

Supplementary materials

Erythrocyte membrane camouflaged Prussian blue nanocomplexes for combinational therapy of triple negative breast cancer

Simin Chen^{a#}, Jialong Fan^{a#}, Feng Xiao^a, Yan Qin^{a,c}, Ying Long^a, Liqin Yuan^{b*}, Bin Liu^{a*}

^a College of Biology, Hunan University, Changsha, 410082, China

^b Department of General Surgery, Department of Burn and Plastic Surgery, The Second Xiangya Hospital, Central South University, Changsha, Hunan, 410011, P.R. China

^c TCM and Ethnomedicine Innovation & Development International Laboratory, School of Pharmacy, Hunan University of Chinese Medicine, Changsha, Hunan, 410208, P.R. China

* To whom correspondence should be addressed. Tel: +86-731-89720939; Fax: +86-731-89720939.

*Corresponding authors. E-mail: binliu2001@hotmail.com (B Liu); yuanliqin@csu.edu.cn (L. Yuan)

#These authors contributed equally to this work.

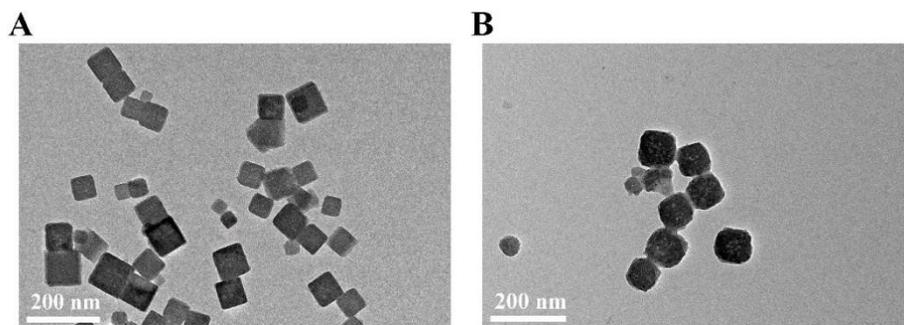


Fig.S1 TEM images of PB NPs and PM NPs. (A) and (B) TEM images of PB NPs and PM NPs under low magnification.

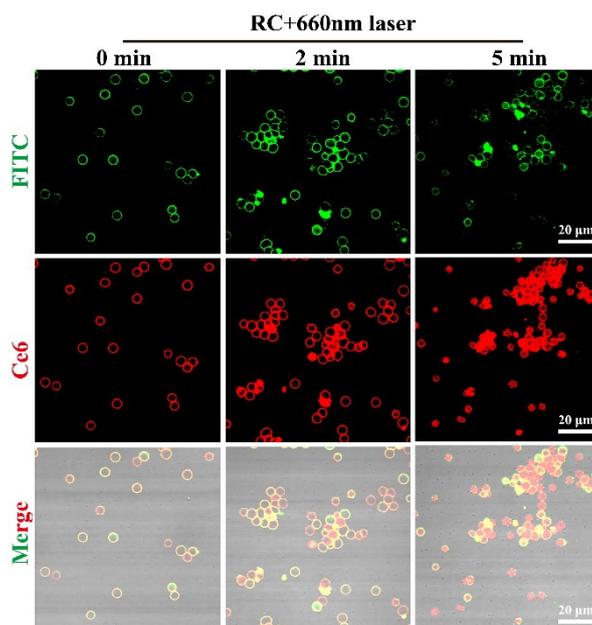


Fig.S2 Characterization of RC. Co-localized fluorescence imaging of Ce6 and FITC-labeled erythrocyte membrane and the effects of laser exposure time on the structural alteration of cell membrane (100 mW/cm²).

