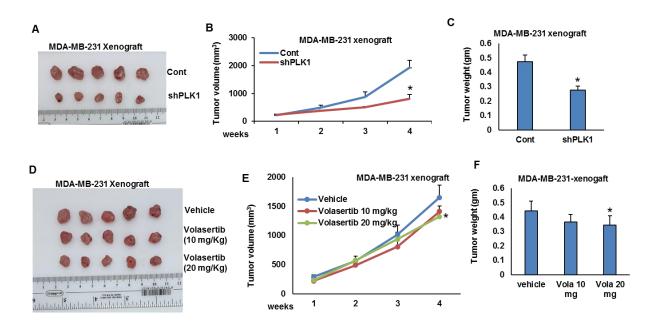
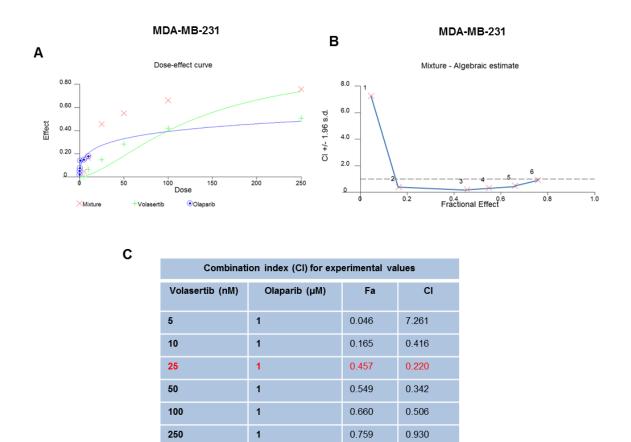
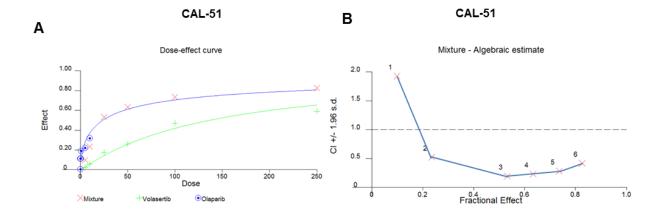
## **Supplementary materials**



**Supplementary Figure 1**. Inhibition of PLK1 delays TNBC tumor growth in vivo. (A-C) Knockdown of PLK1 in MDA-MB-231 cells delayed tumor growth in vivo. PLK1 knockdown MDA-MB-231 cells and their control cells were subcutaneously injected into the flanks of 6-week old nude mice ( $4 \times 10^6$  cells per mouse). (B) The volume of each tumor was measured every week. The average (n = 5) tumor volume ( $\pm$  SD) in each group of mice was calculated, \*p < 0.05. (C) After four weeks, mice were sacrificed and mean tumor weight ( $\pm$  SD) was calculated in each group, \*p < 0.05. (D-F) Volasertib inhibits TNBC tumor growth in vivo. MDA-MB-231 cells were subcutaneously injected into the flanks of 6-week old nude mice ( $4 \times 10^6$  cells per mouse). After tumors grew to about 100 mm³, mice were treated intraperitoneally with indicated dose of volasertib, twice a week for 30 days. (D) Representative tumor images of each group of mice. (E) The volume of each tumor was measured every week. The average (n = 5) tumor volume ( $\pm$  SD) in each group of mice was calculated, \*p < 0.05. (F) After four weeks treatment, mice were sacrificed and mean tumor weight ( $\pm$  SD) was calculated in each group, \*p < 0.05.

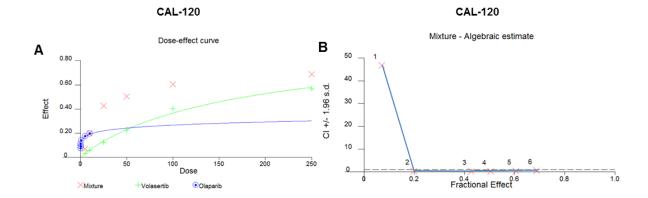


**Supplementary Figure 2.** Synergistic inhibition of cell viability by olaparib and volasertib in MDA-MB-231 cells. MDA-MB-231 cells were treated with various combinations of volasertib and olaparib for 48 h and dose effect (A) and Fractional effect (B) graphs were generated using Calcusyn software. (C) Combination Index (CI) were calculated using Chou and Talalay method.



С	Combination index (CI) for experimental values				
	Volasertib (nM)	Olaparib (µM)	Fa	CI	
	5	1	0.099	1.927	
	10	1	0.235	0.523	
	25	1	0.532	0.196	
	50	1	0.633	0.235	
	100	1	0.735	0.285	
	250	1	0.825	0.422	

**Supplementary Figure 3.** Synergistic inhibition of cell viability by olaparib and volasertib in CAL-51 cells. CAL-51 cells were treated with various combinations of volasertib and olaparib for 48 h and dose effect (A) and Fractional effect (B) graphs were generated using Calcusyn software. (C) Combination Index (CI) were calculated using Chou and Talalay method.



С	Combination index (CI) for experimental values				
	Volasertib (nM)	Olaparib (μM)	Fa	CI	
	5	1	0.070	46.74	
	10	1	0.199	0.321	
	25	1	0.427	0.192	
	50	1	0.506	0.274	
	100	1	0.605	0.358	
	250	1	0.689	0.607	

**Supplementary Figure 4.** Synergistic inhibition of cell viability by olaparib and volasertib in CAL-120 cells. Cal-120 cells were treated with various combinations of volasertib and olaparib for 48 h and dose effect (A) and Fractional effect (B) graphs were generated using Calcusyn software. (C) Combination Index (CI) were calculated using Chou and Talalay method.