

Figure S1. Transfection efficiency of HNF1A and 53BP1 vectors and siRNA in pancreatic ductal adenocarcinoma cell lines *in vitro*. Transfection efficiency of HNF1A overexpression in Panc-1 and MiaPaCa-2 cells was quantified by (A) RT-qPCR and (B) western blotting. Transfection efficiency of HNF1A knockdown in Panc-1 and MiaPaCa-2 cells was quantified by (C) RT-qPCR and (D) western blotting. Transfection efficiency of 53BP1 overexpression in Panc-1 and MiaPaCa-2 cells was quantified by (E) RT-qPCR and (F) western blotting. The results are expressed as the mean \pm SD. *** P <0.001. 53BP1, p53-binding protein 1; HNF1A, hepatocyte nuclear factor 1 homeobox A; NC, negative control; RT-qPCR, reverse transcription-quantitative PCR; si, small interfering.

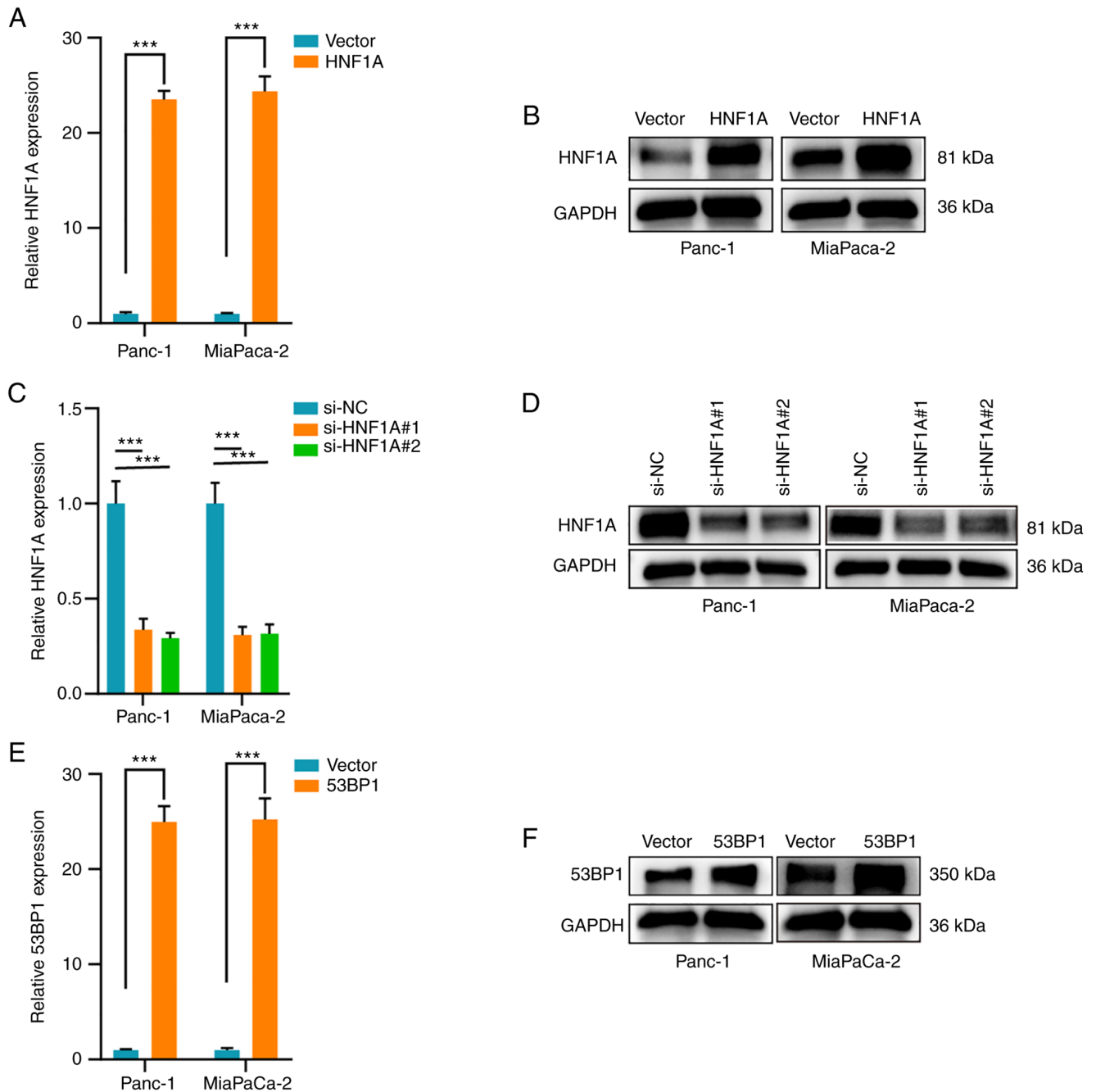


Figure S2. HNF1A mediates cisplatin resistance in PDAC cell lines *in vitro*. (A) Proliferation of Panc-1 and MiaPaCa-2 cells after HNF1A overexpression under cisplatin treatment (5 μ M), as determined by Cell Counting Kit-8 assays. * P <0.05, ** P <0.01 and *** P <0.001 vs. Vector. (B) Proliferation of Panc-1 and MiaPaCa-2 cells after HNF1A knockdown under cisplatin treatment (5 μ M), as determined by Cell Counting Kit-8 assays. * P <0.05 and ** P <0.01 vs. si-NC. Representative images of the colony formation of Panc-1 and MiaPaCa-2 cells after (C) HNF1A overexpression or (D) HNF1A knockdown under cisplatin treatment (5 μ M). Sphere formation assays showing Panc-1 and MiaPaCa-2 cell proliferation after (E) HNF1A overexpression or (F) HNF1A knockdown under cisplatin treatment (5 μ M). Scale bars, 50 μ m. The results are expressed as the mean \pm SD. * P <0.05, ** P <0.01, *** P <0.001. HNF1A, hepatocyte nuclear factor 1 homeobox A; NC, negative control; si, small interfering.

