are shown.

C) Effects of Cdk7 inhibition on mRNA abundance. Total RNA from HCT116 *Cdk7^{as/as}* cells + and - 3-MB-PP1 (8hr) was analyzed by real time RT-PCR (see Methods). Cdk7 inhibition reduced the abundance of c-myc but not p21 or GAPDH relative to the mitochondrial CoxIII control.

D) Cdk7 inhibition does not reduce Cdk9 recruitment to the c-myc promoter.

Relative Cdk9 ChIP signals before and after 3-MB-PP1 treatment in HCT116 *Cdk7^{as/as}* cells. Means and s.e.m.'s are shown after normalization to 3MB sample.

Figure S4. Inhibition of Cdk7 enhances H4 acetylation and decreases H3K36 trimethylation. Normalized ChIP signals on GAPDH and uninduced p21 are expressed relative to total histone H3 in HCT116 *Cdk7^{as/as}* cells - (control) and + 3-MB-PP1 (3MB). Means and s.e.m.'s are shown.

Figure S5. A) Low levels of Cdk9 at the U2 snRNA gene relative to c-myc. Ratios of Cdk9:pol II ChIP signals in arbitrary units are shown for several amplicons at the c-myc and U2 genes in untreated HCT116 *Cdk7^{as/as}* cells.

B, C) Inhibition of Cdk7 inhibits CTD Ser7 phosphorylation on the U1 snRNA gene but not c-myc. Normalized Ser7-P ChIP signals on the U1 snRNA and c-myc genes are expressed relative to total pol II in HCT116 *Cdk7^{as/as}* cells - (control) and + 3-MB-PP1 (3MB). Means and s.e.m.'s are shown.