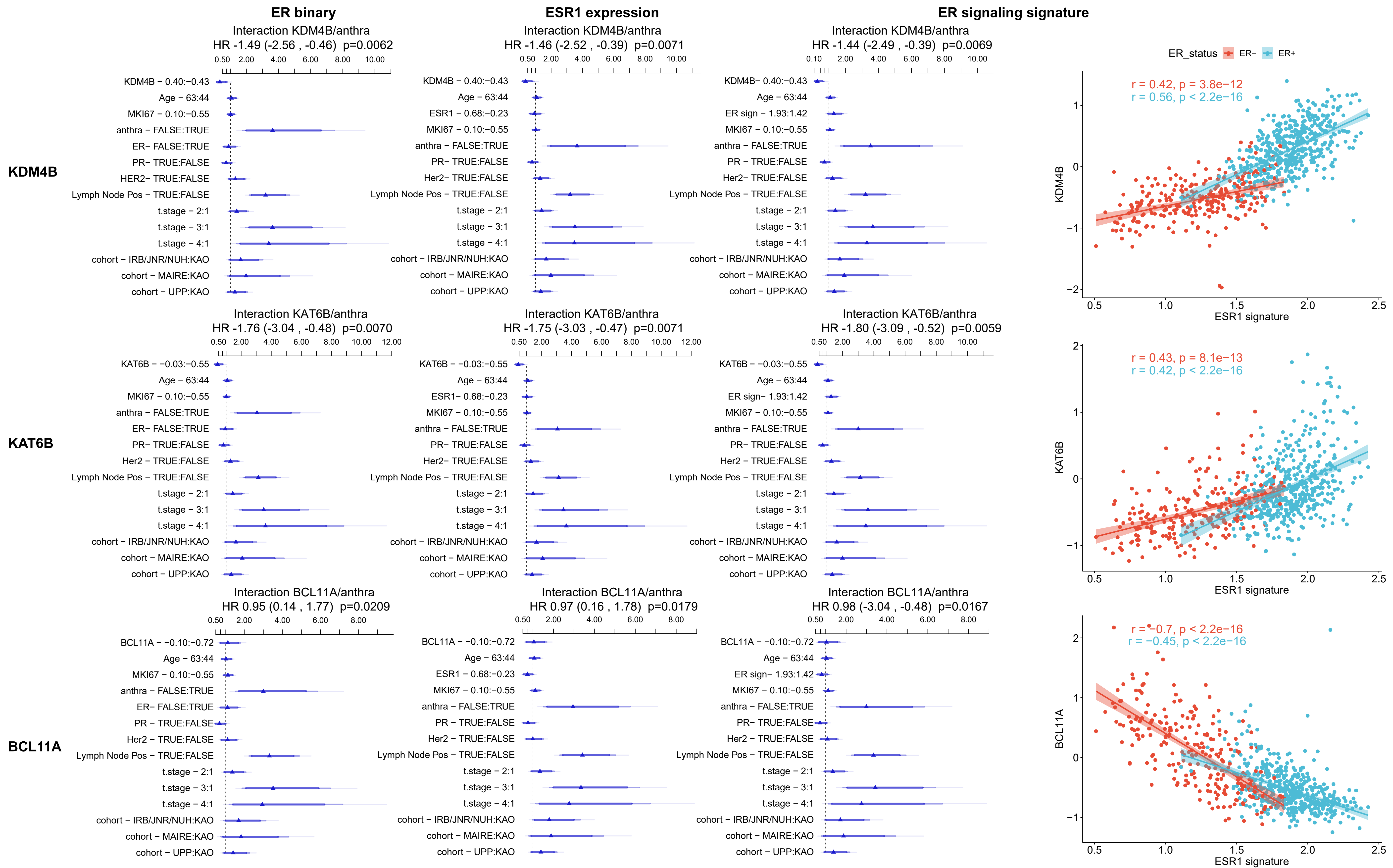


**Supplementary Figure 1. Gene Set Enrichment Analysis (GSEA) enrichment of 12 CRGs from Viper and clinical analysis with different drug response dataset and chemotherapies.**

Datasets include Heiser, GDSC1000, CCLL, gSCI, CTRPv2 and FIMM. Only chemotherapies relevant for breast cancer treatment have been included. P-values obtained from GSEA enrichment are based on random permutations.



