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A NIR-light activated nanoplatform for sensitizing triple negative breast cancer against therapeutic resistance to enhance treatment effect

Xiaojing Sun, Yi Jin, Hao Wang, Na Feng, Zhenhua Li, Dandan Liu, Kun Ge, Huifang Liu, Jinchao Zhang, Xinjian Yang**

Table S1

Name of the sequence	Sequences (5'-3')
Survivin DNAzyme	5'-CCTCGGCCAGGCTAGCTACAACGACCGCTCCGG-3'
	(5'-amino)
Survivin Primer	5'-GACCACCGCATCTCTACATTC-3'(upstream primer)
	5'-TGCTTTTTATGTTCCTCTATGGG-3'(downstream primers)
GAPDH Primer	5'-AAGAAGGTGGTGAAGCAGGC-3'(upstream primer)
	5'-GTCAAAGGTGGAGGAGTGGG-3'(downstream primers)
Substrate mRNA	5'-FAM-GGAGCGGrArUGGCCGA-BHQ-3'

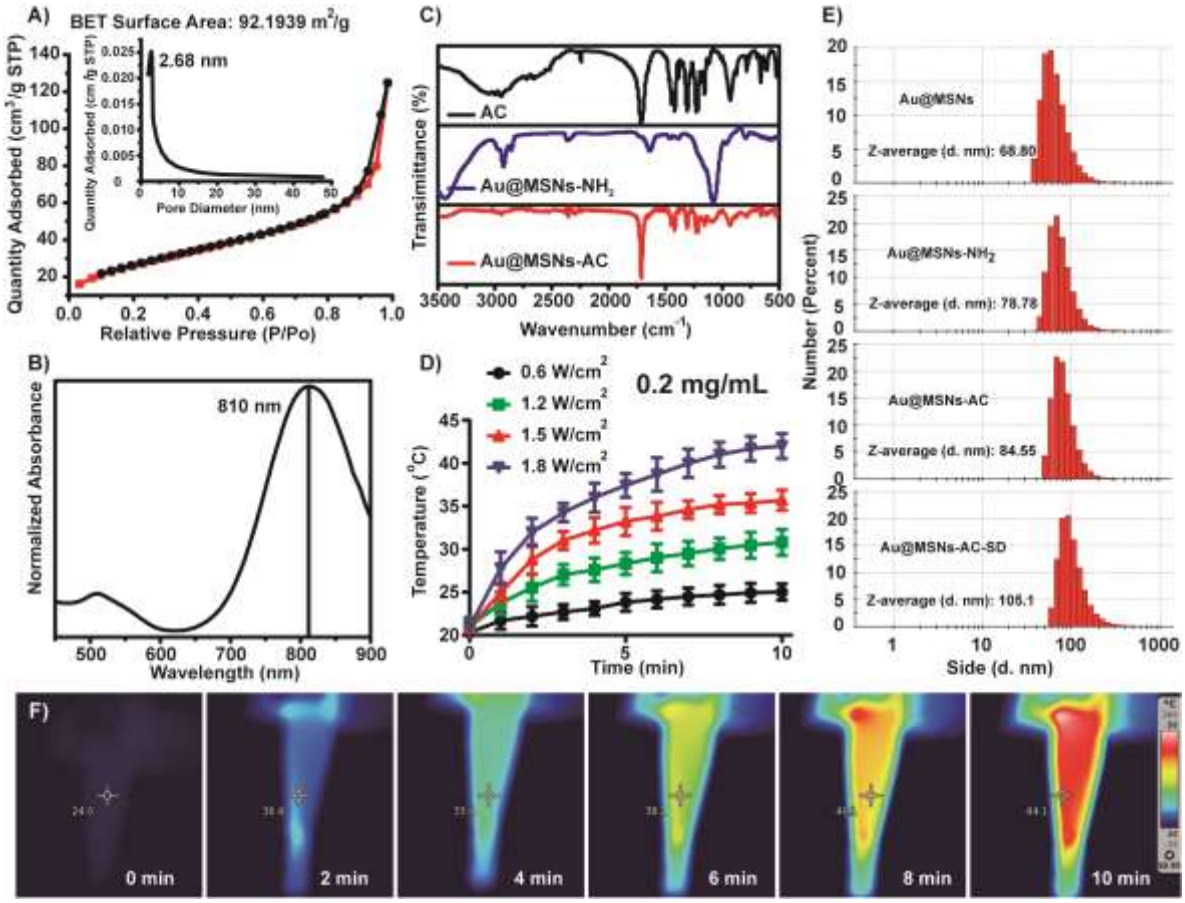

Fig. S1. (A) N_2 sorption isotherms of Au@MSNs. (B) UV-Visible spectra of the Au@MSNs. (C) FT-IR spectra of AC, Au@MSNs-NH_2, and Au@MSNs-AC. (D) Temperature changes of 0.2 mg/mL nanocarriers at different power densities. (E) DLS of Au@MSNs, Au@MSNs-NH_2, Au@MSNs-AC, and Au@MSNs-AC-SD. (F) Thermographic images of Au@MSNs-AC aqueous soli

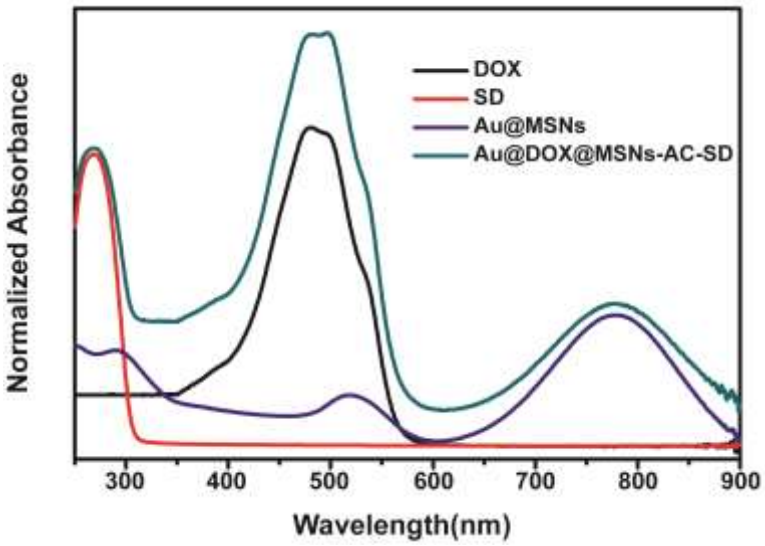

Fig. S2. UV-visible spectra of the DOX, SD, Au@MSNs and Au@DOX@MSNs-AC-SD.

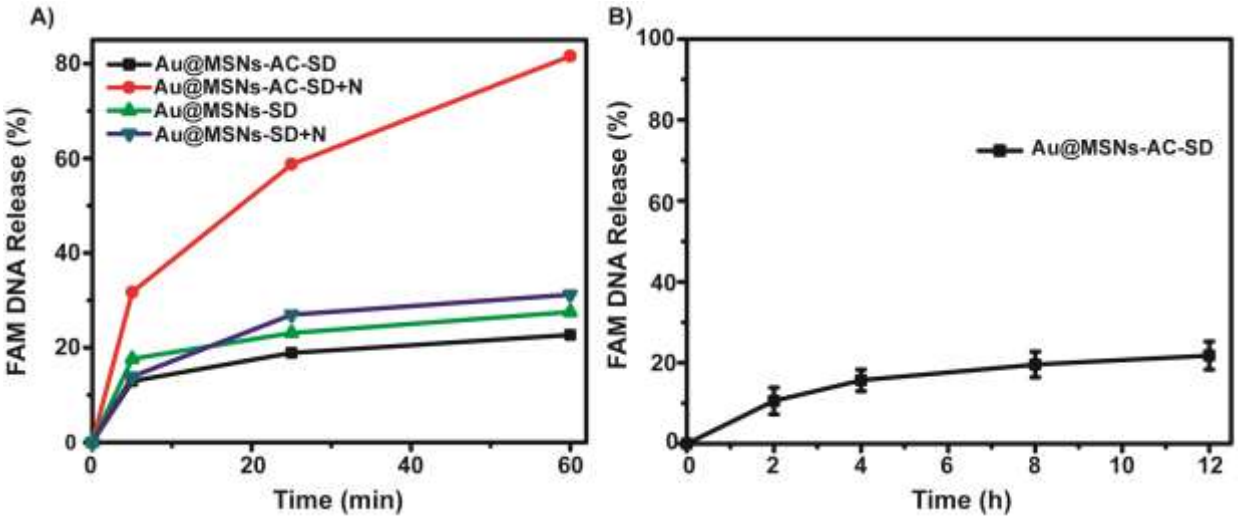

Fig. S3. (A)Release of survivin DNAzyme. (B) Release of survivin DNAzyme in DMEM with FBS.

