

## Supplemental materials

**Table S1** Sequences of siRNAs against specific targets in this study.

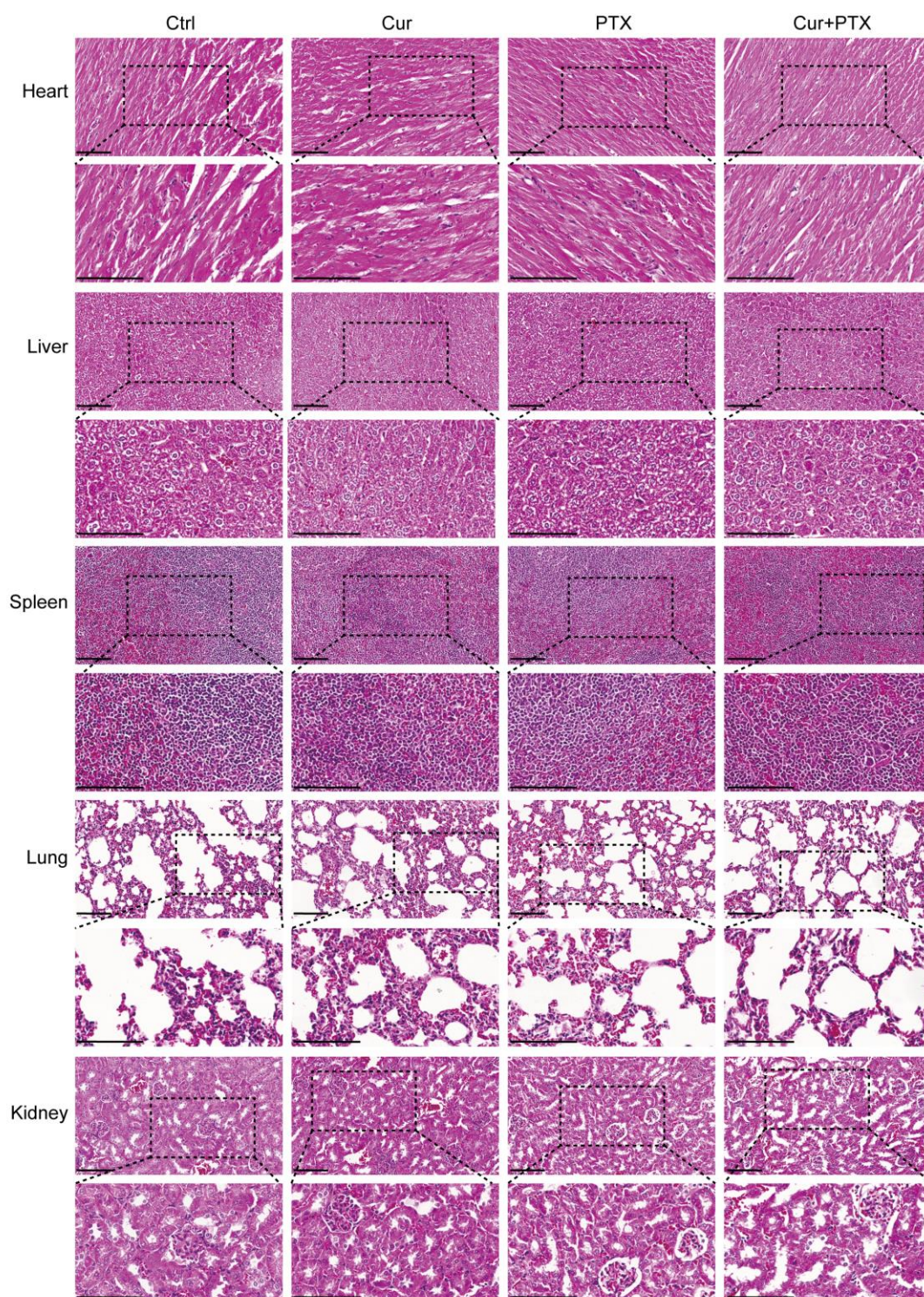
Item	Sequence	
BRCA1 siRNA#1	Sense (5'-3')	GGGAUCUGAUUCUUCUGAATT
	Antisense (5'-3')	UUCAGAAGAAUCAGAUCCCTT
BRCA1 siRNA#2	Sense (5'-3')	CACCACAUCACUUUAACUATT
	Antisense (5'-3')	UAGUAAAAGUGAUGUGGUGTT
si-NC	Sense (5'-3')	UUCUCCGAACGUGUCACGUTT
	Antisense (5'-3')	ACGUGACACGUUCGGAGAATT

