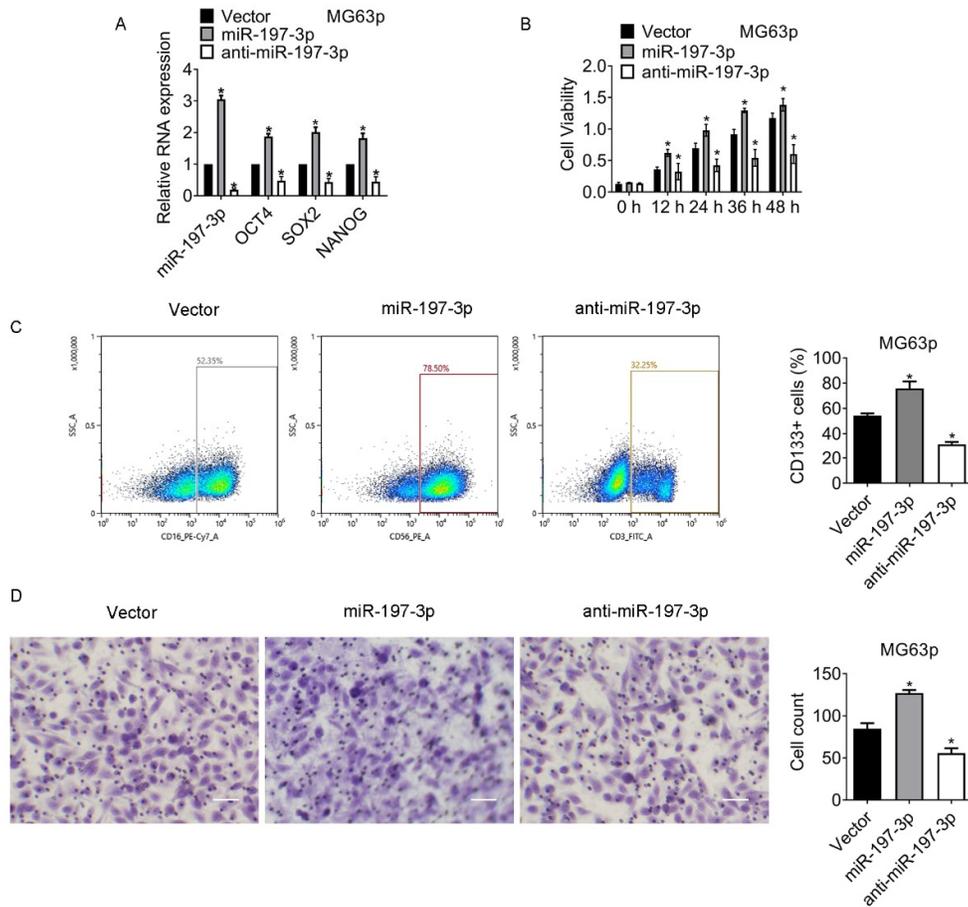
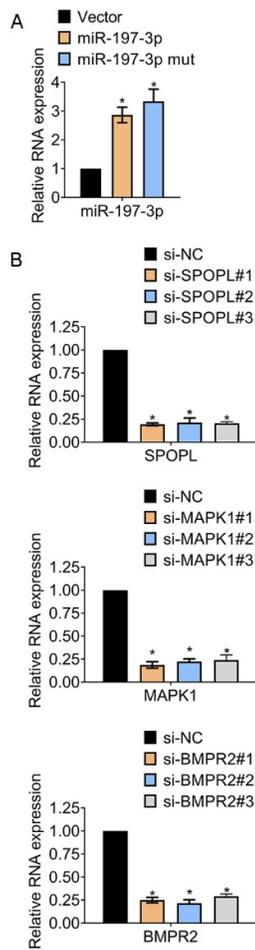


