

Supporting Information

Boosted photo-immunotherapy via near-infrared light excited phototherapy in tumor site and photo-activation in sentinel lymph

Chen Wang¹, Bobo Gu,^{1*} Shuhong Qi,^{2,3*} Siyi Hu, ^{4*} Yu Wang,^{5*}

1. Med-X Research Institute & School of Biomedical Engineering, Shanghai Jiao Tong University, 1954 Huashan Road, Shanghai 200030, China. E-mail: bobogu@sjtu.edu.cn

2. Britton Chance Center for Biomedical Photonics, Wuhan National Laboratory for Optoelectronics-Huazhong University of Science and Technology, Wuhan, Hubei 430074, China

3. MoE Key Laboratory for Biomedical Photonics, School of Engineering Sciences, Huazhong University of Science and Technology, Wuhan, Hubei 430074, China. E-mail: qishuhong@hust.edu.cn

4. CAS Key Laboratory of Bio-Medical Diagnostics, Suzhou Institute of Biomedical Engineering and Technology, Chinese Academy of Sciences, Suzhou 215163, China. E-mail: hусiyi@sibet.ac.cn

5. Department of Gynecology, Shanghai First Maternity and Infant Hospital, School of Medicine, Tongji University, Shanghai 200092, China. E-mail: renjiwangyu@126.com

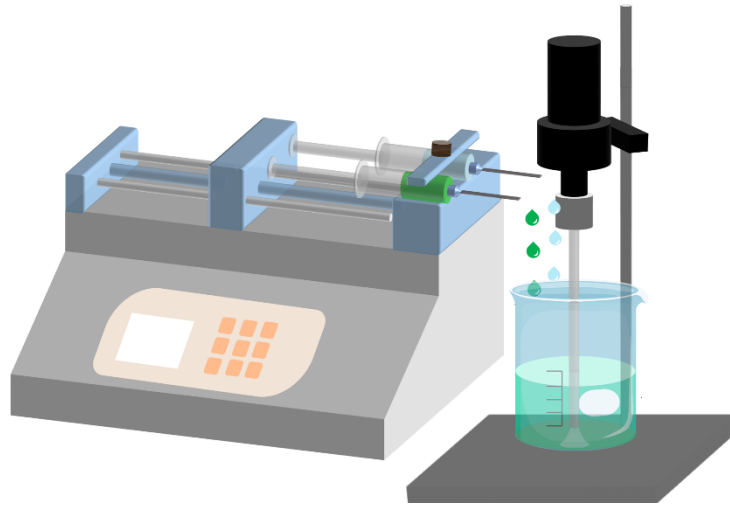


Fig. S1. Schematic illustration of ICG nanoparticles synthesis process.

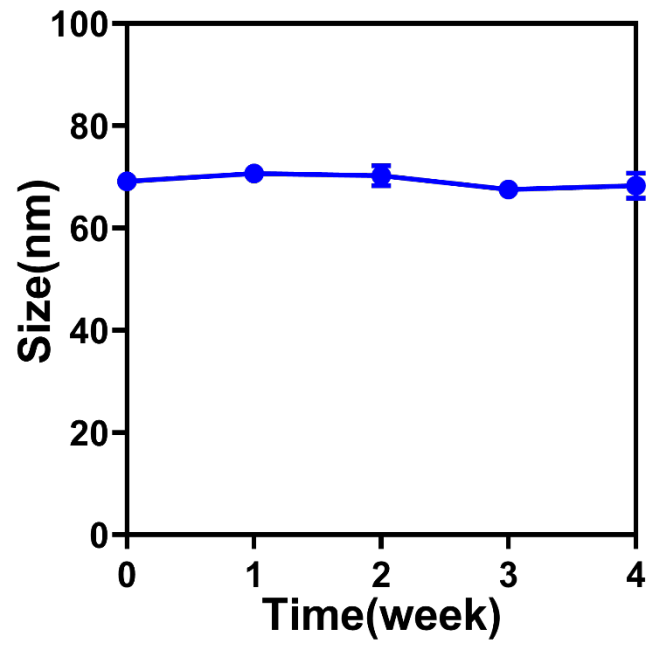


Fig. S2. Long-term stability of ICG NPs.

