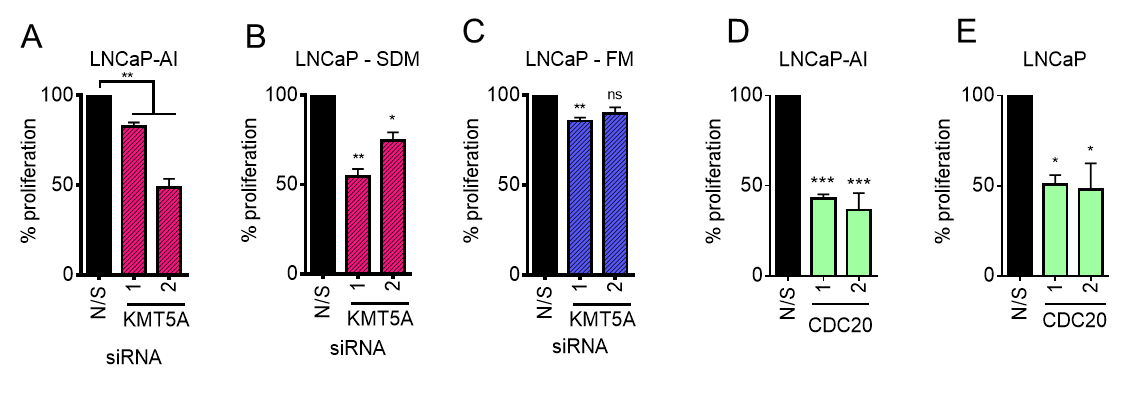
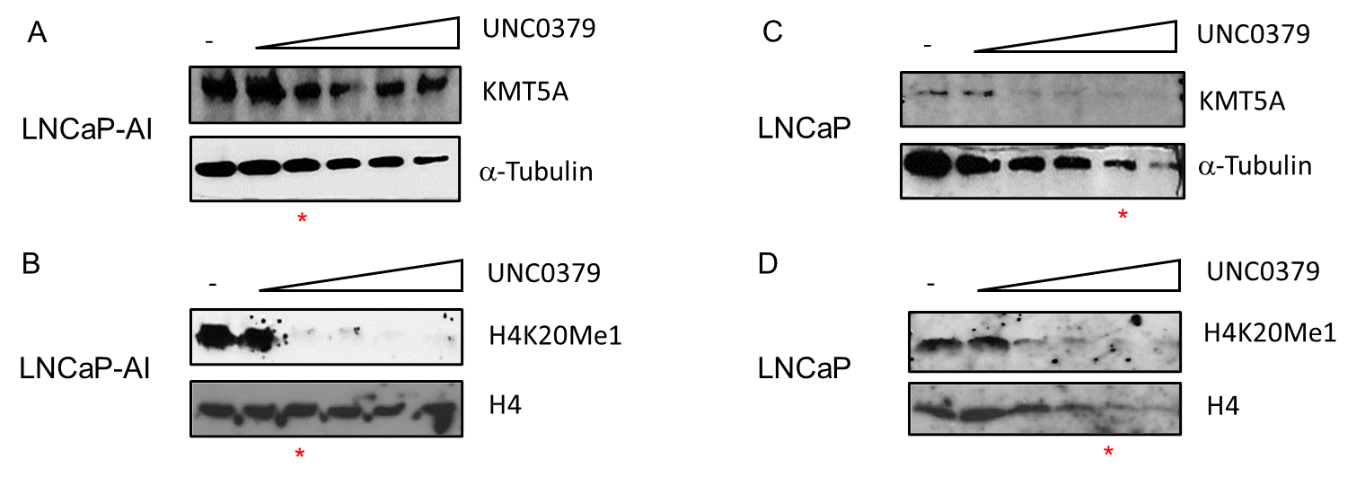
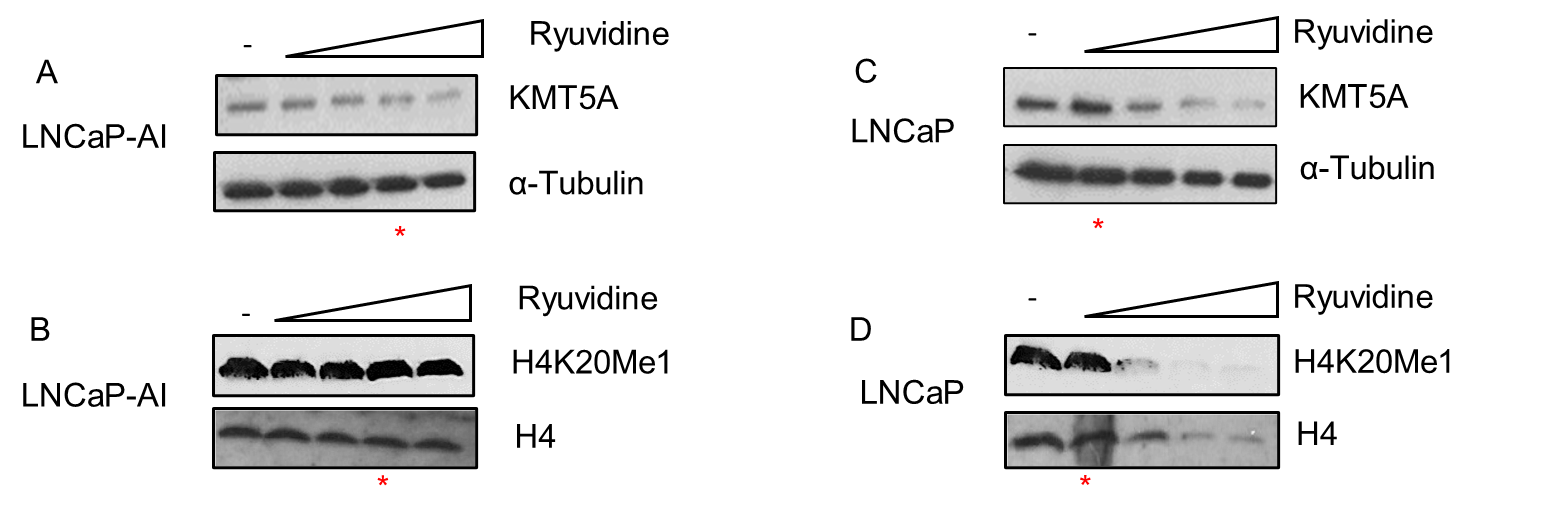
**Supplementary Figures**



