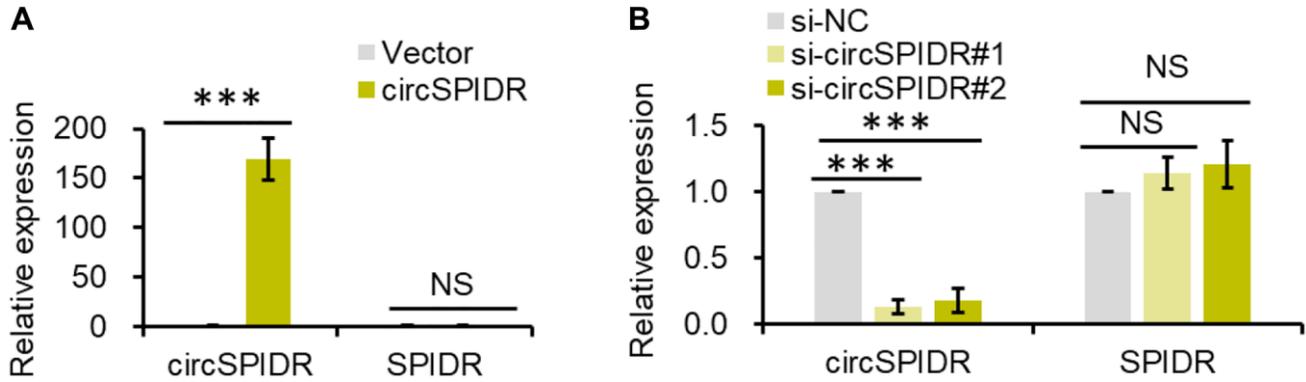
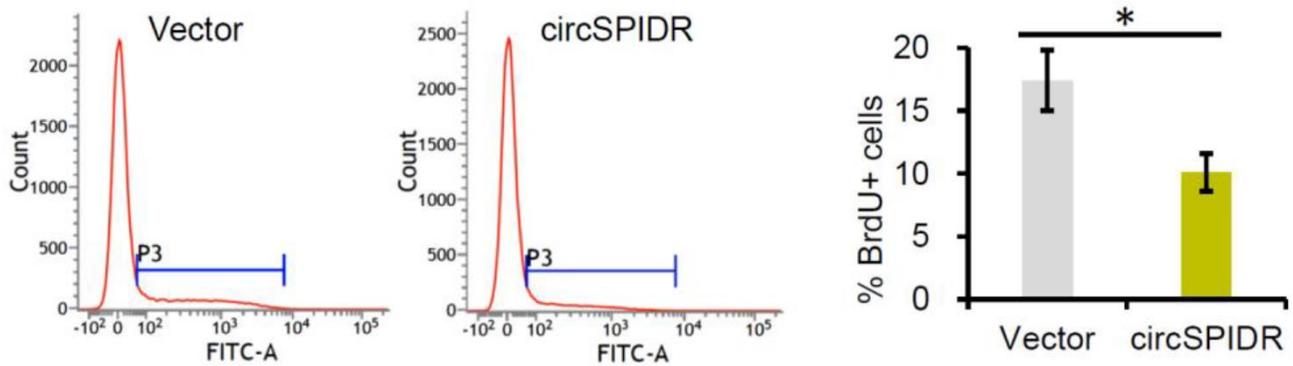


