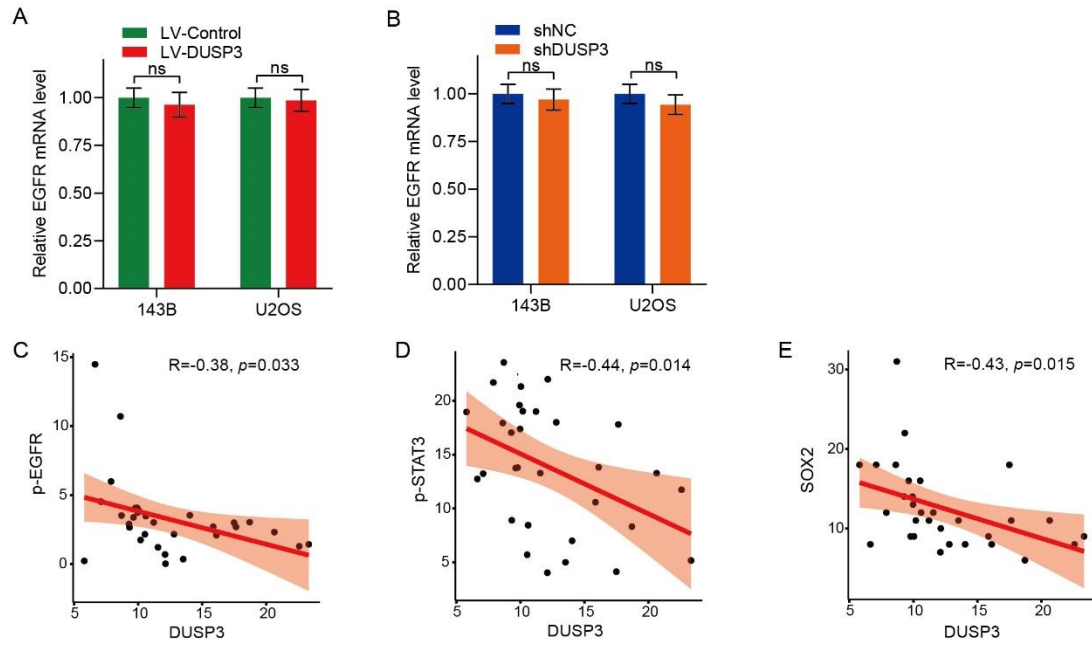


**Supplementary Figure 1.** DUSP3 regulates the STAT3/SOX2 axis in osteosarcoma. (A-C) Western blot analysis was applied to detect the expression levels of STAT3 and SOX2. (D-E) Stattic treated cells were assayed for cell activity by CCK-8 assay. (F-G) Stattic treated cells were applied for cell migration by wound-healing assay. (H-I) Stattic treatment significantly attenuated the promoting effect of DUSP3 knocking down on the invasion of osteosarcoma cells. (J-K) Stattic treatment altered the stemness-promoting effect of knockdown of DUSP3 on osteosarcoma cells. For analysis of group differences, student's t-test (two groups) and one-way ANOVA (more than two groups) were used. All data are demonstrated as means  $\pm$  standard deviations (SD). \* $P < 0.05$ , \*\* $P < 0.01$ , \*\*\* $P < 0.001$ .



**Supplementary Figure 2.** DUSP3 negatively regulates the protein expression levels of p-EGFR and p-STAT3. (A-B) mRNA levels of EGFR after overexpressing or silencing of DUSP3. (C-E) The correlation between DUSP3 and p-EGFR, p-STAT3, SOX2 in human tissues were detected. Student's t-test (two groups) and one-way ANOVA (more than two groups) were employed to analyze group differences. The means  $\pm$  standard deviations (SD) are used to illustrate all data.