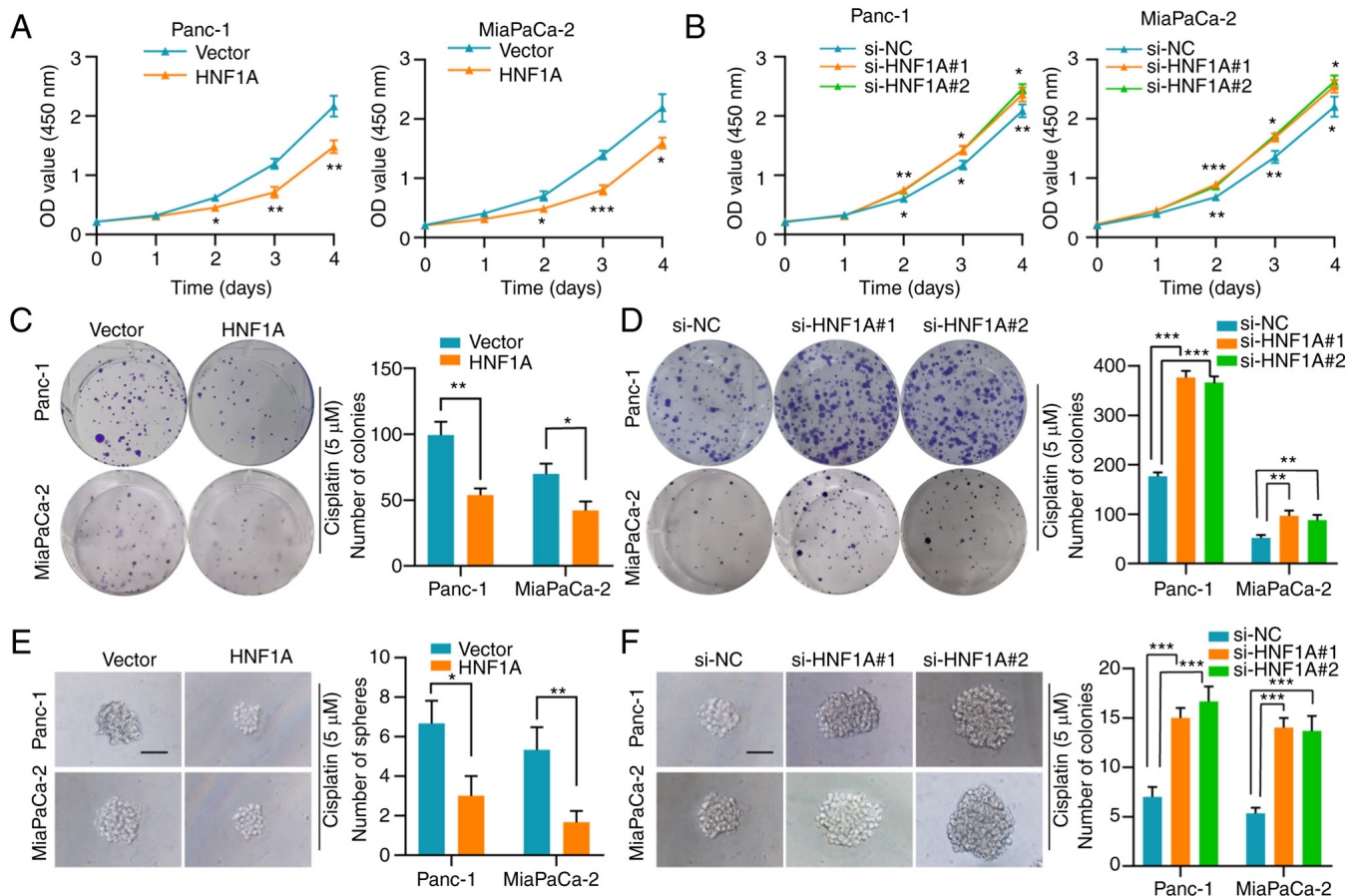


Figure S3. HNF1A mediates carboplatin resistance in PDAC cell lines *in vitro*. (A) Proliferation of Panc-1 and MiaPaCa-2 cells after HNF1A overexpression under carboplatin treatment (4 μ M), as determined by Cell Counting Kit-8 assays. * P <0.05, ** P <0.01 and *** P <0.001 vs. Vector. (B) Proliferation of Panc-1 and MiaPaCa-2 cells after HNF1A knockdown under carboplatin treatment (4 μ M), as determined by Cell Counting Kit-8 assays. * P <0.05 and ** P <0.01 vs. si-NC. Representative images of the colony formation of Panc-1 and MiaPaCa-2 cells after (C) HNF1A overexpression or (D) HNF1A knockdown under carboplatin treatment (4 μ M). Sphere formation assays showing Panc-1 and MiaPaCa-2 cell proliferation after (E) HNF1A overexpression or (F) HNF1A knockdown under carboplatin treatment (4 μ M). Scale bars, 50 μ m. The results are expressed as the mean \pm SD. * P <0.05, ** P <0.01, *** P <0.001. HNF1A, hepatocyte nuclear factor 1 homeobox A; NC, negative control; si, small interfering.

