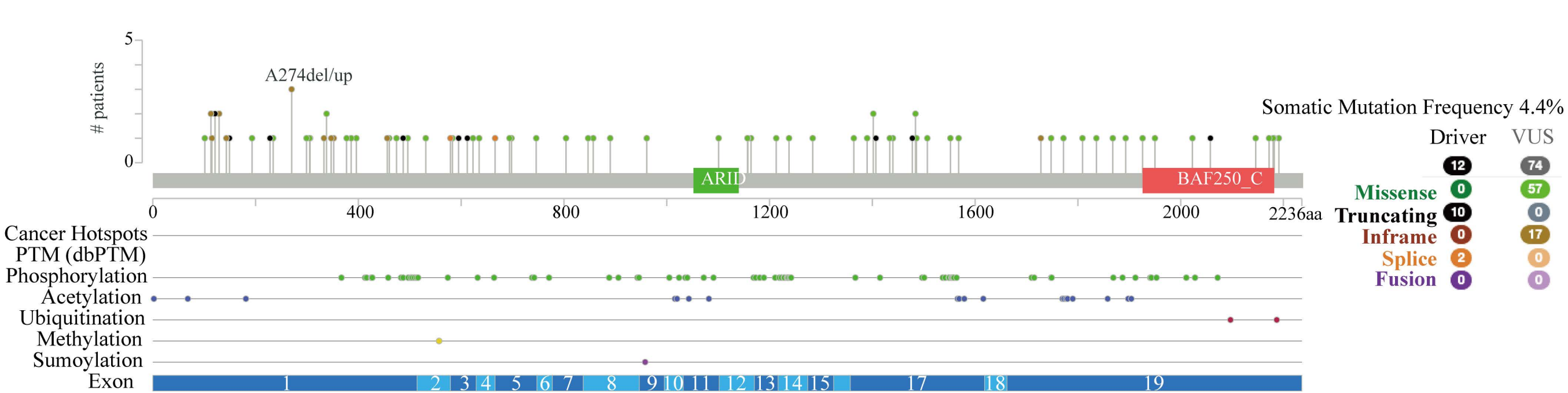


Supplementary Figure 1: Mutation frequency and types, as well as predicted PTM sites of ARID1B in NSCLC patients from AACR GENIE project. The distribution of mutation types across the exons of ARID1B is shown.

Supplementary Figure 2: **The effect of ARID1B mutation on signaling pathways in NSCLC.** **A** GO Pathway enrichment analysis of differentially expressed genes between ARID1B-mutated and non-mutated NSCLC patients. The bar graph represents the significant enrichment in pathways related to chromatin, DNA assembly and stability, and innate immunity. **B** Gene set enrichment analysis (GSEA) revealing downregulation of chromatin and DNA assembly/stability-related pathways in ARID1B-mutated NSCLC patients.