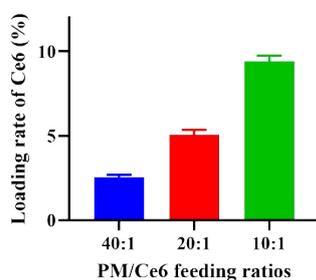


Fig.S3 Loading rate of Ce6. Ce6 loading efficiency of RC when the Ce6 concentration was 0.025, 0.05, 0.1, mg/mL, respectively.

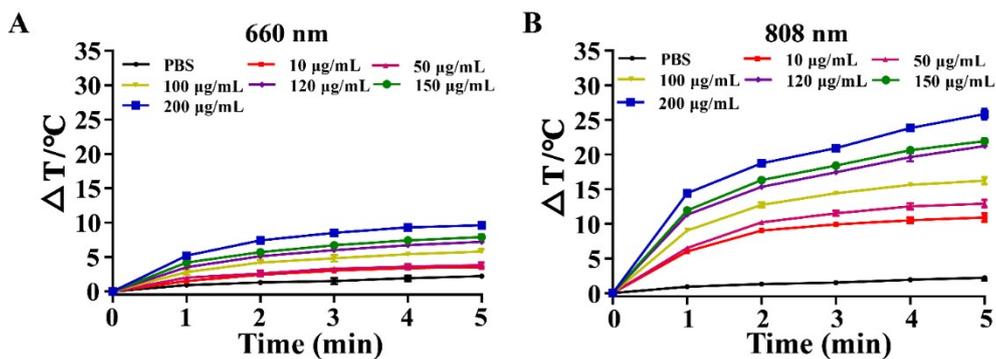


Fig.S4 Temperature variation of PMPCR NPs under laser irradiation. (A) and (B): The temperature curves of PMPCR NPs with 660 nm or 808 nm laser irradiation.

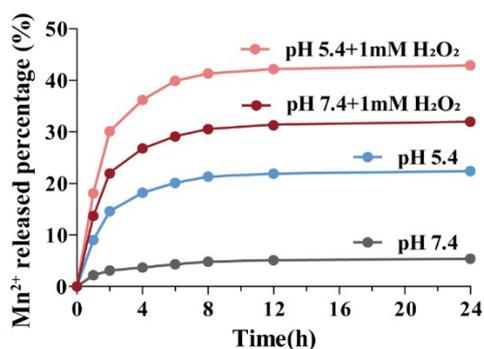


Fig.S5 Mn²⁺ release behavior. Released amount of Mn²⁺ from PMPCR NPs in PBS at pH7.4 or pH5.4 with or without H₂O₂ (1 mM) in the presence of GSH (2 mM).

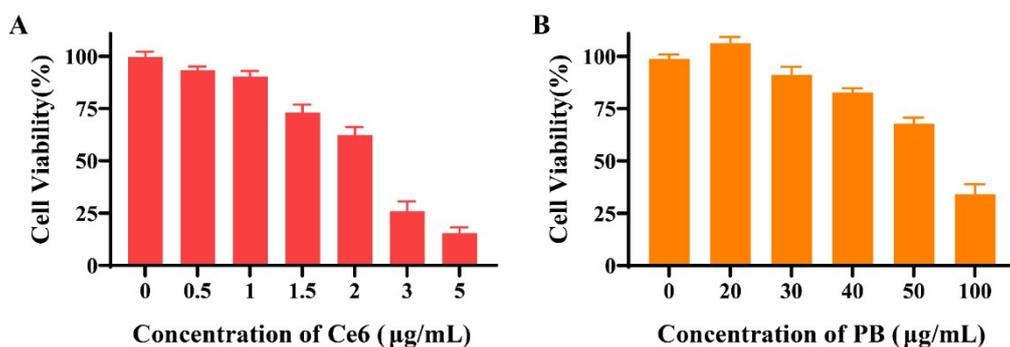


Fig.S6 In vitro cytotoxicity of Ce6 and PB NPs with different concentrations. (A) MTT assay of 4T1 cells after treatment with Ce6 for 24 h. (B) MTT assay of 4T1 cells after treatment with PB NPs for 24 h. 6 h later, the cells were subjected to dual laser irradiation (660 nm, 100 mW/cm²; 808 nm, 1 W/cm²) for 5 min. PBS was used as the negative control.