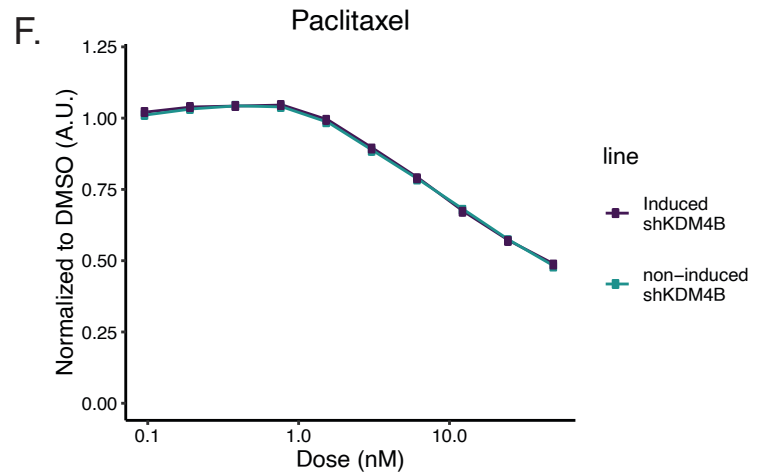
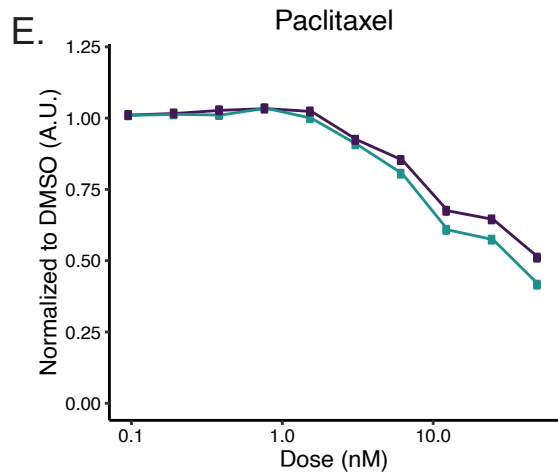
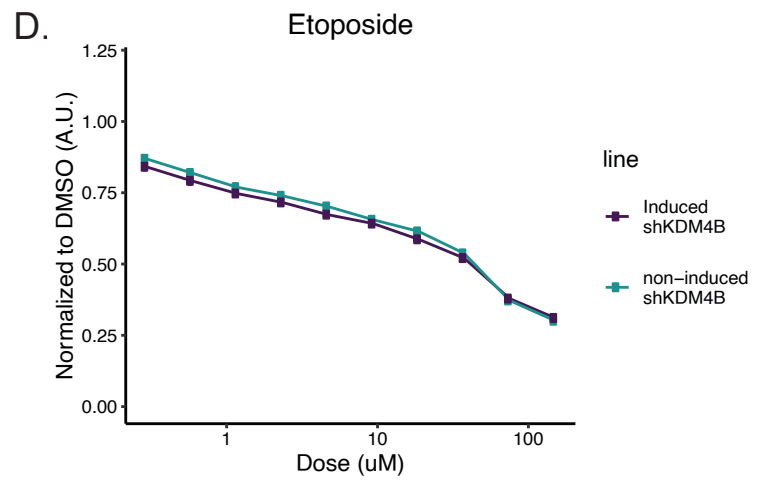
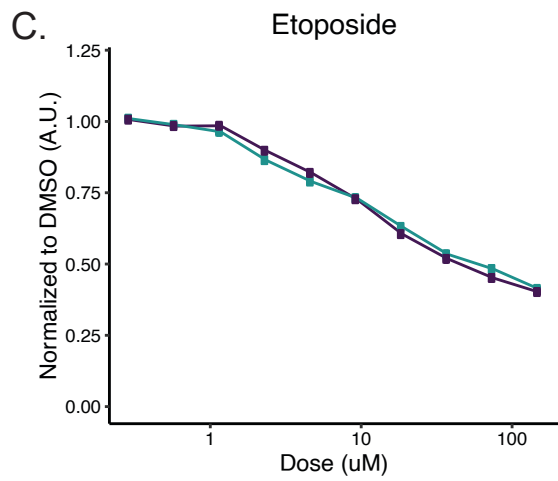
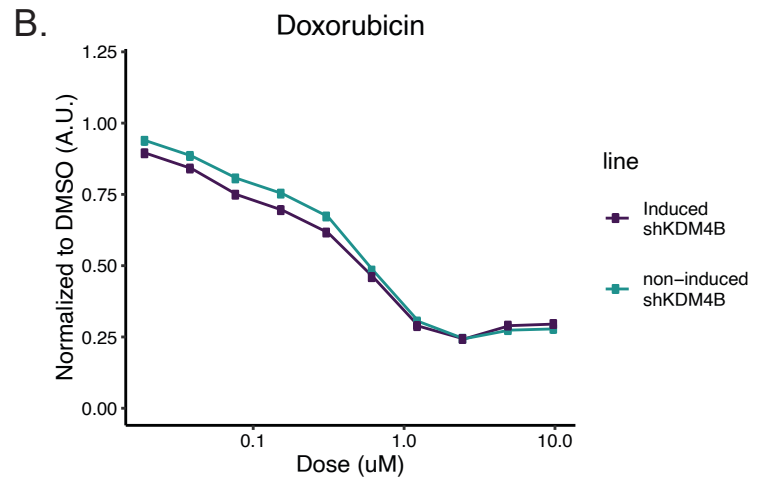
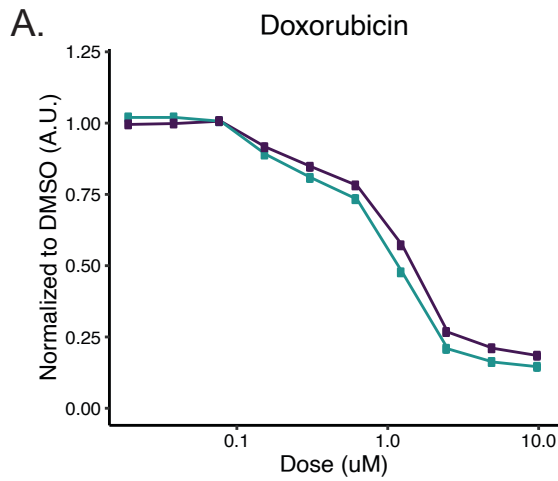
**Supplemental Figure 2. Effect of estrogen receptor alternatives in outcome association and correlation with main CRGs.**

