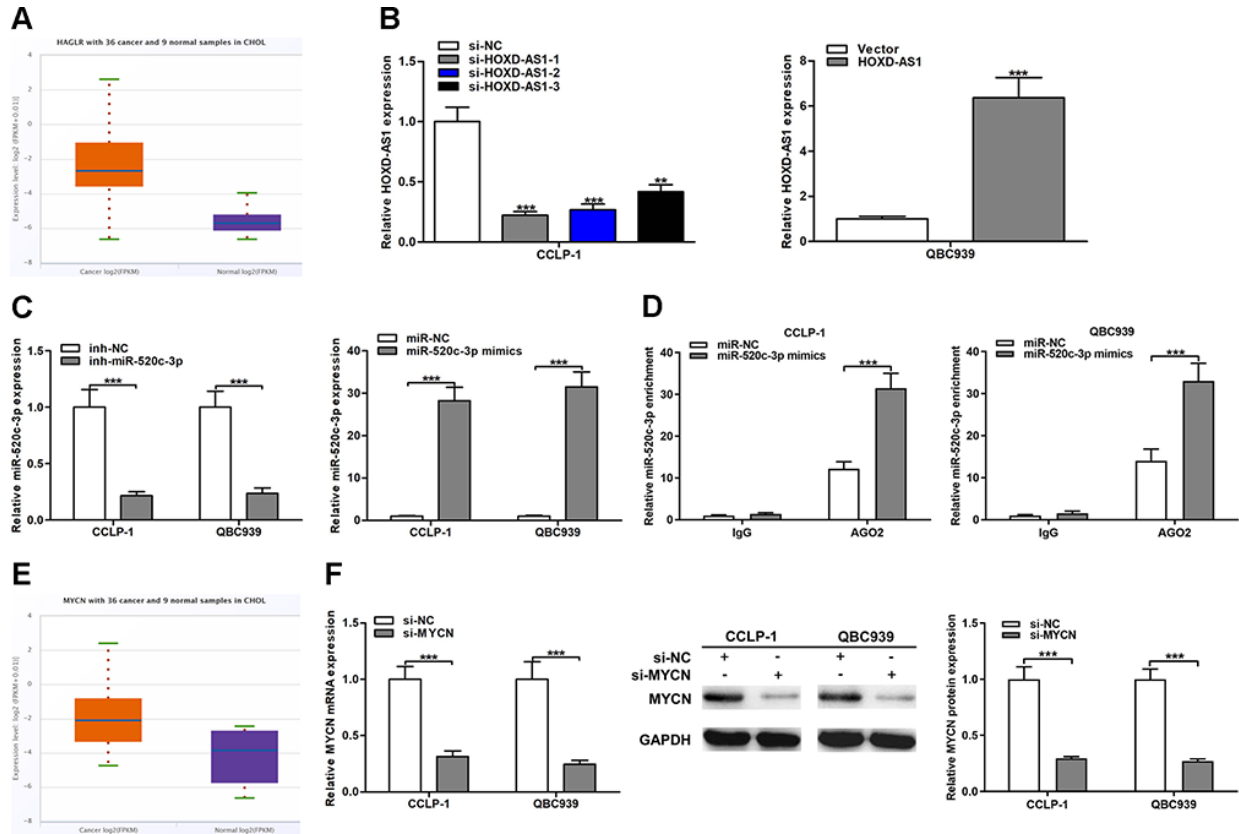
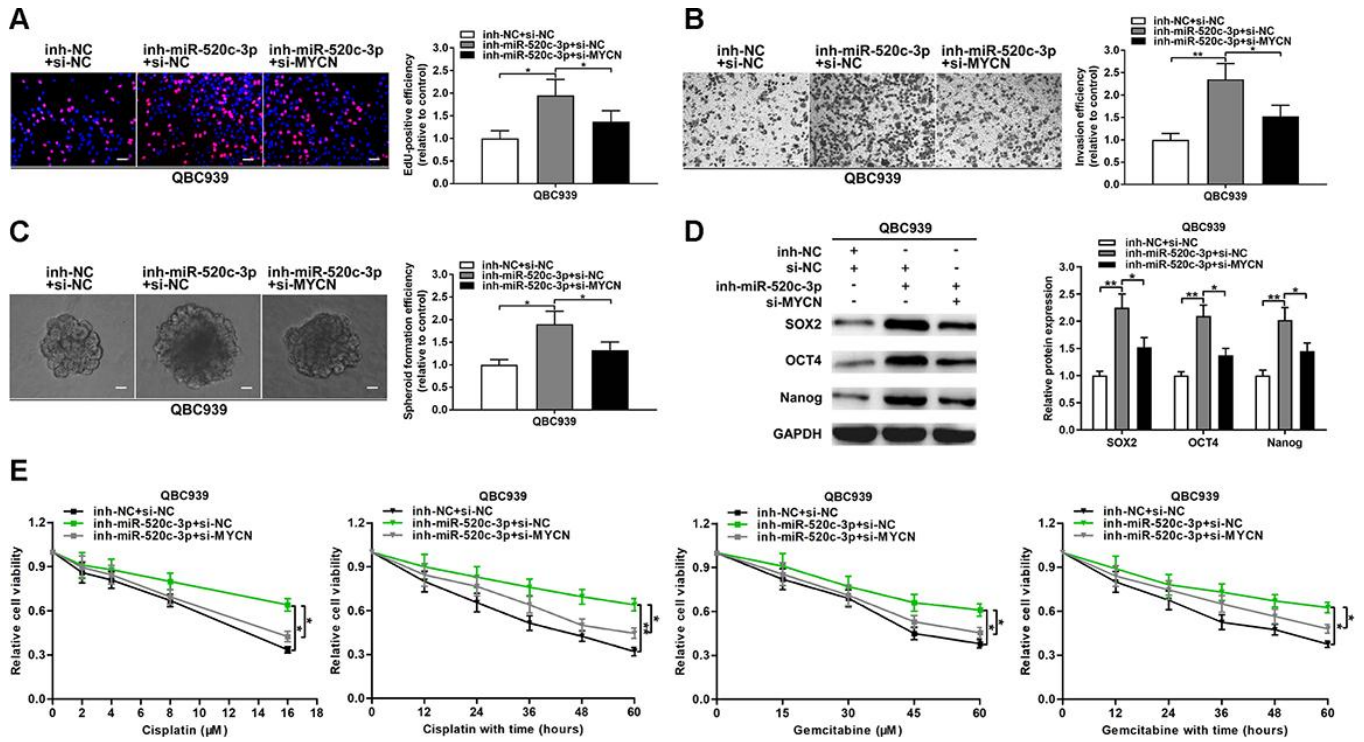


