

Figure S1. miR-487b-3p negatively regulates MG63 cell migration and chemoresistance. (A) MG63 cells were transfected with NC oligonucleotide, mimics or inhibitor and the results show miR-487b-3p mimics and inhibitors significantly increased and decreased the mRNA expression level of miR-487b-3p in MG63 cells, respectively, 72 h after transfection. miR-487b-3p (B) negatively regulates cell migration and (C) inhibits epithelial-mesenchymal transition in MG63 cells, following transfection with NC, mimic or inhibitor. (D) miR-487b-3p enhanced the sensitivity of MG63 cells to Dox treatment. MG63 cells were transfected with the aforementioned nucleotides, treated with or without 0.2  $\mu$ M Dox for 48 h and cell viability was measured using the MTT assay. (E) The overexpression of miR-487b-3p increased Dox-induced apoptosis, while the inhibition of miR-487b-3p inhibited doxorubicin-induced apoptosis in MG63 cells. MG63 cells were transfected with the aforementioned nucleotides, treated with DMSO or 0.2  $\mu$ M Dox for 24 h and analyzed using flow cytometry. (F) miR-487b-3p stimulates Dox-induced expression of cleaved- and total-PARP in MG63 cells following transfection with the aforementioned nucleotides, treated with 0.2  $\mu$ M Dox for 48 h, and then analyzed using western blot analysis. \* $P$ <0.05; \*\* $P$ <0.01. NC, negative control; mimics, miR-487b-3p mimics; inhibitor, miR-487b-3p inhibitor; Dox, doxorubicin.

