

Figure S1. (A) RT-qPCR confirmed the knockdown efficiency of three shRNAs targeting FOXP4-AS1. (B) RT-qPCR assessed the variation of five miRNAs (miR-4999-5p, miR-6890-3p, miR-423-5p, miR-3130-3p, miR-4797-5p) in cells treated with sh-FOXP4-AS1-1 or sh-NC. (C) CCK-8 assay detected the absorbance of cells transfected with miR-3130-3p mimics or NC-mimics. (D) EdU assay assessed the proliferation of cells transfected with miR-3130-3p mimics or NC-mimics. (E) Casepase-3 activity assay examined cell apoptosis depending on casepase-3. Experiments were all performed thrice.  $^*P < 0.05$ ,  $^*P < 0.01$ .

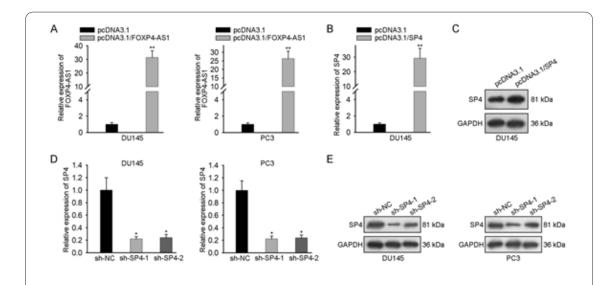


Figure S2. (A) RT-qPCR determined the overexpression efficacy of pcDNA3.1/FOXP4-AS1. (B) RT-qPCR examined SP4 mRNA levels in cells treated with pcDNA3.1/SP4 or the empty vector. (C) RT-qPCR examined SP4 protein levels in cells treated with pcDNA3.1/SP4 or the empty vector. (D) RT-qPCR examined SP4 mRNA levels in cells treated with sh-SP4-1/2 or sh-NC. (E) Western blot tested SP4 protein levels in cells treated with sh-SP4-1/2 or sh-NC. Experiments were all performed thrice.  $^*P < 0.05$ ,  $^{**}P < 0.01$ .