**Table S2** Sequences of primers used for qRT-PCR in this study.

Item	Sequence	
BRCA1	Forward (5'-3')	ACCTTGGAAGTGTGAGAACTCT
	Reverse (5'-3')	TCTTGATCTCCCACTGCAATA
miR-9-5p	Forward (5'-3')	Designed by RiboBio (Guangzhou, China)
	RT (5'-3')	Designed by RiboBio (Guangzhou, China)
GAPDH	Forward (5'-3')	TCACCACCATGGAGAAGGC
	Reverse (5'-3')	GCTAAGCAGTTGGTGGTGCA
U6	Forward (5'-3')	CTCGCTTCGGCAGCACA
	RT (5'-3')	AACGCTTCACGAATTTGCGT

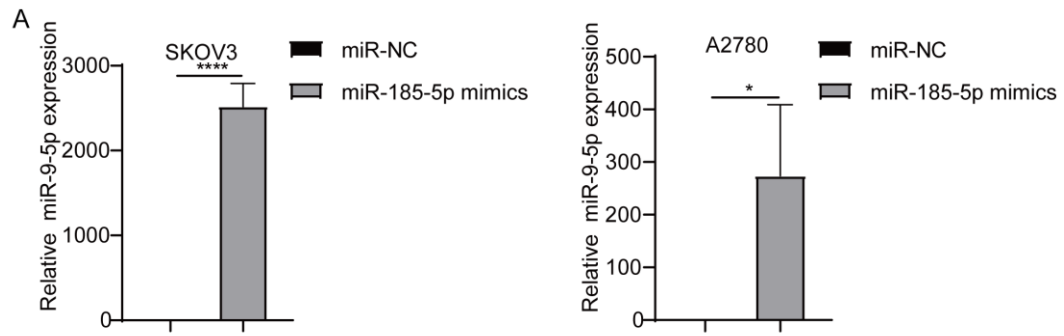
**Table S3** Antibodies used in this study.

Antigens	Manufacturer	Application
BRCA1	Santa Cruz, USA	1:200 for WB
Bax	Abcam, USA	1:1000 for WB
Bcl-2	Santa Cruz, USA	1:200 for WB
GAPDH	Diagbio, China	1:1000 for WB