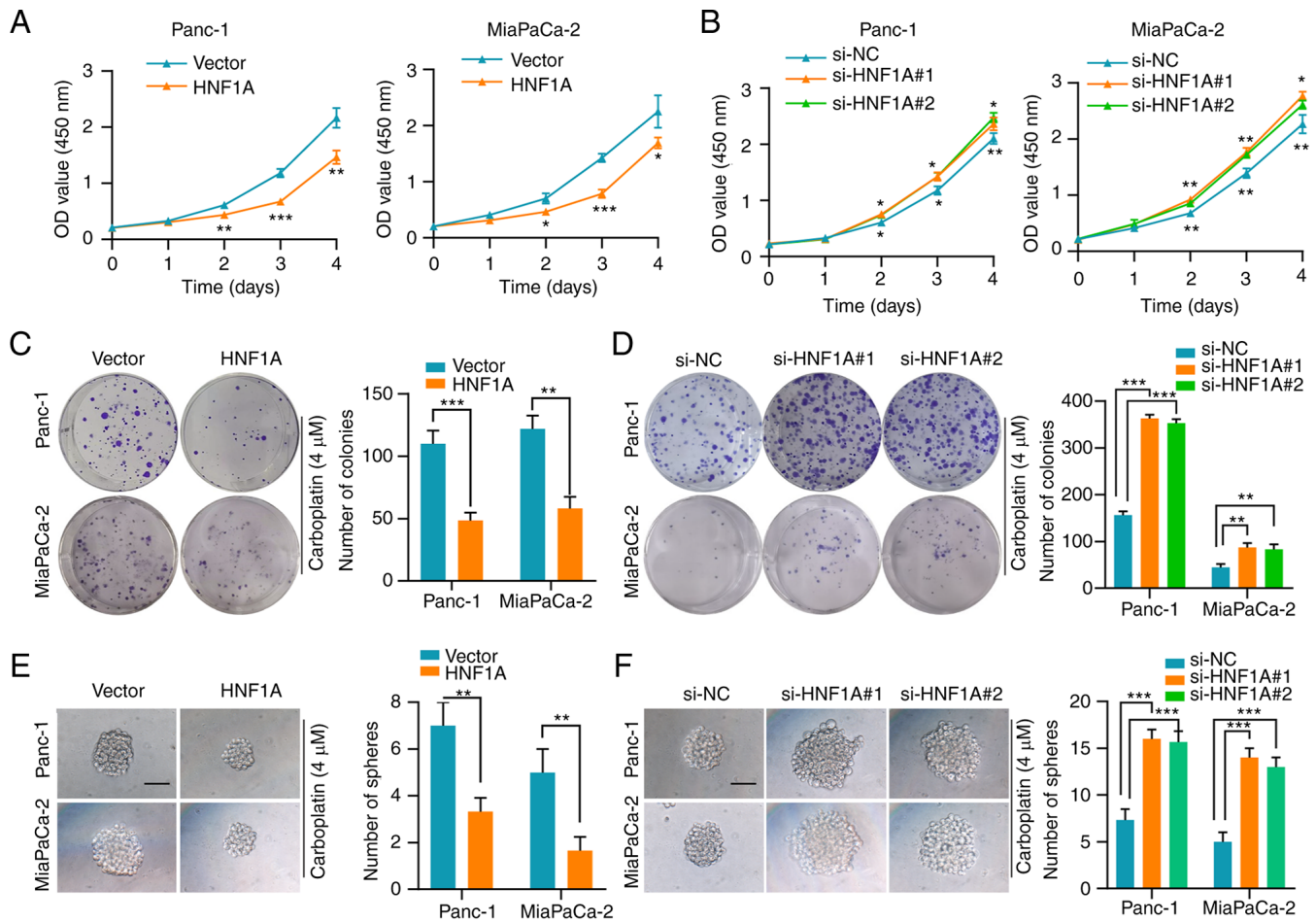


Figure S4. Oxaliplatin-induced apoptosis in PDAC cell lines *in vitro*. Oxaliplatin (5 μ M)-induced apoptosis of Panc-1 and MiaPaCa-2 cells was examined through flow cytometry after (A) HNF1A overexpression or (B) HNF1A knockdown. HNF1A, hepatocyte nuclear factor 1 homeobox A; NC, negative control; si, small interfering.