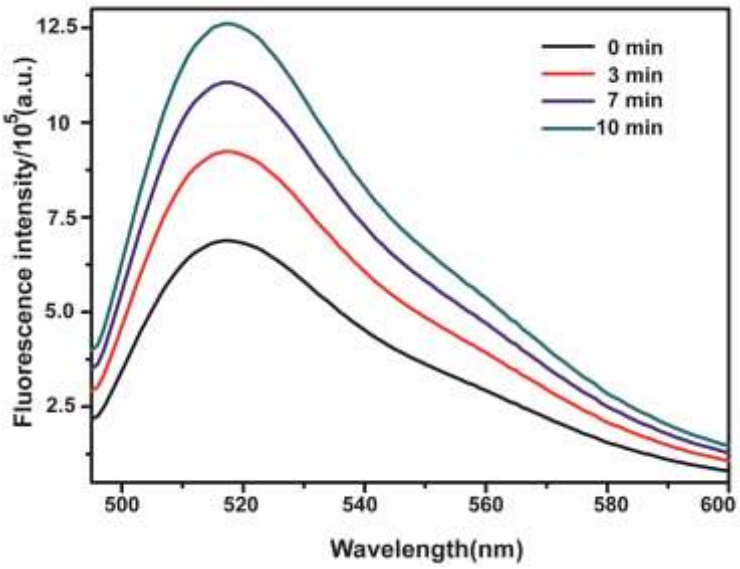

Fig.S4. Fluorescence recovery of substrate mRNA by the released DNAzyme after light irradiation.

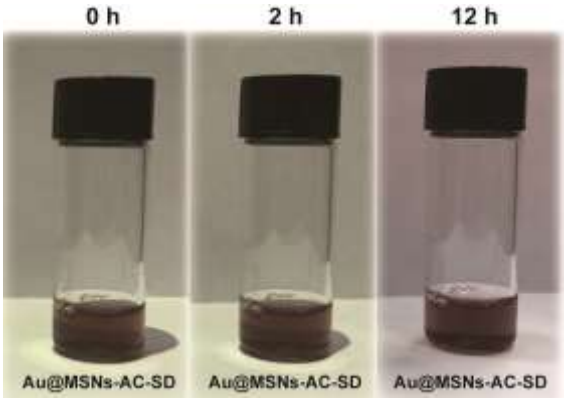

Fig. S5. Photographs indicating the stability of Au@MSNs-AC-SD in PBS at 0, 2, 12 h.

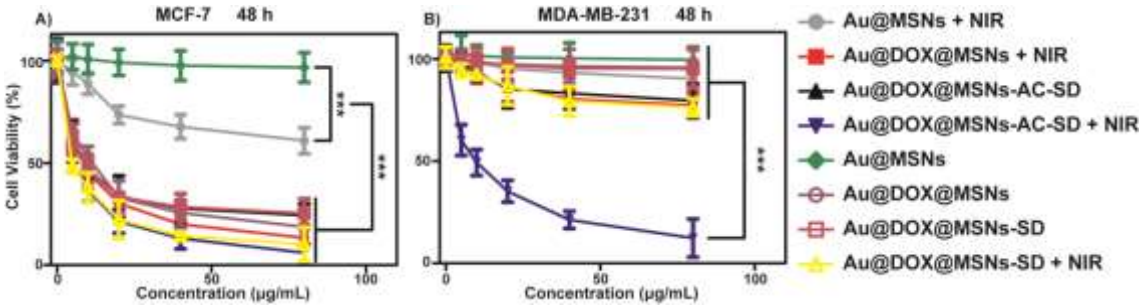

Fig. S6. Cell viability of MCF-7 cells (A) and MDA-MB-231 cells (B) incubated with various drug formulations for 48 h. ***p < 0.001 vs Blank.

