

Supplementary Figures

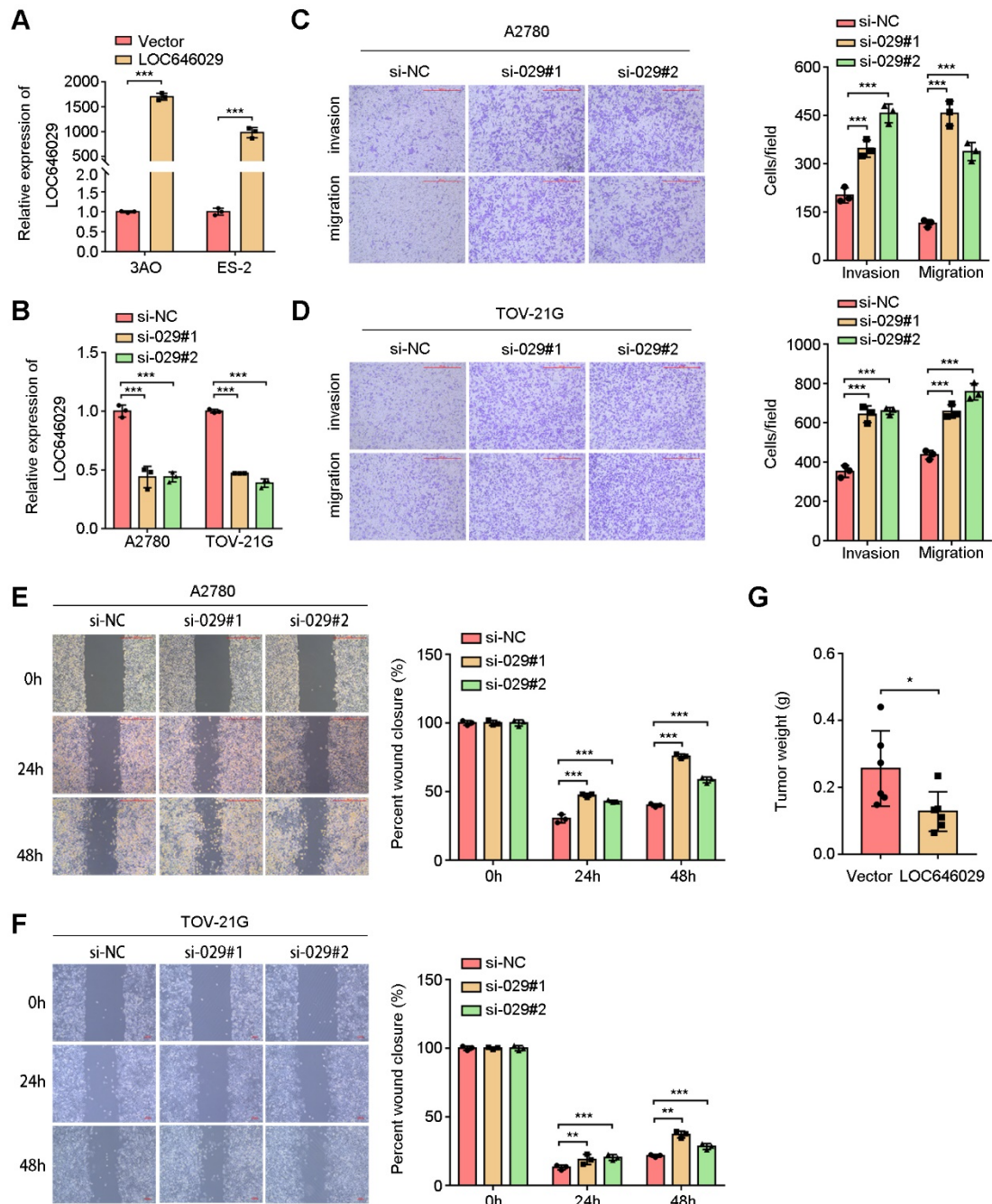


Fig. S1 LOC646029 functions as a tumor suppressor to inhibit OC cell proliferation and metastasis in vitro and in vivo. (A, B) The efficiency of LOC646029 overexpression and knockdown was detected by RT-qPCR. (C, D), Transwell assays were performed to analyze the migration and invasion of A2780 and TOV-21G cells after knockdown of LOC646029. Scale bar = 500 μ m. (E, F) Wound healing assays were performed to analyze the migration of A2780 (E) and TOV-21G (F) cells after LOC646029 knockdown. (G). Tumor weights were

measured in the indicated groups (n=6). Scale bar = 500 μ m (E) and 100 μ m (F). The data are presented as the mean \pm SD, * p < 0.05, ** p < 0.01, *** p < 0.001.