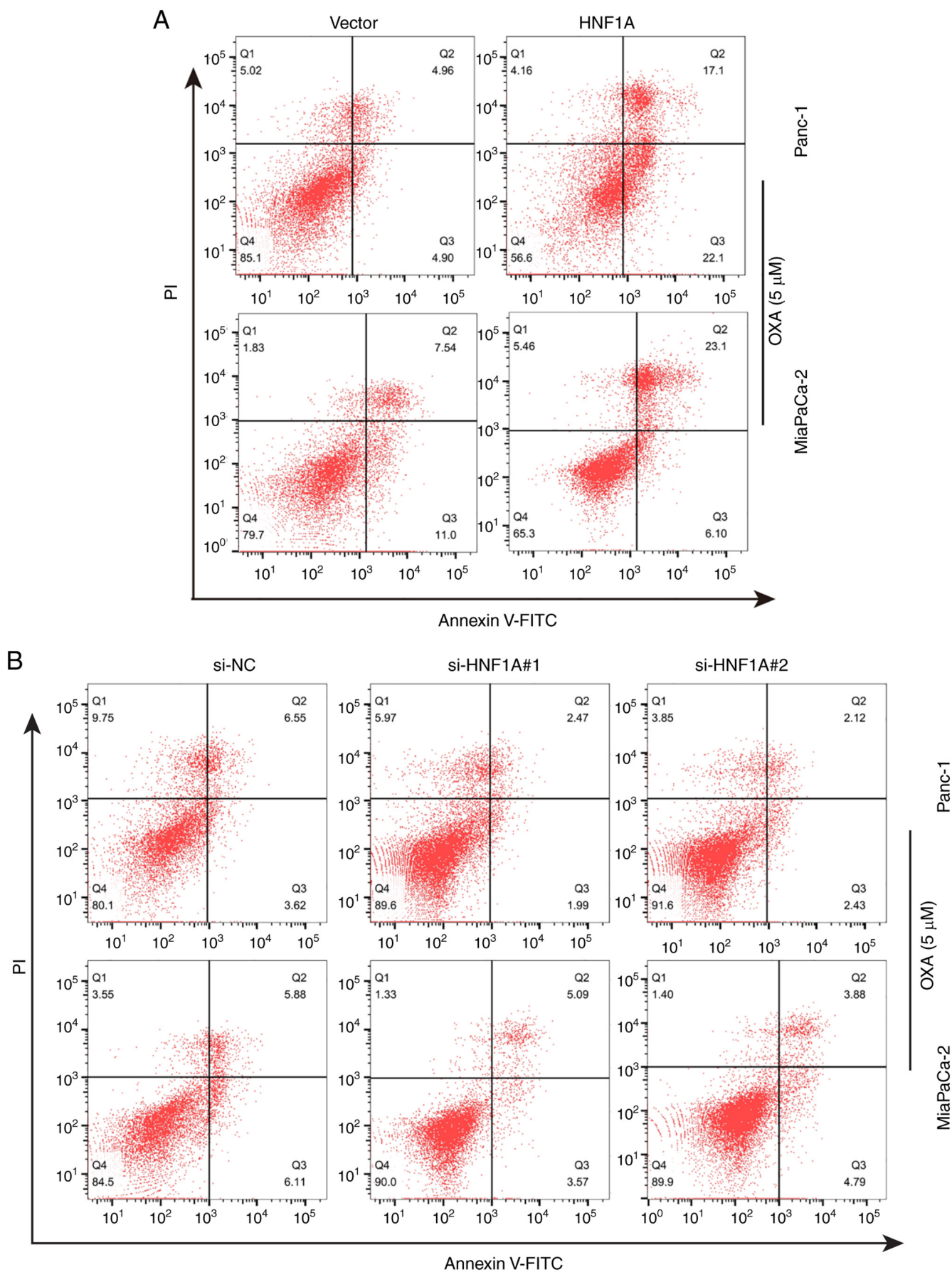


Figure S5. HR/NHEJ-mediated DNA repair in PDAC cell lines *in vitro*. (A) Panc-1 and MiaPaCa-2 cell HR-mediated DNA repair efficiency was detected using the pDR-GFP reporter assay after HNF1A overexpression. (B) Panc-1 and MiaPaCa-2 cell NHEJ-mediated DNA repair efficiency was detected using the pimEJ5-GFP reporter assay after HNF1A overexpression. (C) Panc-1 and MiaPaCa-2 cell HR-mediated DNA repair efficiency was detected using the pDR-GFP reporter assay after HNF1A knockdown. (D) Panc-1 and MiaPaCa-2 cell NHEJ-mediated DNA repair efficiency was detected using the pimEJ5-GFP reporter assay after HNF1A knockdown. HNF1A, hepatocyte nuclear factor 1 homeobox A; HR, homologous recombination; NC, negative control; NHEJ, nonhomologous end joining; si, small interfering.