**Supplementary Figure 1. KMT5A and CDC20 knockdown inhibits proliferation of prostate cancer cells.** (A) LNCaP-AI and (B) LNCaP cells were reverse transfected with 2 independent siRNAs targeting KMT5A in steroid depleted media (SDM) and (C) LNCaP cells in full media then allowed to proliferate for 3 doubling times prior to assessment of proliferation by SRB assay. (D) LNCaP-AI and (E) LNCaP cells were reverse transfected with 2 independent siRNAs targeting CDC20 in their respective growth media. Cells were allowed to proliferate for 3 doubling times prior to assessment of proliferation by SRB assay.



**Supplementary Figure 2. KMT5A inhibition by UNC0379 reduces KMT5A levels and H4K20Me1.** LNCaP-AI were treated with 0, 2, 4, 6, 7 and 8 mM UNC0379 for 48 hours then (A) KMT5A and (B) H4K20Me1 were assessed by western blotting. (C) LNCaP cells were treated with the same doses for 48 hours prior to western blotting for KMT5A and (D) H4K20Me1. \*denotes ~GI50 concentration.



**Supplementary Figure 3. KMT5A inhibition by Ryuvidine reduces KMT5A levels and H4K20Me1.** LNCaP-AI were treated with 0, 1, 1.5, 2, 2.5 and 3 mM Ryuvidine for 48 hours then (A) KMT5A and (B) H4K20Me1 were assessed by western blotting. (C) LNCaP cells were treated with the same doses for 48 hours prior to western blotting for KMT5A and (D) H4K20Me1. \*denotes ~GI50 concentration.