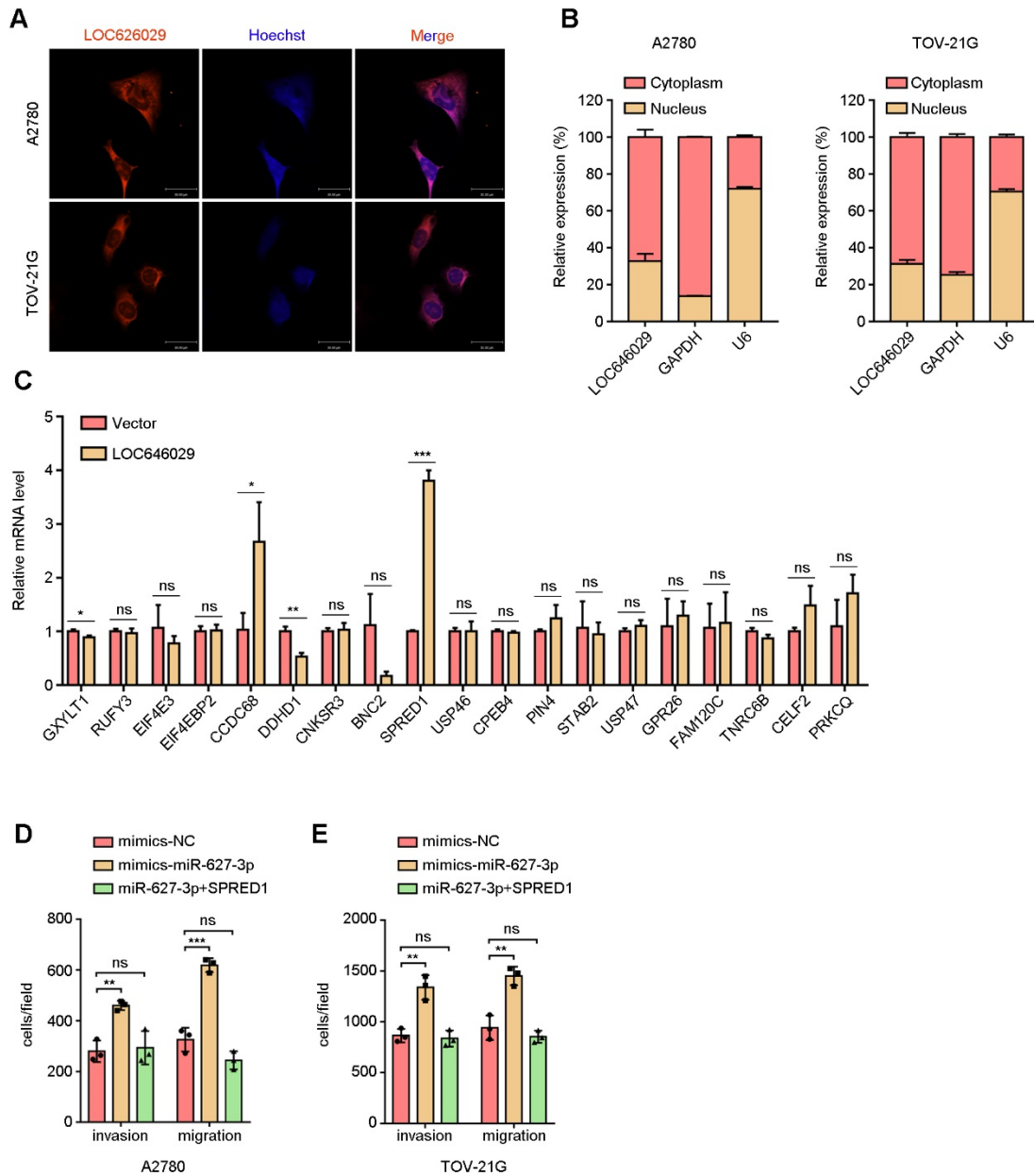


Fig. S2 SPRED1 is a crucial downstream target of miR-627-3p to suppress OC cell proliferation, invasion and migration. (A) Subcellular localization of LOC646029 by FISH detection in A2780 and TOV-21G cells. The LOC646029 probe was labeled with Cy3 (red), and nuclei were stained with Hoechst 33342 (blue). Scale bar = 30 μ m. (B) LOC646029 expression in the nucleus and cytoplasm was detected by nuclear-cytoplasmic fractionation assays followed by RT-qPCR. GAPDH and U6 were used as cytoplasmic and nuclear controls, respectively. (C)