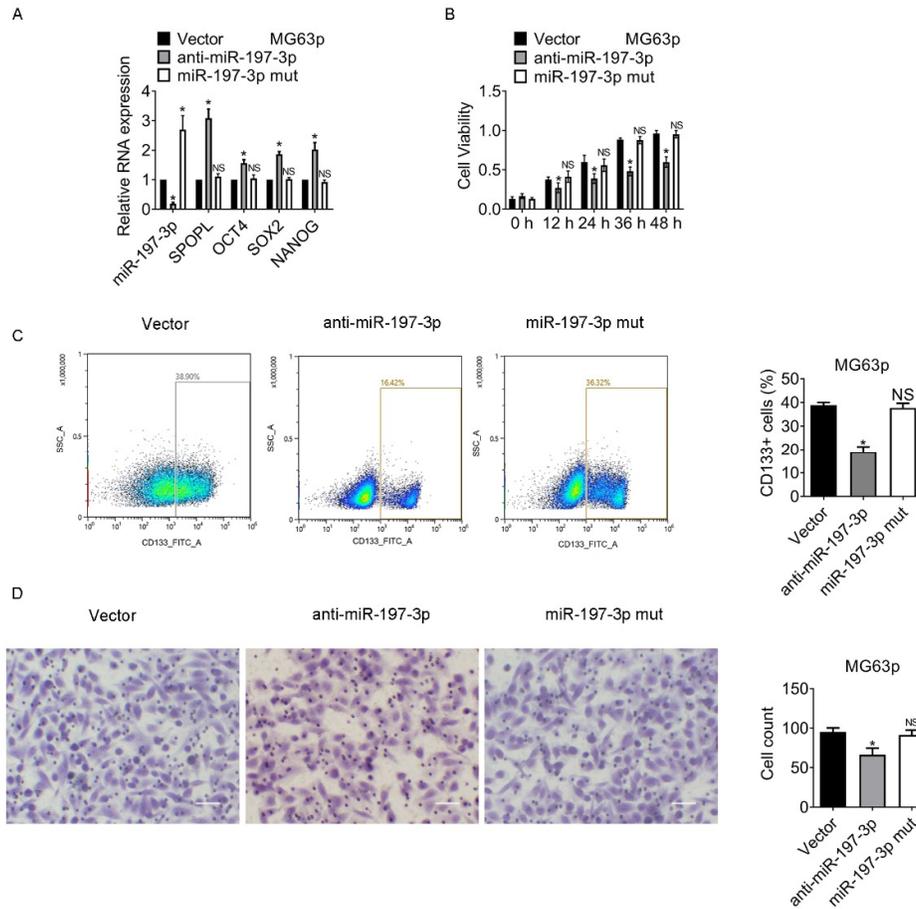
Supplementary Figure 1. miR-197-3p and miR-20a-5p promote chemoresistance and stemness of MTX-resistant MG63 cells. (A) The indicated miRNAs expression in the cell lines was assessed by qPCR assay. **(B)** The viability of the indicated cells was measured using MTT assays. **(C)** The quantity of CD133+ cells was then measured using flow cytometry. **(D)** The migration of the cells was assessed by transwell assay. Magnification, 200x. * $P < 0.05$; NS, no significance. U2OSp, the parental U2OS; MG63p, the parental MG63. MG63p, the parental MG63.



Supplementary Figure 2. miR-197-3p plays an essential role in maintaining chemoresistance and stemness of osteosarcoma cells MG63p. (A) The indicated genes expression was examined by qPCR and western blot. (B) The viability of the cells was assessed by MTT assay. (C) The quantity of CD133+ cells was measured by flow cytometry. (D) The migration of the cells was assessed by transwell assay. Magnification, 200x. * $P < 0.05$; NS, no significance. Results represented the mean \pm S.D. of three independent experiments. MG63p, the parental MG63.



Supplementary Figure 3. The indicated miRNAs and mRNAs expression was determined by qPCR assay. (A) The overexpression of miR-197-3p and miR-197-3p mut was detected by qPCR assays. **(B)** The efficacy of silence RNAs was measured by qPCR assay. * $P < 0.05$; NS, no significance. Results represented the mean \pm S.D. of three independent experiments.



Supplementary Figure 4. miR-197-3p contributes to MG63 cells' chemoresistance and stemness by inhibiting SPOPL. (A) The indicated genes expression in the cells was detected by qRT-PCR and western blot. (B) The viability of the cells was assessed by MTT assay. (C) The representative images of CD133+ cells are shown. The CD133+ cells population was measured by flow cytometry. SSC-A indicates Side Scatter-Area. (D) The migration of the cells was assessed by transwell assay. Magnification, 200x. * $P < 0.05$; NS, no significance. Results represented the mean \pm S.D. of three independent experiments. MG63p, the parental MG63.

Table S1. The association of miRNA expression and overall survival

miRNA	Overall survival (months)		P values
	Low expression	High expression	
miR-9-3p	85.83	48.87	0.0029*
miR-17-5p	86.63	41.17	8.1-e06*
miR-20a-5p	86.63	42.07	0.00012*
miR-124-3p	86.63	47.47	0.018*
miR-197-3p	54.23	22.93	0.000046*
miR-320d	77.47	61.5	0.44
miR-506-3p	81.6	49.27	0.13
miR-526b-3p	81.6	64.7	0.16

* Indicates *p* values < 0.05.

Table S2. The primers for detection list below.

miR-197-3p	Sense (5'-3')	TTCACCACCTTCTCCAC
	Reverse (5'-3')	GAACATGTCTGCGTATCTC
miR-20a-5p	Sense (5'-3')	GTGCTTATAGTGCAGGTA
	Reverse (5'-3')	GAACATGTCTGCGTATCTC
miR-17-5p	Sense (5'-3')	TGCTTACAGTGCAGGTAG
	Reverse (5'-3')	GAACATGTCTGCGTATCTC
SPOPL	Sense (5'-3')	TGGTCTTTTACCAGATGACAAGCT
	Reverse (5'-3')	AGACGACACTCAGGCACCTTCA
MAPK1	Sense (5'-3')	ACACCAACCTCTCGTACATCGG
	Reverse (5'-3')	TGGCAGTAGGTCTGGTGCTCAA
BMPR2	Sense (5'-3')	AGAGACCCAAGTCCCAGAAGC
	Reverse (5'-3')	CCTTTCCTCAGCACACTGTGCA
OCT4	Sense (5'-3')	CCTGAAGCAGAAGAGGATCACC
	Reverse (5'-3')	AAAGCGGCAGATGGTCGTTGG
SOX2	Sense (5'-3')	GCTACAGCATGATGCAGGACCA
	Reverse (5'-3')	TCTGCGAGCTGGTCATGGAGTT
NANOG	Sense (5'-3')	CTCCAACATCCTGAACCTCAGC
	Reverse (5'-3')	CGTCACACCATTGCTATTCTTCG