**Figure S1. related to Figure 2.**

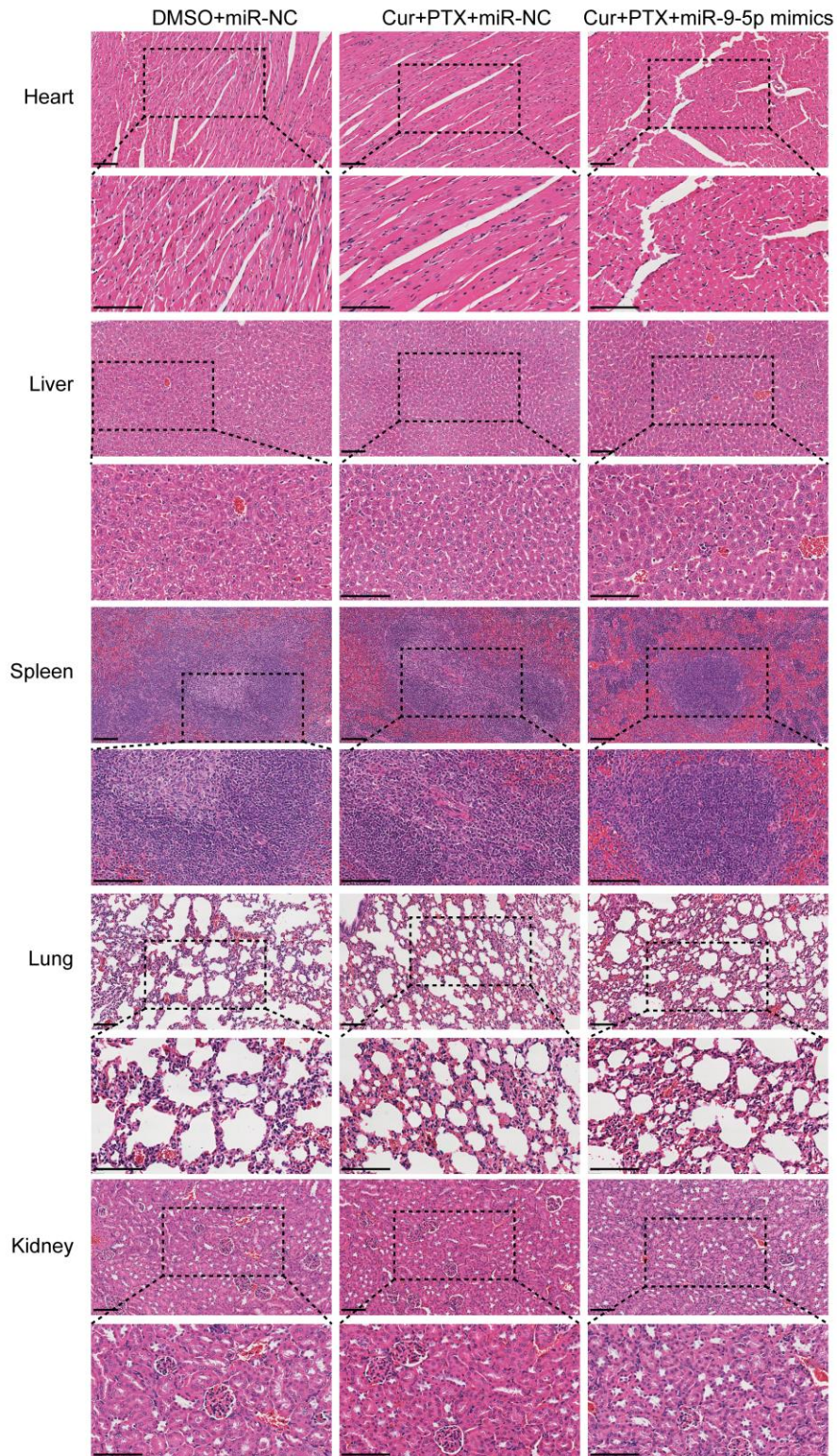
H&E staining images of major organs (heart, liver, spleen, lung and kidney) from mice after different treatments (Scale bar = 100  $\mu$ m).