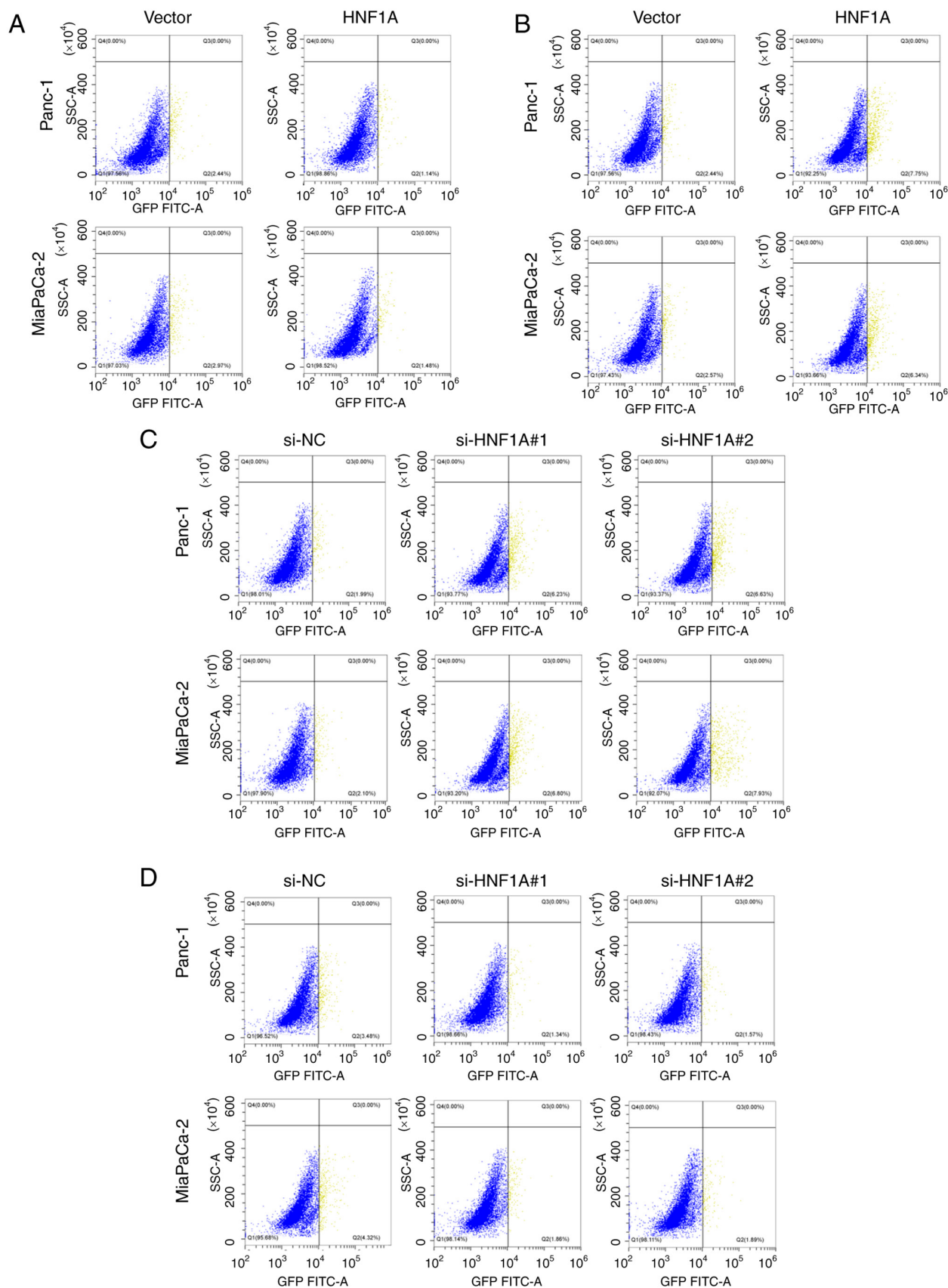


Figure S6. Oxaliplatin-induced apoptosis in PDAC cell lines *in vitro*. Oxaliplatin-induced apoptosis of Panc-1 and MiaPaCa-2 cells was examined through flow cytometry. 53BP1, p53-binding protein 1; HNF1A, hepatocyte nuclear factor 1 homeobox A; NC, negative control; si, small interfering.