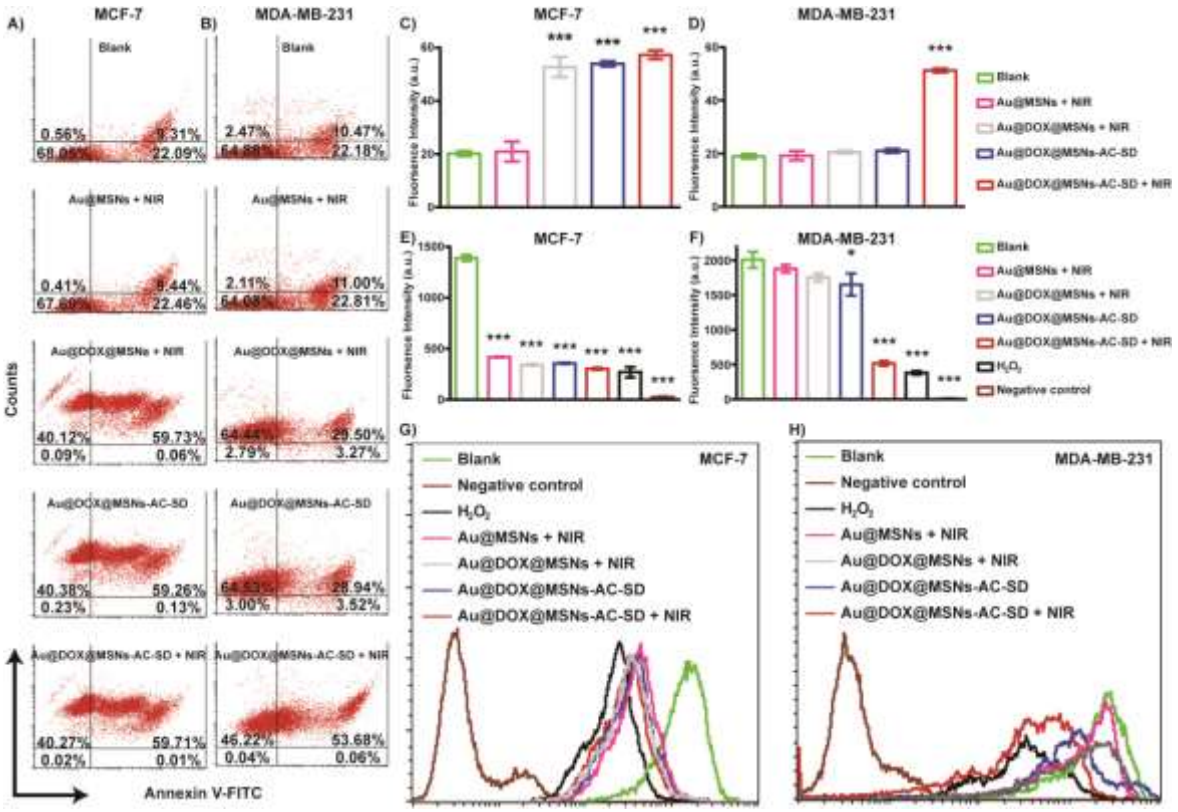

Fig. S7. Cancer cells inhibiting effect. Flow cytometric quantification of apoptotic Annexin V-FITC stained MCF-7 cells (A and C) and MDA-MB-231 cells (B and D) after incubation with various drug formulations for 24 h. Flow cytometric quantification of Rh123 stained MCF-7 cells (E and G) and MDA-MB-231 cells (F and H) after incubation with various drug formulations for 24 h. *p < 0.05, ***p < 0.001 vs Blank