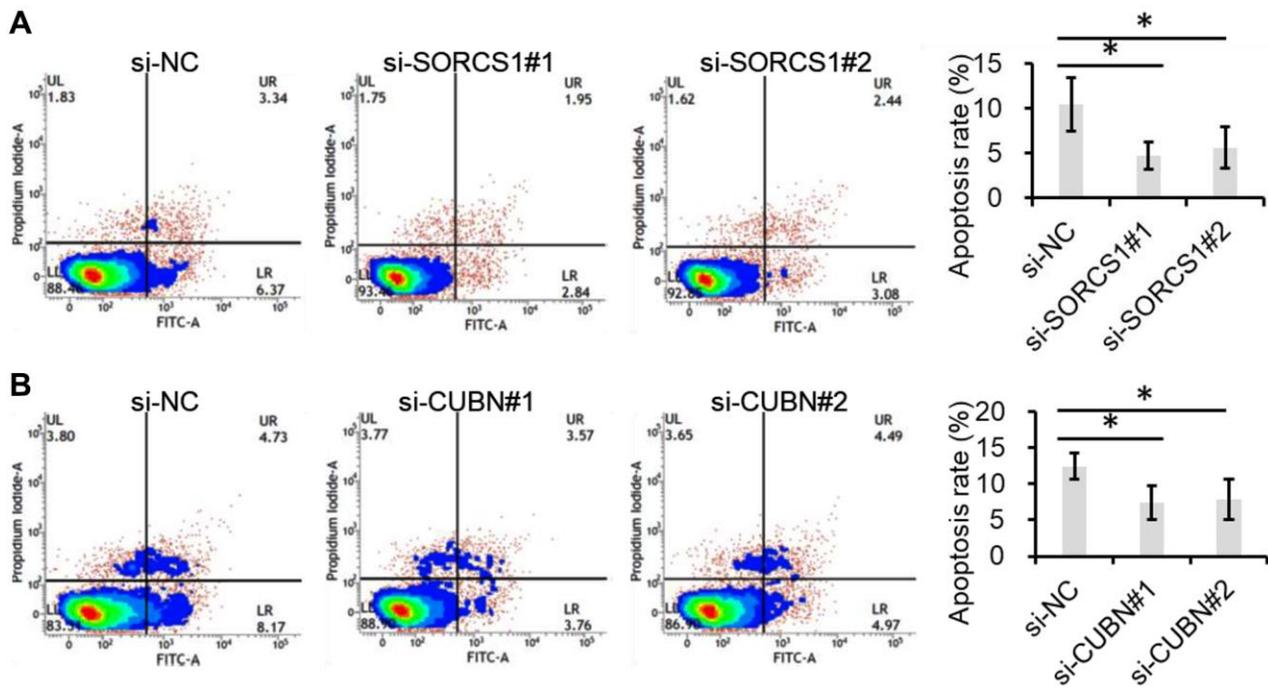
SUPPLEMENTARY FIGURES



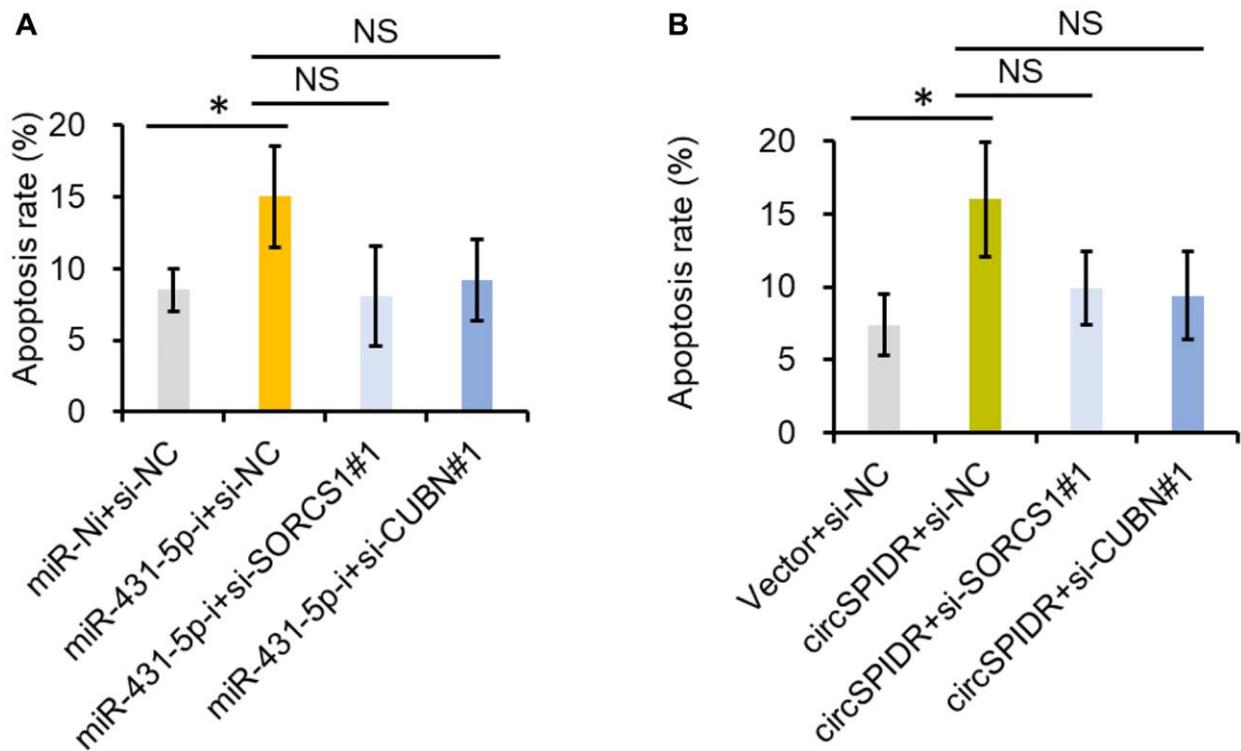
Supplementary Figure 1. Transfection efficiency of circSPIDR expression vector and siRNAs in HeLa cells. (A) The expression level of circSPIDR in HeLa cells after transfection with circSPIDR expression vector was detected by qRT-PCR. Vector was taken as empty vector control. (B) The expression level of circSPIDR in HeLa cells after transfection with circSPIDR siRNA#1 or #2 was detected by qRT-PCR. si-NC was taken as negative siRNA control. NS, not significant; *** $P < 0.001$.



Supplementary Figure 2. Overexpression of circSPIDR suppressed cell proliferation in HeLa cells by BrdU assay. The percentage of BrdU positive cells was shown. * $P < 0.05$.



Supplementary Figure 3. Knockdown of SORCS1 and CUBN decreased cell apoptosis in HeLa cells. (A) Cell apoptosis assay for HeLa cells with SORCS1 knockdown. (B) Cell apoptosis assay for HeLa cells with CUBN knockdown. * $P < 0.05$.



Supplementary Figure 4. miR-431-5p and circSPIDR contribute to cell apoptosis via targeting SORCS1 and CUBN. (A) Cell apoptosis assay for HeLa cells with miR-431-5p inhibitors and SORCS1 knockdown or CUBN knockdown. (B) Cell apoptosis assay for HeLa cells with circSPIDR and SORCS1 knockdown or CUBN knockdown. NS, not significant; * $P < 0.05$.