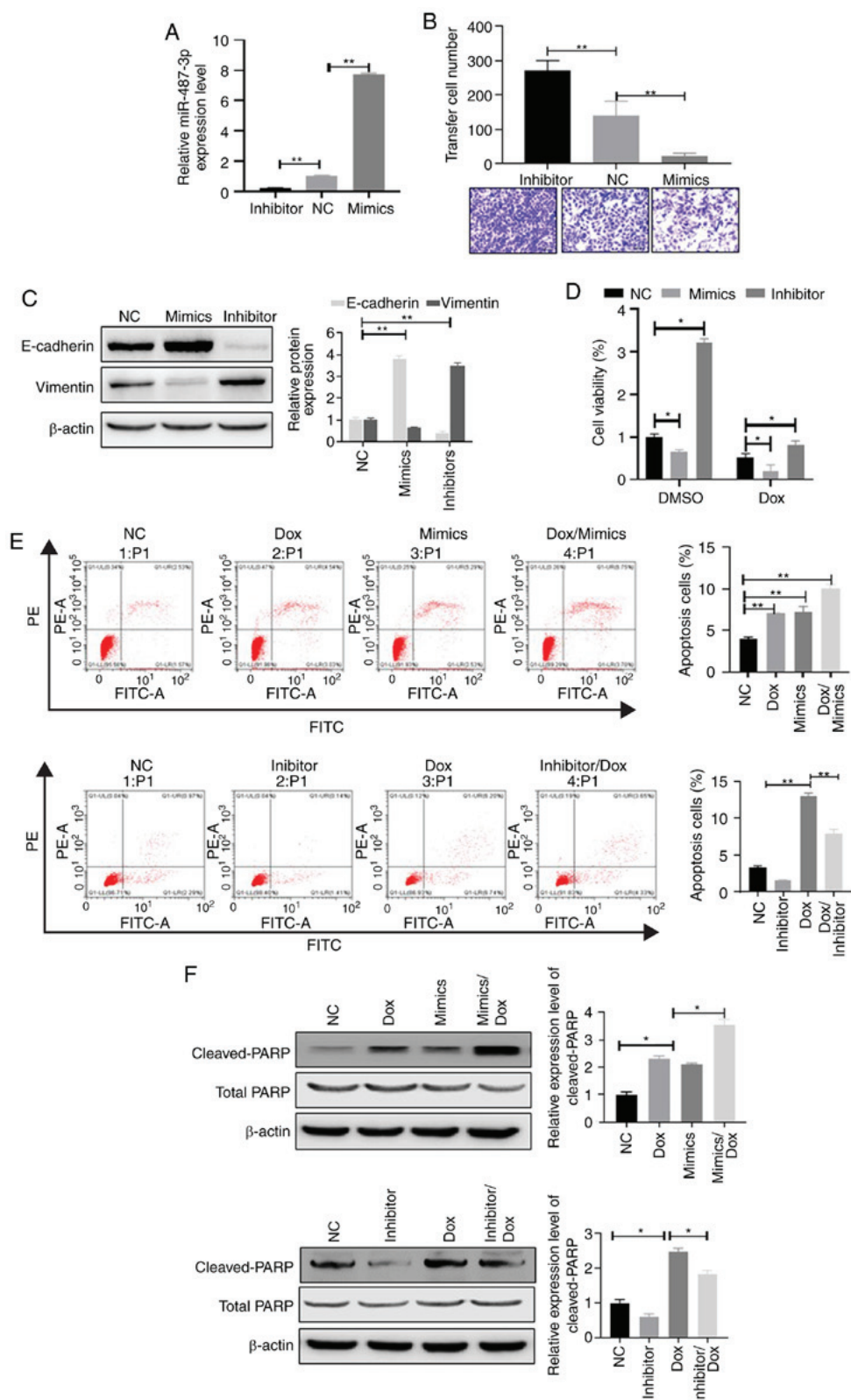


Figure S2. miR-487b-3p negatively regulates osteosarcoma stemness. MG63 cells were transfected with NC, mimic or inhibitor and analyzed using (A) sphere formation assay and (B) western blot analysis, 24 h following transfection, where the inhibition and overexpression of miR-487b-3p stimulated and inhibited osteosphere formation, respectively, and miR-487b-3p negatively regulated the protein expression level of cancer stem cell markers. \* $P < 0.05$ ; \*\* $P < 0.01$ . NC, negative control; mimics, miR-487b-3p mimics; inhibitor, miR-487b-3p inhibitor.

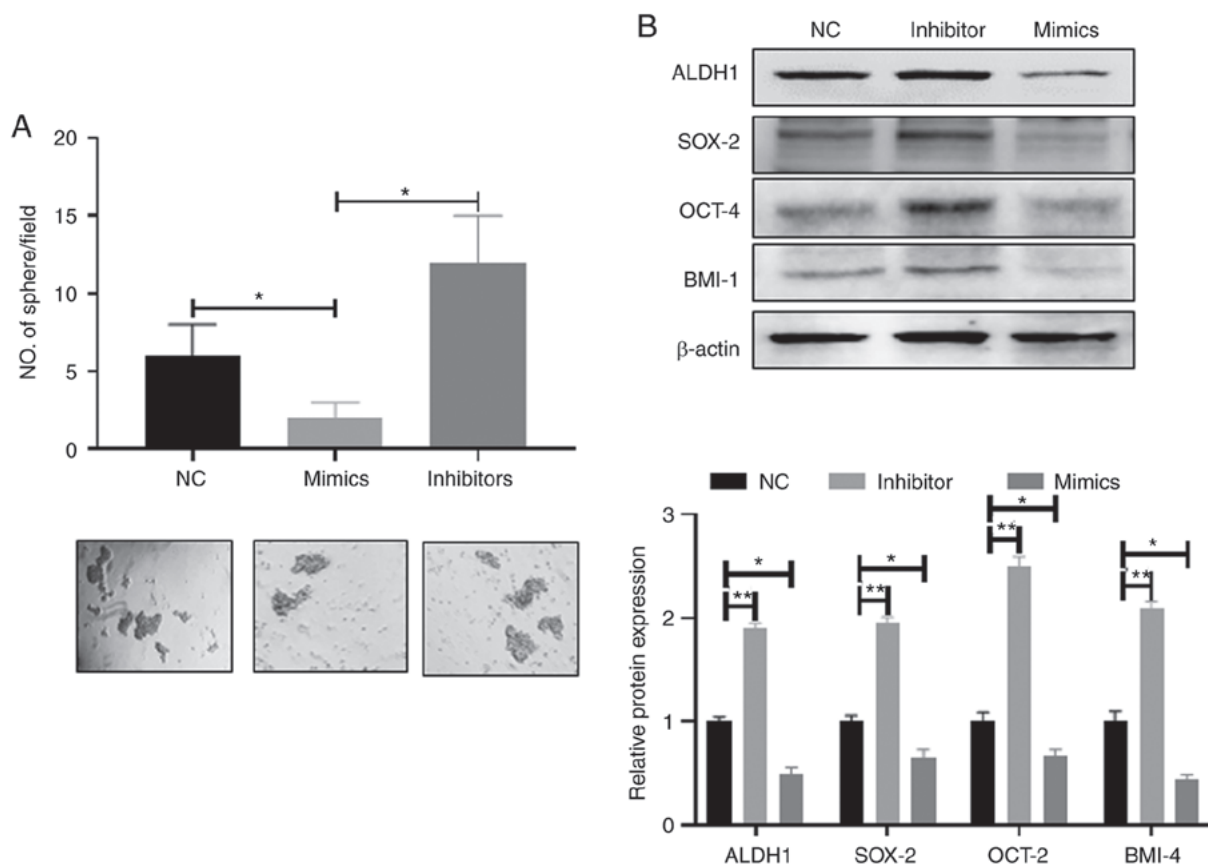


Figure S3. The expression levels of ALDH1A3 and miR-487b-3p. (A) MG63 cells were transfected with ALDH1A3 siRNA or overexpressing plasmid and respective NC and analyzed using western blot analysis, 72 h following transfection. The transfection of ALDH1A3 siRNA and overexpressing plasmid significantly decreased and increased the protein level of ALDH1A3 in MG63 cells, respectively. MG63 cells were transfected with (B) mimic and/or ALDH1A3 expression plasmids and (C) inhibitor and/or ALDH1A3 siRNA then the expression level of miR-487b-3p was analyzed using reverse transcription-quantitative PCR. \*\*\* $P < 0.001$ . NC, negative control; mimics, miR-487b-3p mimics; inhibitor, miR-487b-3p inhibitor; si, short inhibiting; ALDH1A3, aldehyde dehydrogenase 1 family member A3; +, positive; -, negative.