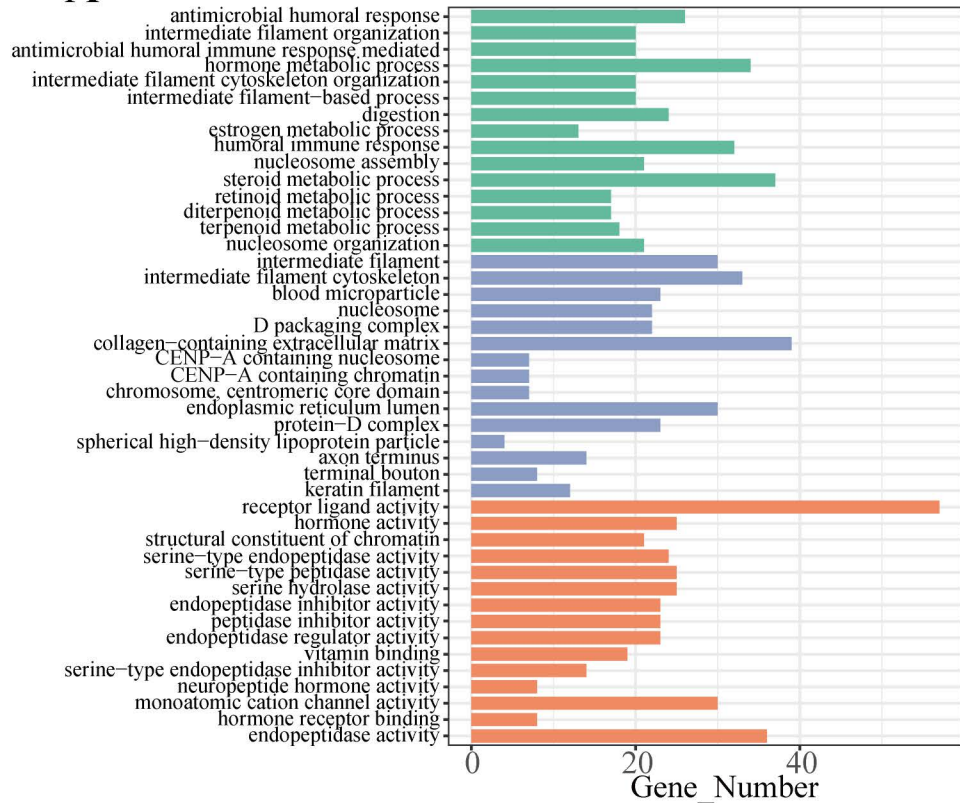
Supplementary Figure 3: **Correlation analysis between ARID1B gene expression and DNA damage response and repair related genes in NSCLC.** (A-F) Correlation analysis between the expression of DNA damage response