

Figure S1. Integration of plasmid in MIA Paca-2 and PANC-1 clones. (A) The genomic DNA was PCR-amplified using U6-forward and cPPT-reverse primers. A band of ~377 bp indicates the integration of the DNA sequence encoding short-hairpin RNA. (B and C) mRNA expression of ABCB1 and ABCC2 in (B) MIA Paca-2 and (C) PANC-1 clones. Relative ABCB1 and ABCC2 mRNA expression was detected by reverse transcription-quantitative PCR. ABCB1 and ABCC2 mRNA expression was normalised to the reference gene GAPDH and relative quantitation of gene expression was calculated using the comparative threshold cycle method ($2^{-\Delta\Delta C_q}$). All data were expressed as the mean and standard errors of the mean from two independent experiments. ABCB1 expression decreased by 15% (M c1) and 8% (M c2) in Mia Paca-2 cells and by 3% (P c1) and 15% (P c2) in PANC-1 cells compared to the scrambled control. ABCC2 expression in M c1, M c2 and P c1 remained on the same level with scrambled control, but P c2 showed a 13% increase in ABCC2 expression. ABC, ATP-binding cassette.

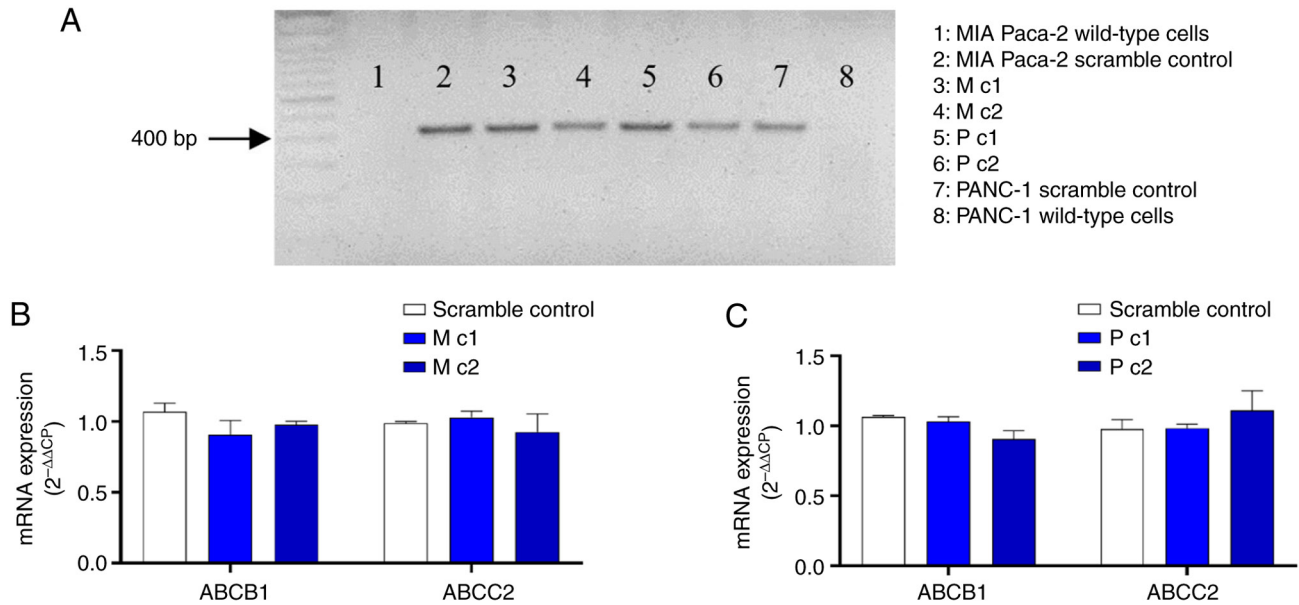


Figure S2. Functional expression of multidrug resistance protein 5 detected by BCECF accumulation in (A) MIA Paca-2 and (B) PANC-1 clones at 15 min. All data are normalised to the fluorescence intensity determined in the scrambled control. The bars represent the mean and standard deviation from three independent experiments performed in triplicates.