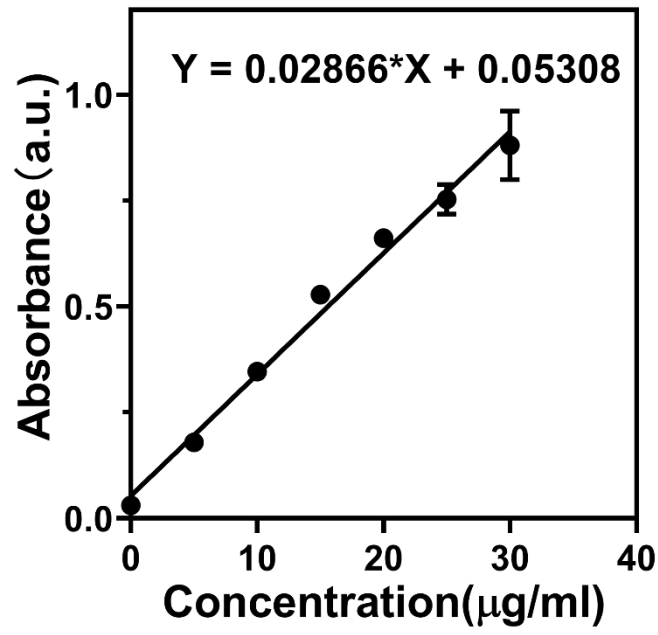


Fig. S3. The relationship between concentration and absorption of ICG.