and repair genes (ATM, CHEK1, CHEK2, H2AFX, KU70, and KU80) and the expression of ARID1B in TCGA datasets.

Supplementary Figure 4: The results of cell apoptosis in non-small cell lung cancer cells H2030(A) and SK-MES-1(B) after ARID1B knockdown.

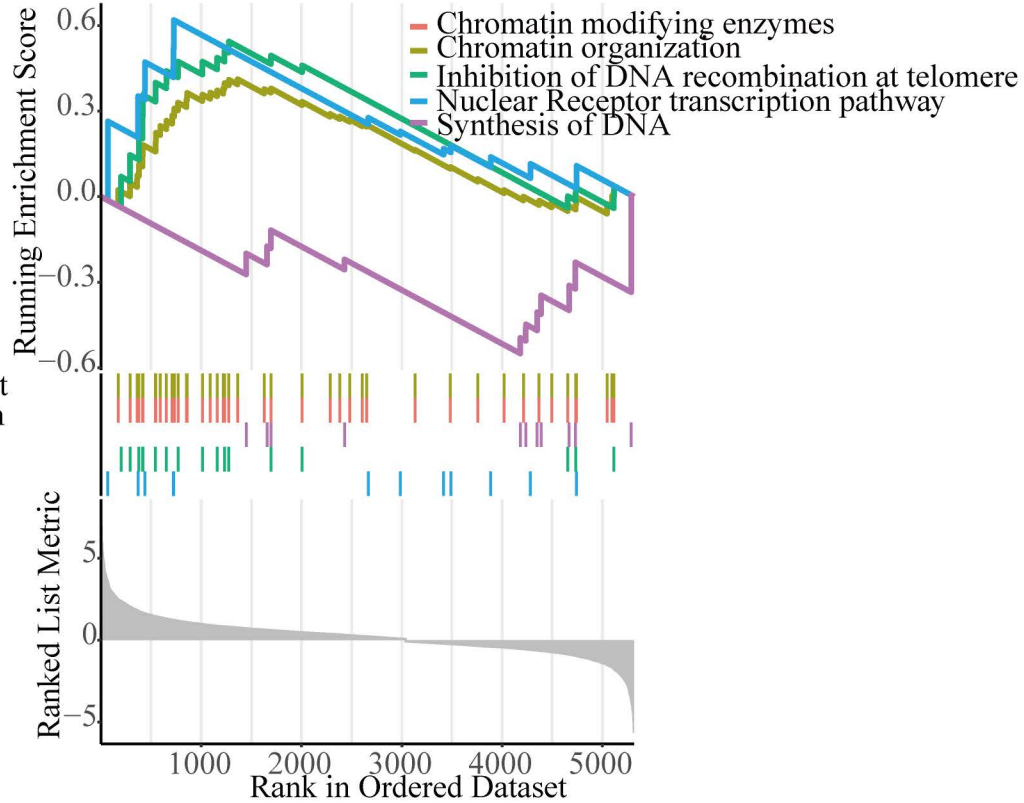


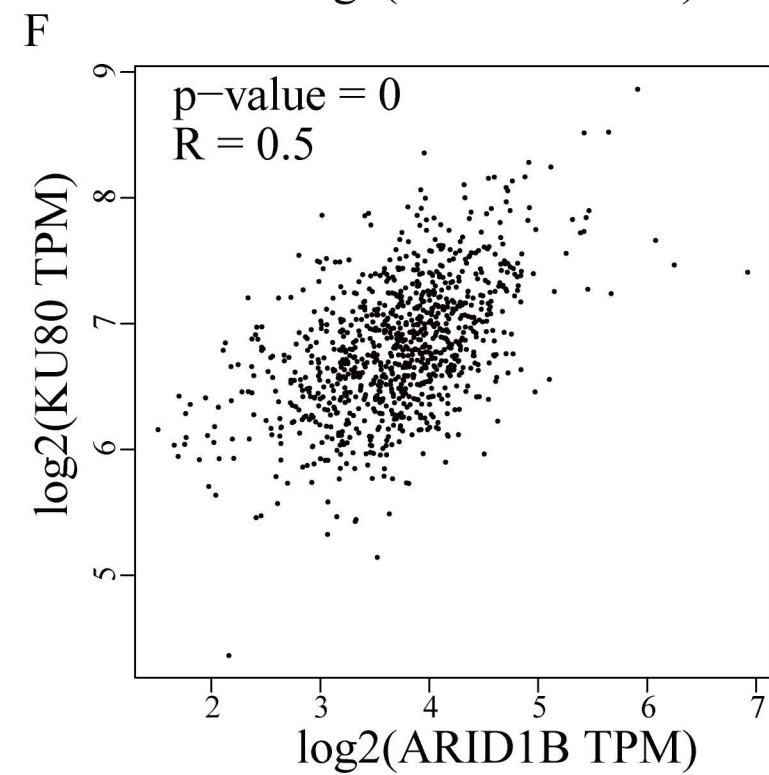
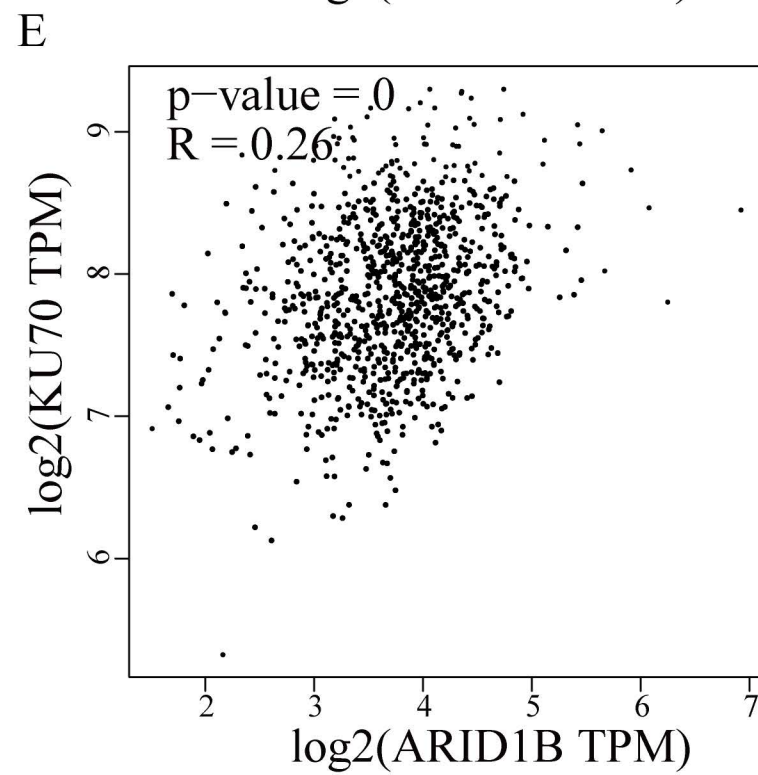
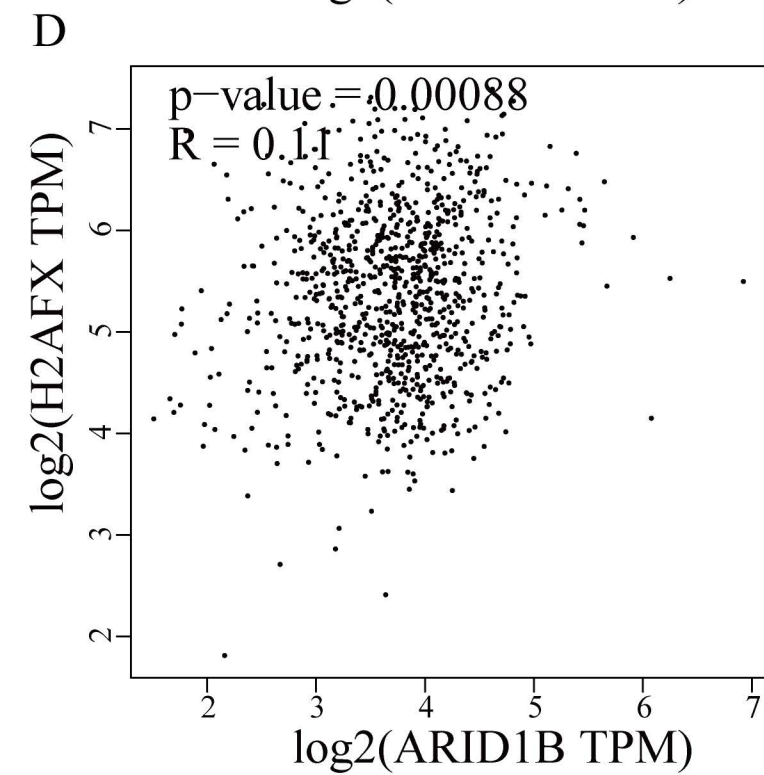
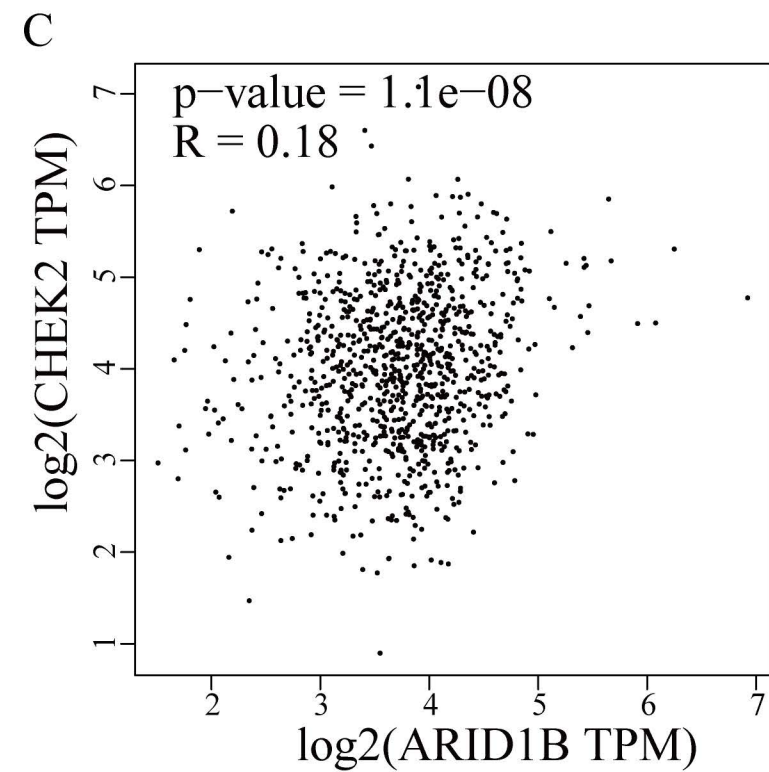
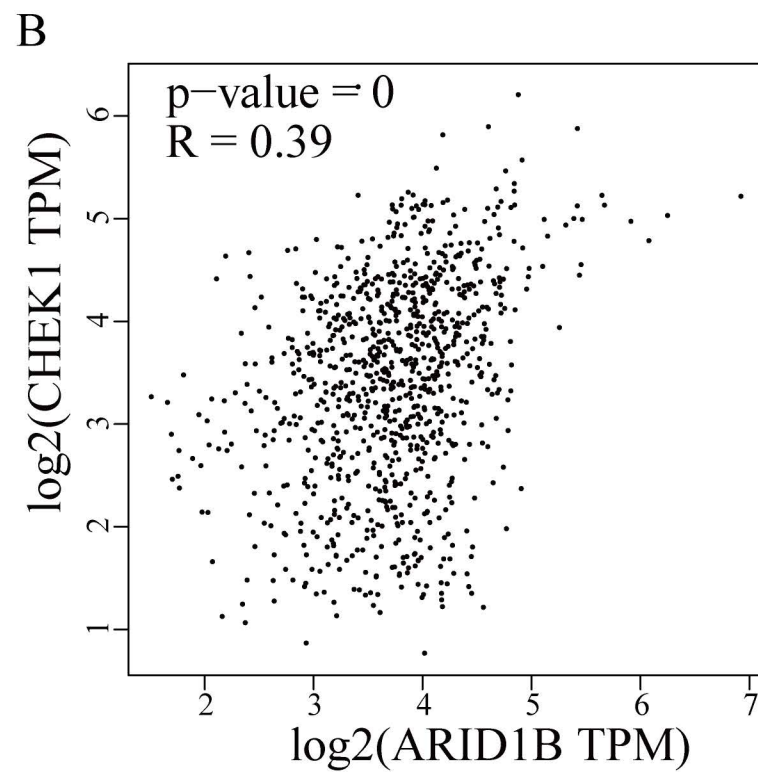
