



Supplementary Fig. S5: Characteristics of IncMod analysis and results. (A) Example of a dysregulated IncMod triplet in Wilms' Tumors (WT). Samples with high *RMST* expression also have higher expression correlation between *SOX2* and its target gene *SFRP2*. *SOX2* regulation of *SFRP2* appears to be disrupted in samples with low *RMST* expression, as suggested by the low expression correlation of TF and target gene in these samples. (B) The number of modulator types (attenuate, enhance, or invert) associated with a lncRNA modulator based on its impact of a specific TF-target gene. (C) Number of target genes of the *H19* lncRNA modulator in NBL that are enriched in MsigDB hallmarks gene sets. (D) Target genes of the *HOTAIRM1* lncRNA

modulator in AML that are enriched in MsigDB hallmarks gene sets. **(E)** The top transcription factors, based on number of associated dysregulated target genes, impacted by the *GAS5* lncRNA modulator in T-ALL and the expression of *GAS5*, the transcription factor *E2F4* and its target genes in T-ALL samples with *GAS5* expression dysregulation. **(F)** The top transcription factors, based on number of associated dysregulated target genes, impacted by the *SNHG1* lncRNA modulator in T-ALL and the expression of *SNHG1*, the transcription factor *TP53* and its target genes in T-ALL samples with *SNHG1* expression dysregulation.