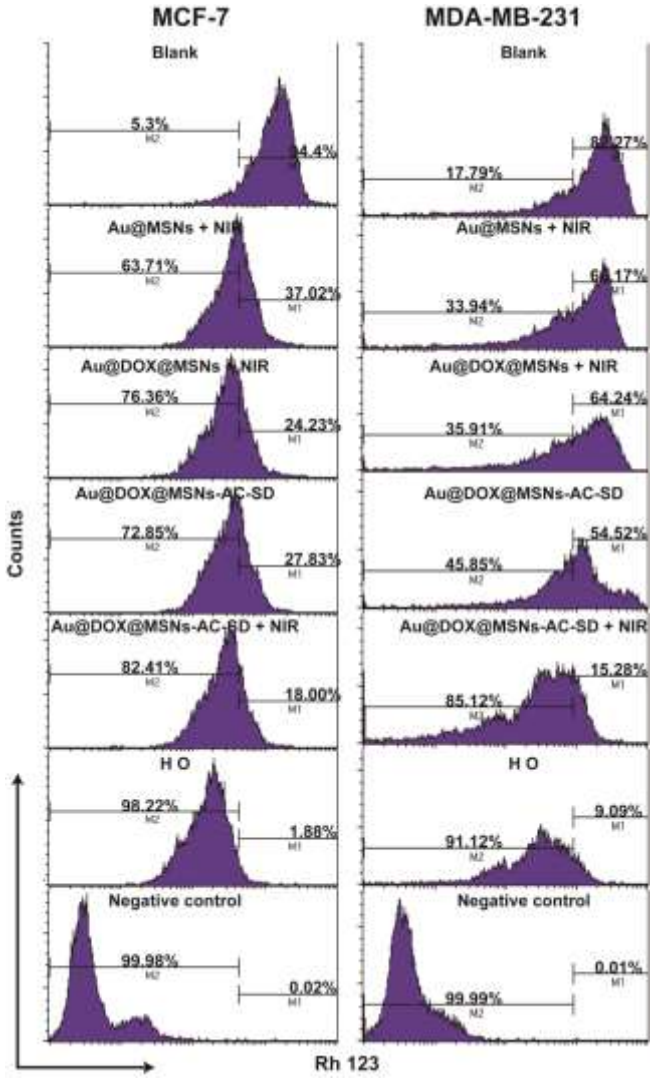

Fig. S8. Histogram of flow cytometric quantification of apoptotic Rh123 stained MCF-7 cells and MDA-MB-231 cells after incubation with various drug formulations for 24 h.

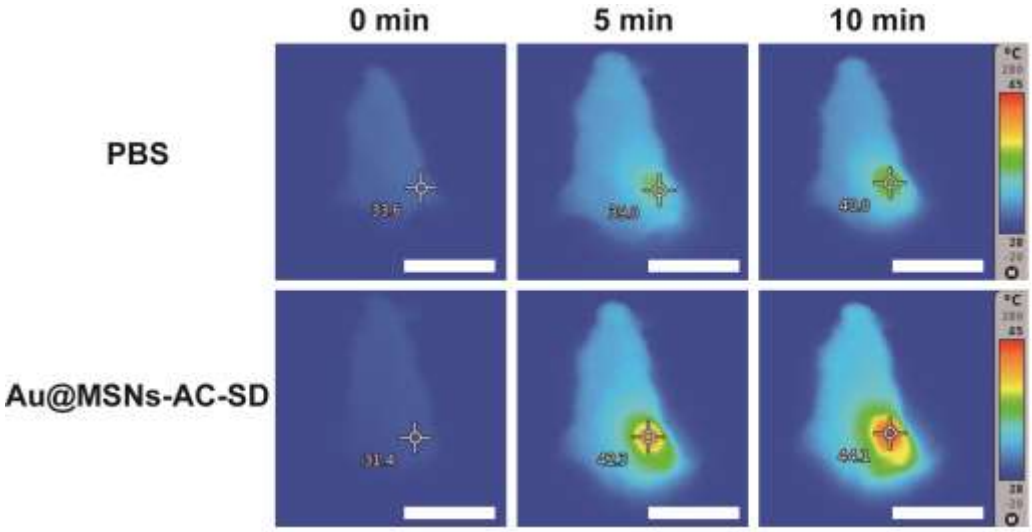

Fig. S9. Thermographs of mice taken at the end of NIR irradiation at 4 h post-injection.(Scale bar is 5 cm)