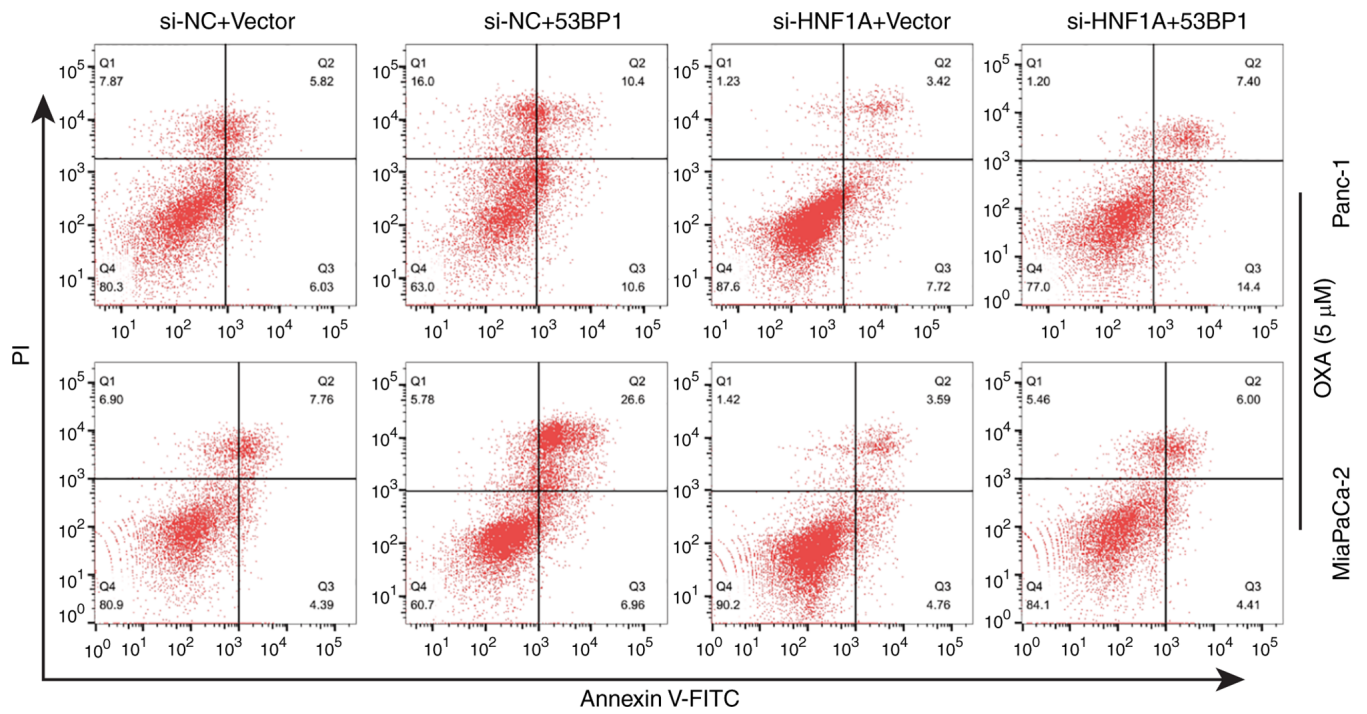


Figure S7. HR/NHEJ-mediated DNA repair in PDAC cell lines *in vitro*. (A) HR-mediated DNA repair efficiency was detected by the pDR-GFP reporter assay. (B) NHEJ-mediated DNA repair efficiency was detected by the pimeJ5-GFP reporter assay. HNF1A, hepatocyte nuclear factor 1 homeobox A; HR, homologous recombination; NC, negative control; NHEJ, nonhomologous end joining; si, small interfering.