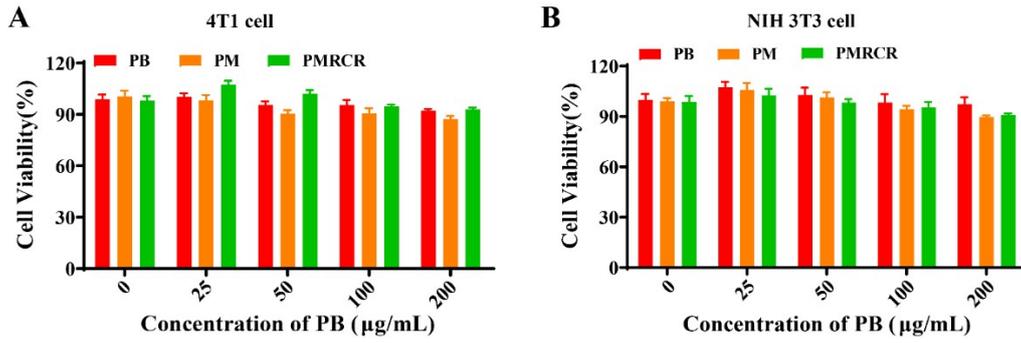


Fig.S7. Cytotoxicity analysis of PMRCR NPs. (A and B) Viability of 4T1 and NIH3T3 cells treated with PB NPs, PM NPs, or PMRCR NPs for 24 h (n=3).

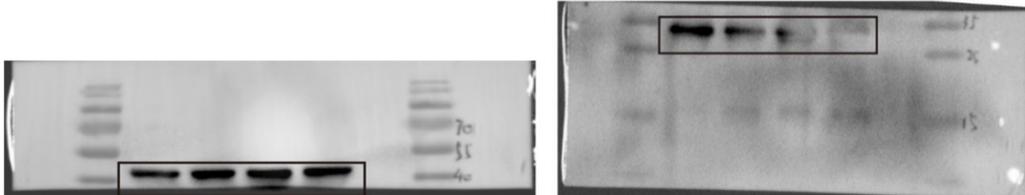
Full uncropped Western blots in Supporting Information

Fig.4E

Membrane-1

β-actin

P-Caspase-3



Membrane-1

β-actin

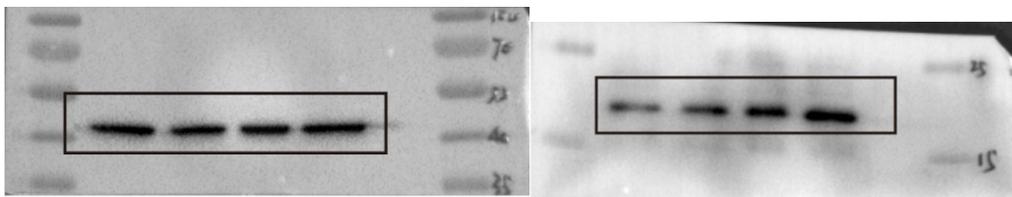
Bcl-2

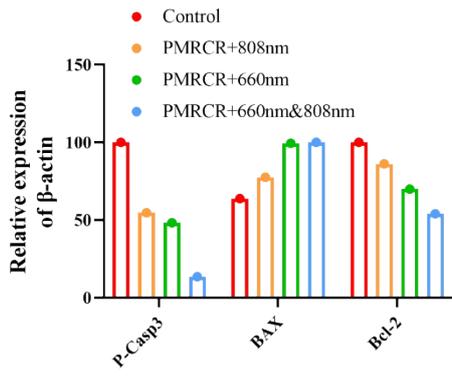


Membrane-1

β-actin

BAX





The relative analysis of above protein.