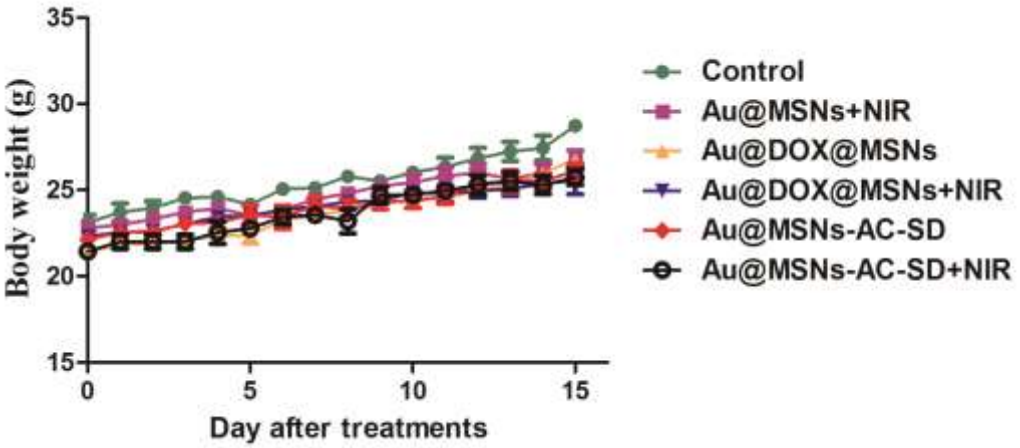

Fig. S10. Mean body weight of the mice.

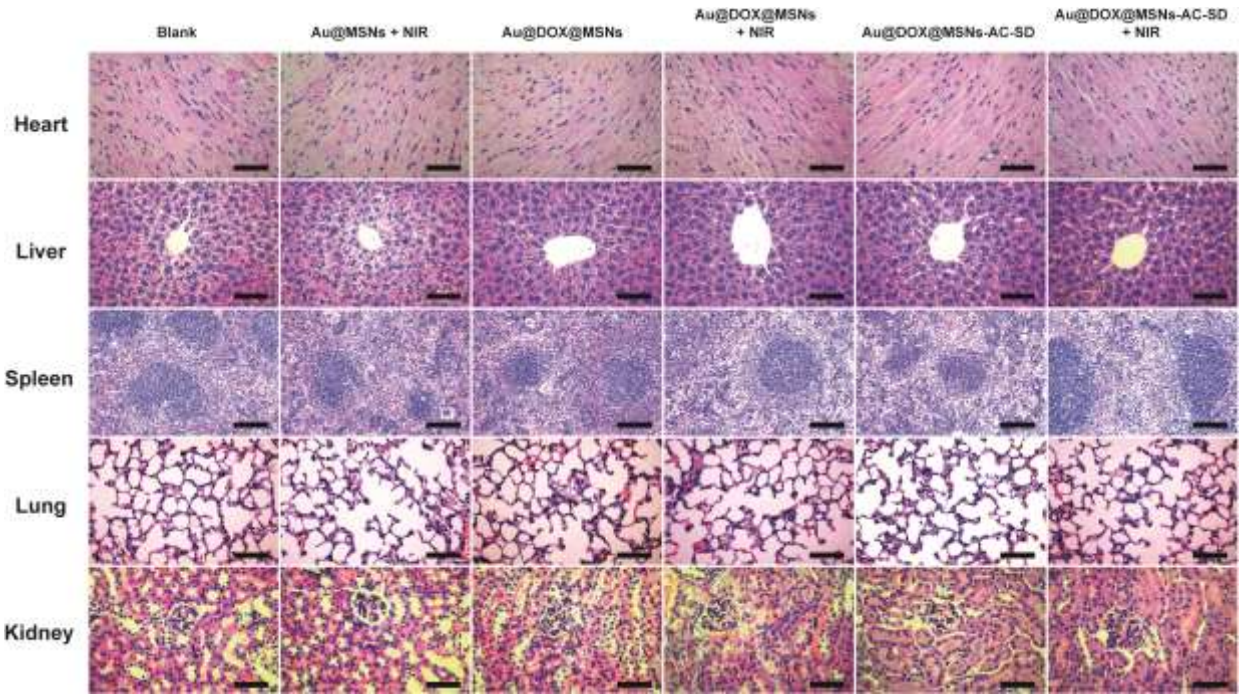

Fig. S11. Representative H&E sections of various organs of tumor-bearing NU/NU nude mice after treated with various drug formulations. The tissue sections were 5 μm thick. Scale bar is 100 μm. (scale bar of Spleen: 50 μm) No obvious morphological differences were observed among these groups.