**Figure S2. related to Figure 3.**

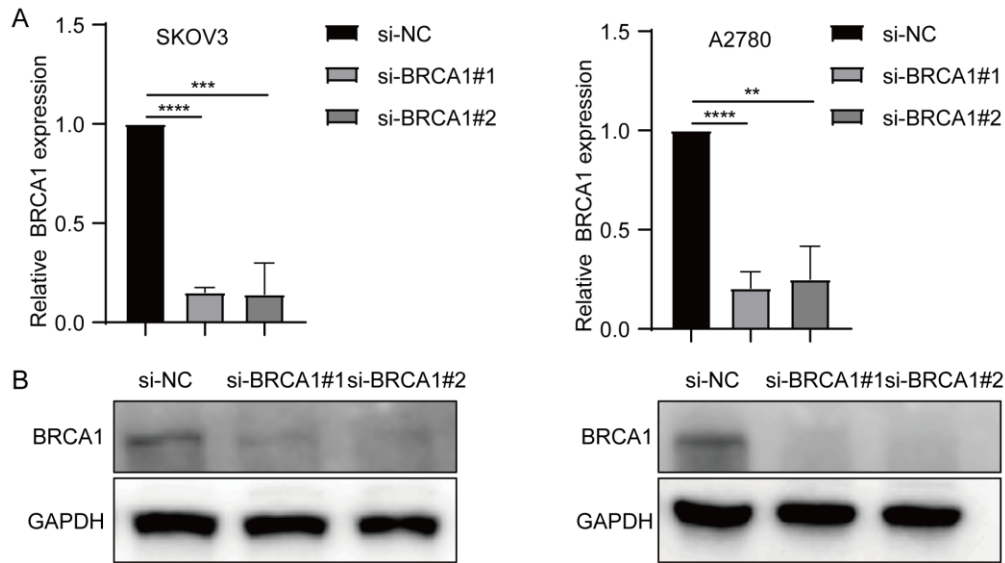
The relative expression levels of miR-9-5p were detected by qRT-PCR in SKOV3 and A2780 cells transfected with miR-9-5p mimics or miR-NC.





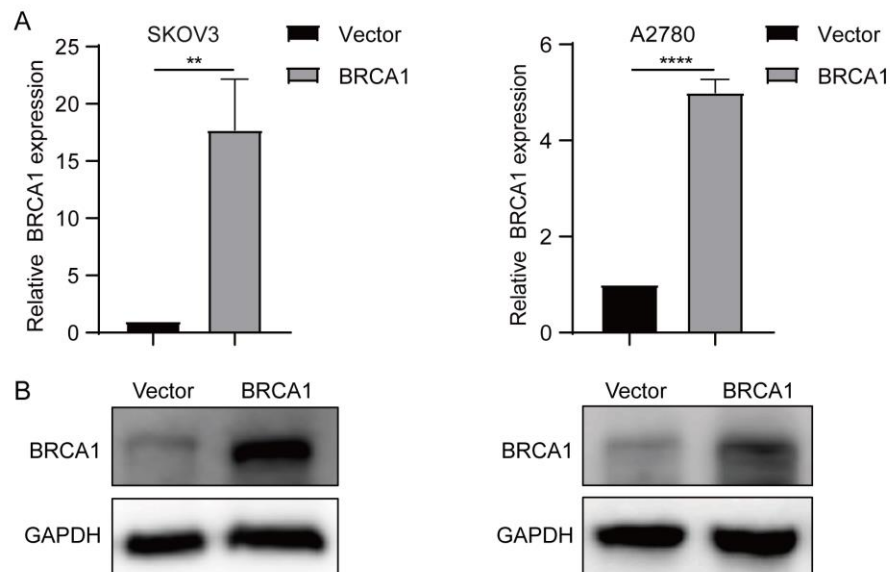
**Figure S3. related to Figure 4.**

H&E staining images of major organs (heart, liver, spleen, lung and kidney) from mice after different treatments (Scale bar = 100  $\mu$ m).



**Figure S4. related to Figure 5.**

**A-B** The relative levels of BRCA1 mRNA (**A**) and protein (**B**) expression in SKOV3 and A2780 cells transfected with si-BRCA1#1, si-BRCA1#2 or si-NC were detected by qRT-PCR and Western blotting, respectively.



**Figure S5. related to Figure 6.**

**A-B** The relative levels of BRCA1 mRNA (**A**) and protein (**B**) expression in SKOV3 and A2780 cells transfected with BRCA1 plasmids or vector were detected by qRT-PCR and Western blotting, respectively.

Data are representative of at least three independent experiments and presented as the mean  $\pm$  SD. \*p < 0.05, \*\*p < 0.01, \*\*\*p < 0.001, \*\*\*\*p < 0.0001.