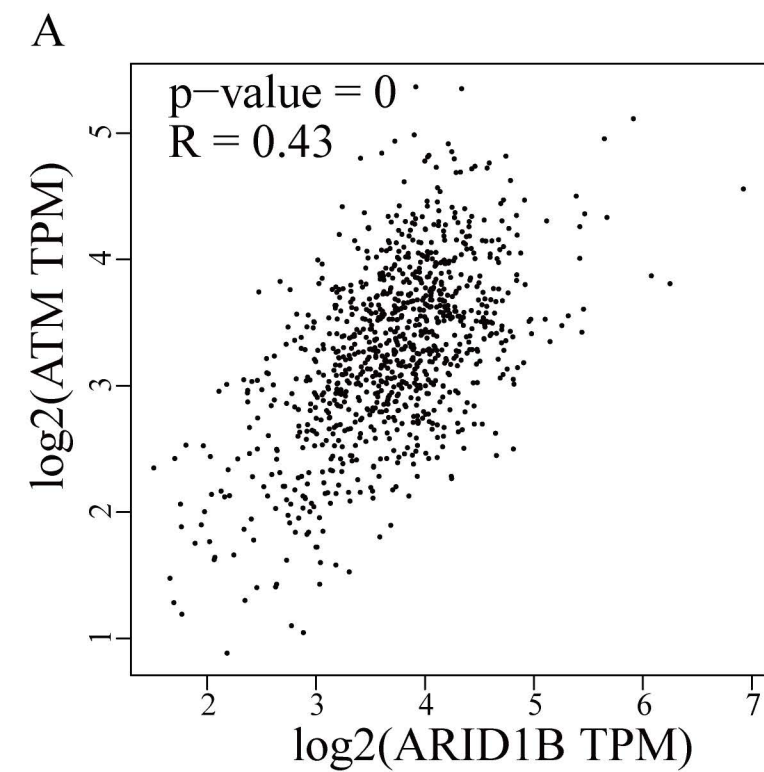
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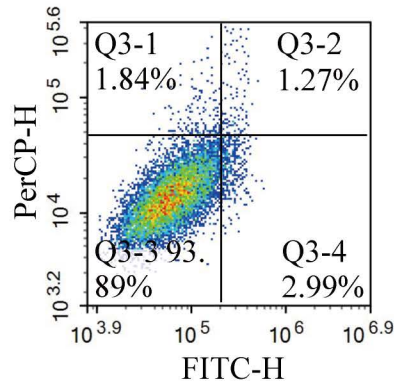
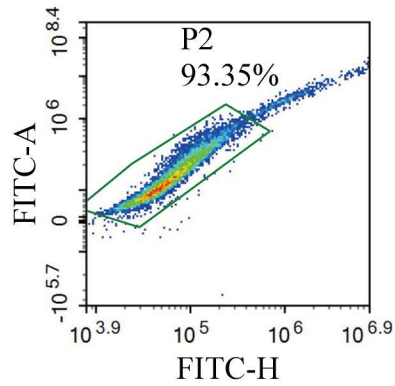
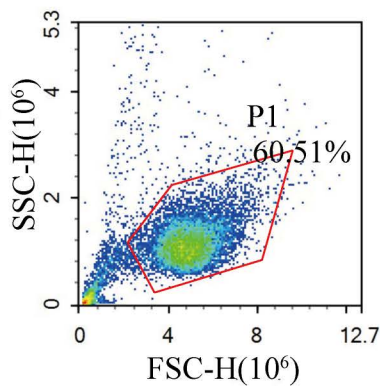
The Most Enriched GO Terms