Comparison of the effect of estrogen receptor (as a binary value, ESR1 expression value and estrogen receptor signaling (ESR1) signature) in the Cox Proportional Hazard models of KDM4B, KAT6B and BCL11A in the anthracycline vs non anthracycline metacohort (N=760 independent individuals). Scatter plots show the correlation between the ESR1 signaling signature and the CRGs stratified by ER status in the anthracycline vs non anthracycline metacohort (N=760 independent individuals). While ER status is correlated with KDM4B, KAT6B and BCL11A (Pearson correlation  $r = 0.75, 0.37, -0.57$ ), the use of different ER measures to adjust the model does not affect the interaction association between the gene and the outcome. The forest plots show the log-2 hazard ratios (boxes) and error bars represent 95% confidence intervals.



# HCC1806

# Cal51



## Supplemental Figure 3: Anthracycline Response to shKDM4B in TNBC cell lines.

Left Panels: HCC1806; Right Panels: Cal51.

Panel A & B: Doxorubicin dose response curve for KDM4B induced shRNAs (shRNA 1) and non-induced cells normalized to DMSO vehicle. Panel C & D: Etoposide dose response curve for KDM4B induced shRNAs (shRNA 1) cells and non-induced cells normalized to DMSO vehicle. Panel E & F: Paclitaxel dose response curve for KDM4B induced shRNAs (shRNA 1) cells and non-induced cells normalized to DMSO vehicle. n=2 independent experiments for all panels. Center points equal mean value.