SUPPLEMENTARY FIGURES



Supplementary Figure 1. Differential expression analysis in TCGA and efficiency of knockdown and amplification. (A) Detection of HOXD-AS1 expression in CCA samples of TCGA database. **(B)** The knockdown efficiencies of si-HOXD-AS1-1, si-HOXD-AS1-2 and si-HOXD-AS1-3 as well as amplification efficiency of pcDNA3.1-HOXD-AS1 were monitored through qRT-PCR. **(C)** The knockdown and amplification efficiencies of miR-520c-3p in CCLP-1 and QBC939 cells. **(D)** The enrichment of miR-520c-3p in AGO2 RIP assays. **(E)** Detection of MYCN expression in CCA samples of TCGA database. **(F)** The knockdown efficiency of si-MYCN in CCLP-1 and QBC939 cells was analyzed by qRT-PCR and western blot. *** $P < 0.001$.



Supplementary Figure 2. MiR-520c-3p restrained CCA malignant progression by suppressing MYCN. (A–E) Rescue assays of EdU, transwell, spheroid formation, stem marker analysis and chemo-resistance confirmed that facilitation of proliferation, invasion, stemness maintenance and chemo-resistance induced by knocking down miR-520c-3p was retrieved through silencing MYCN in QBC939 cells, respectively. * $P < 0.05$, ** $P < 0.01$.