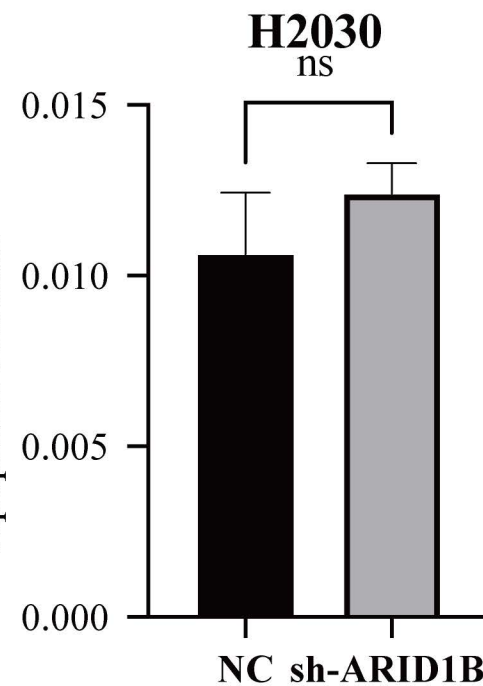
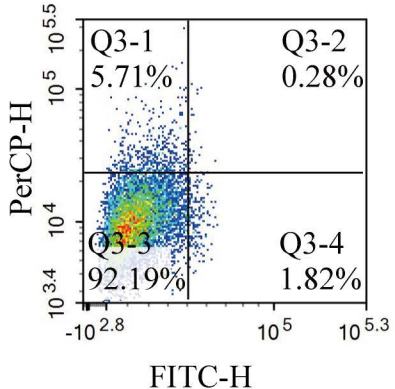
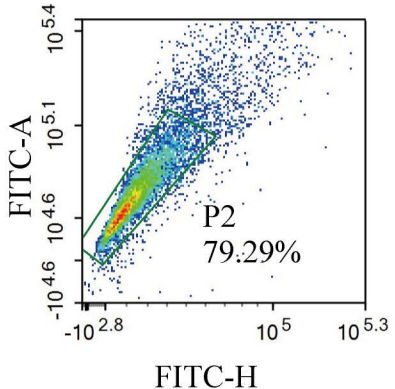
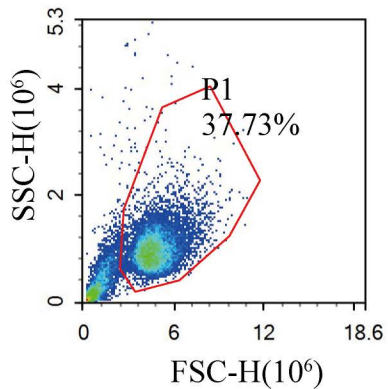
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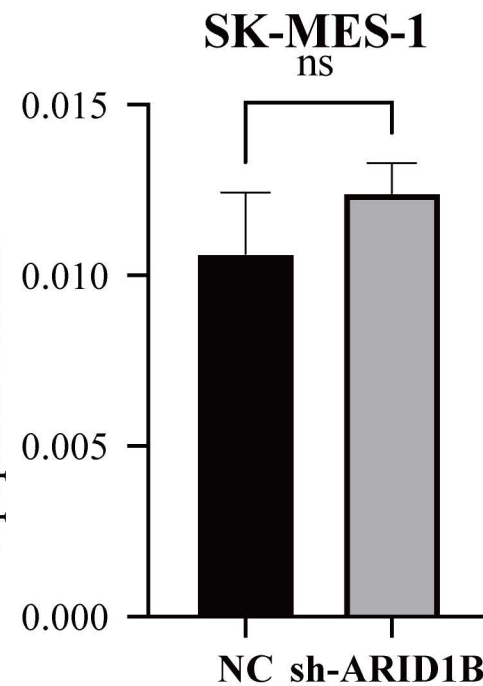