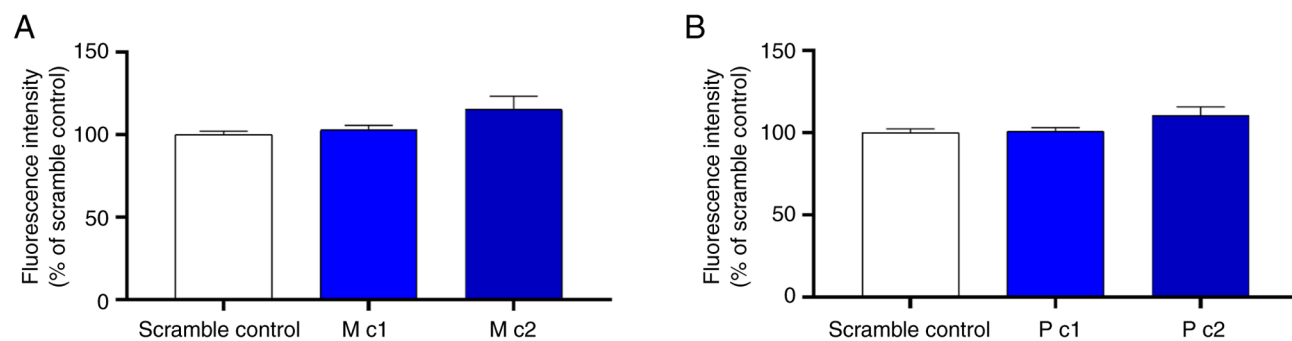


Figure S3. Cell clonogenic assay using (A) MIA Paca-2 and (B) PANC-1 cells with inhibition of MRP5. Cells were treated with 2.5, 5 and 10 nM of gemcitabine for 3 days, followed by incubation with drug-free medium for 7 days. The colony-forming potential of the MIA PaCa-2 and PANC-1 cells was investigated by a colony-formation assay after treatment with gemcitabine. After 3-day drug treatment and subsequent 7-day incubation with fresh medium, decreased colony formation in transfected MIA Paca-2 and PANC-1 cells was observed compared to the scrambled control. These results suggested that silencing of MRP5/ATP binding cassette C5 increased the gemcitabine sensitivity in pancreatic cancer cells. MRP5, multidrug resistance protein 5.

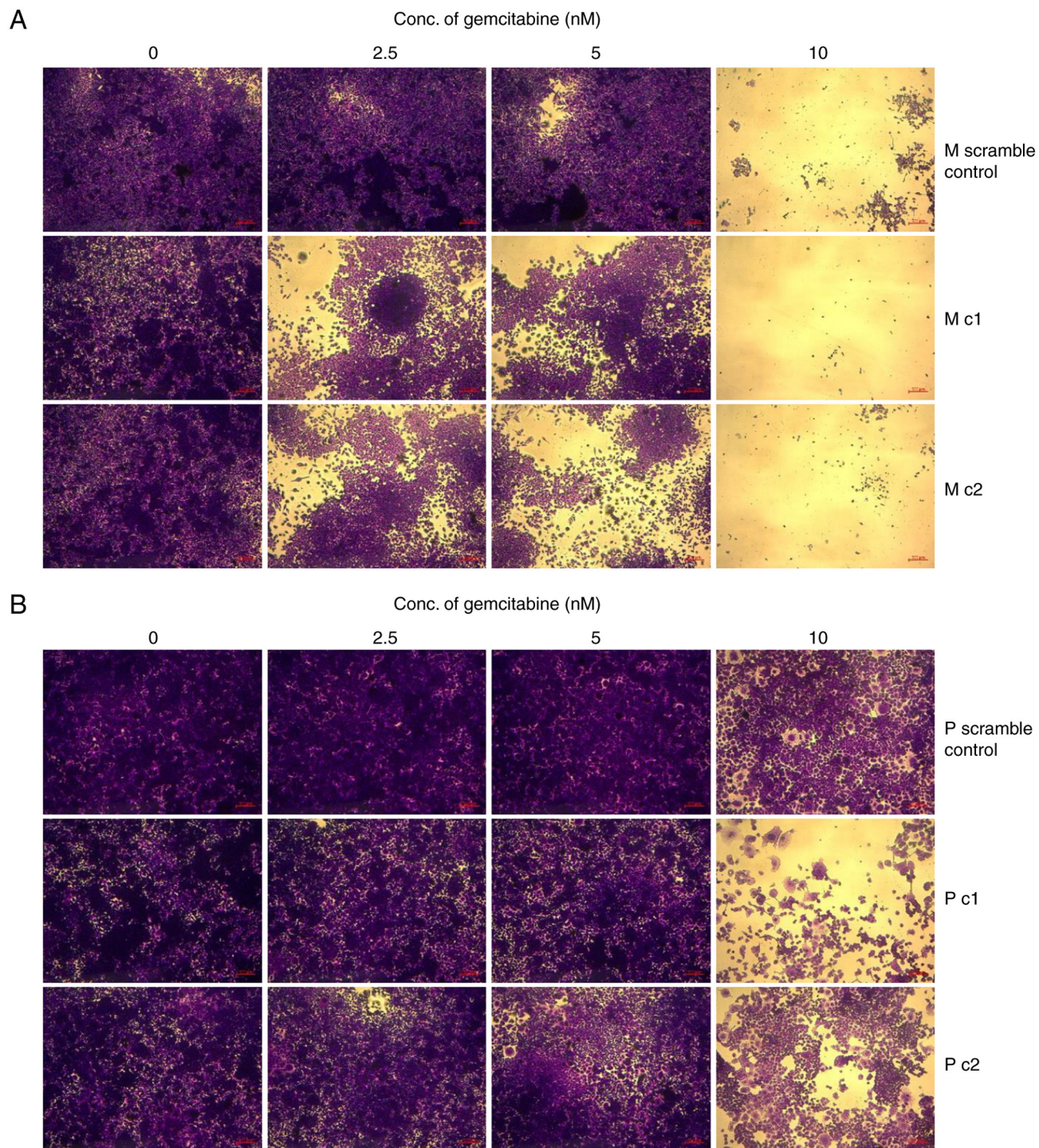


Figure S4. Representative olaparib-induced inhibition of growth of (A) MIA Paca-2 and (B) PANC-1 cells transduced with scrambled control and multidrug resistance protein 5-short-hairpin RNA. Cells were treated with olaparib (cat. no. S1060; Sapphire Bioscience) at various concentrations for 4 days. Values are expressed as the mean and standard deviation (n=3). Solid lines are non-linear regression fits [$Y=Bottom+(Top-Bottom)/(1+10^{(LogIC50-X)})$] to the data.