Relative expression levels of candidate genes were determined by RT-qPCR after overexpression of LOC646029. (D, E) Transwell assays quantification of A2780 and TOV-21G cells transfected with NC mimics, miR-627-3p mimics and SPRED1 as indicated. The data are presented as the mean \pm SD, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

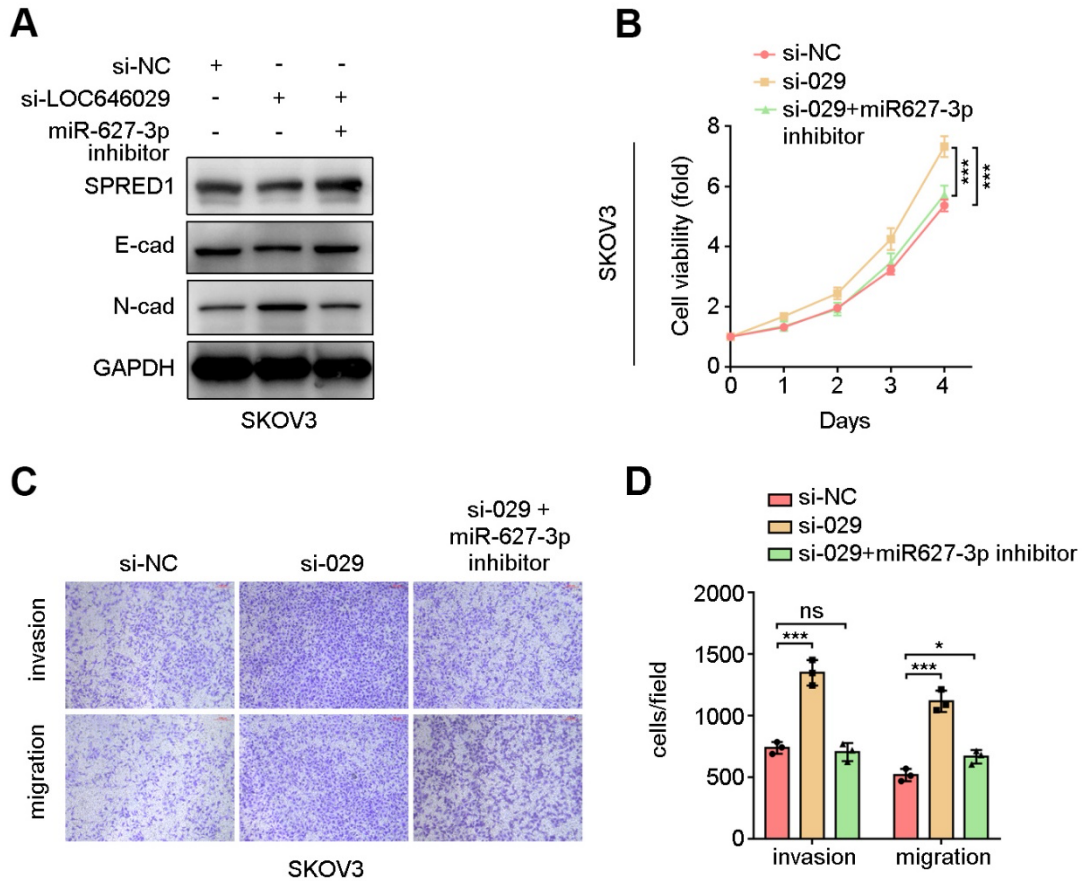


Fig. S3 LOC646029 inhibits ovarian cancer progression by regulating miR-627-3p/SPRED1 signaling. (A) Relative expression of SPRED1 and EMT markers were detected by western blots in SKOV3 cells after knockdown of LOC646029 and miR-627-3p as indicated. (B) Relative cell viability of SKOV3 cells transfected with negative control siRNA or siRNA targeting LOC646029 in the presence or absence of miR-627-3p inhibitor. (C, D) Representative images of Transwell invasion and migration assays and quantification of SKOV3 cells transfected with negative control siRNA, siRNA targeting LOC646029 and miR-627-3p inhibitor as indicated. The data are presented as the mean \pm SD of three independent experiments. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.