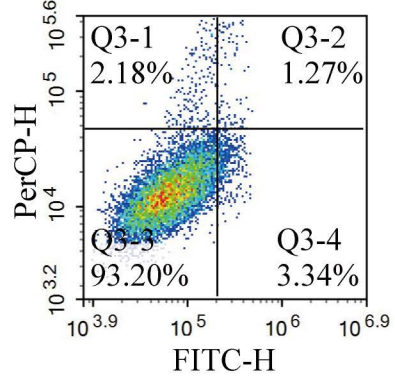
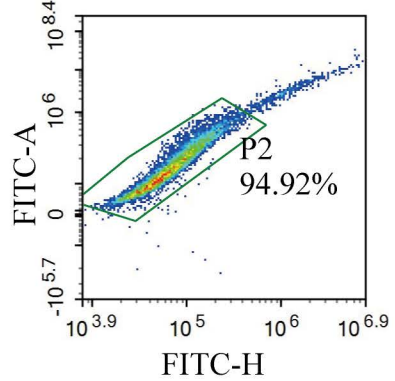
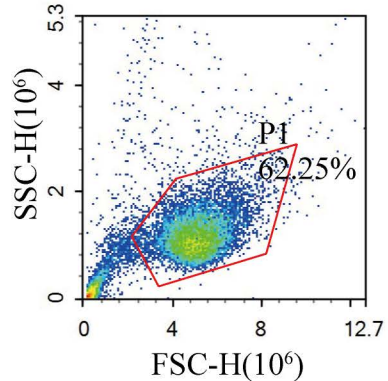


A**NC****H2030**

Apoptosis cell ratio

**NC sh-ARID1B****B****NC****SK-MES-1**

Apoptosis cell ratio

**NC sh-ARID1B****sh-ARID1B****sh-ARID1B**