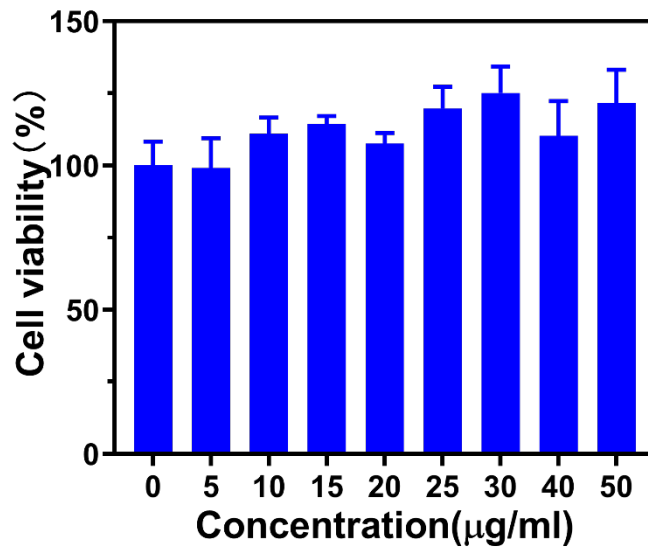


Fig. S4. The cellular viability of 4T1 cells under dark conditions

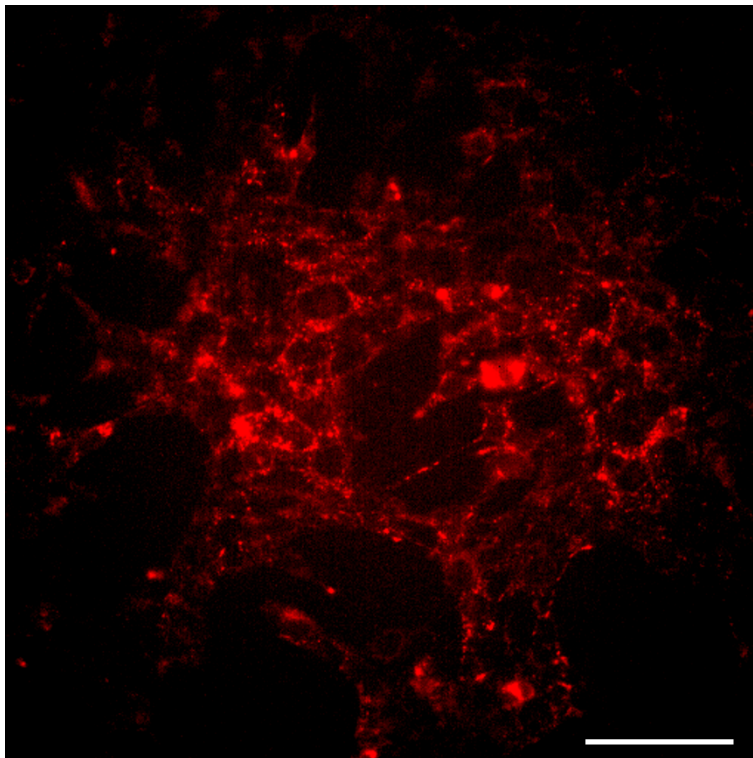


Fig. S5. Fluorescence imaging of ICG NPs treated 4T1 cells. Ex: 808 nm, Em: 1000-1700 nm. [ICG]= 50 $\mu\text{g}/\text{mL}$. Scale bar: 100 μm .

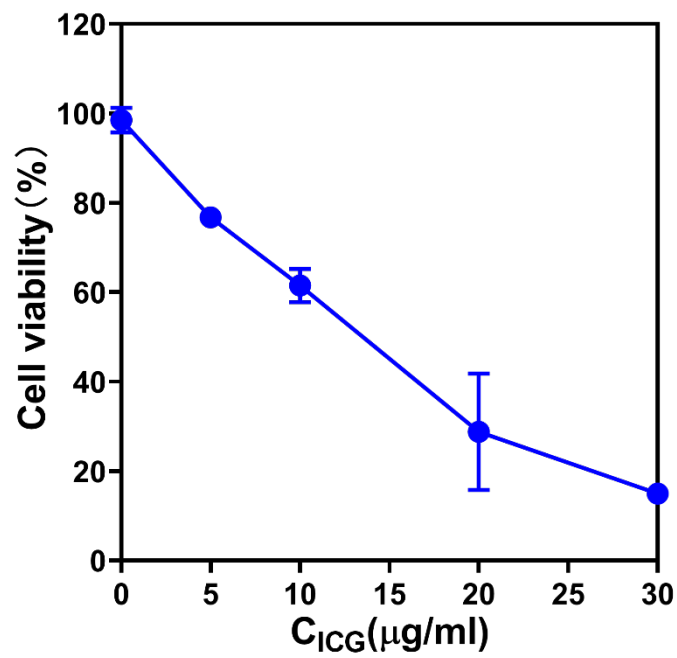


Fig. S6. IC_{50} value study of ICG concentration under laser irradiation (808 nm, 1 W/cm^2) for 10 min.

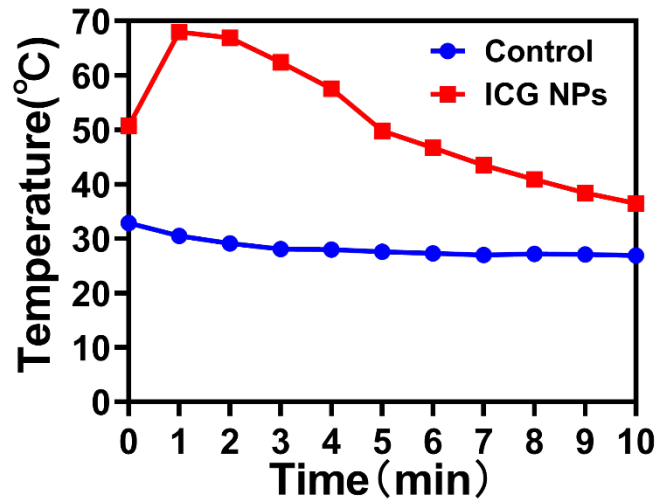


Fig. S7. Temperature change curves of 4T1 cells and ICG NPs treated 4T1 cells under laser irradiation (808 nm, 1 W/cm²) for 10 min. [ICG]=50 µg/mL.

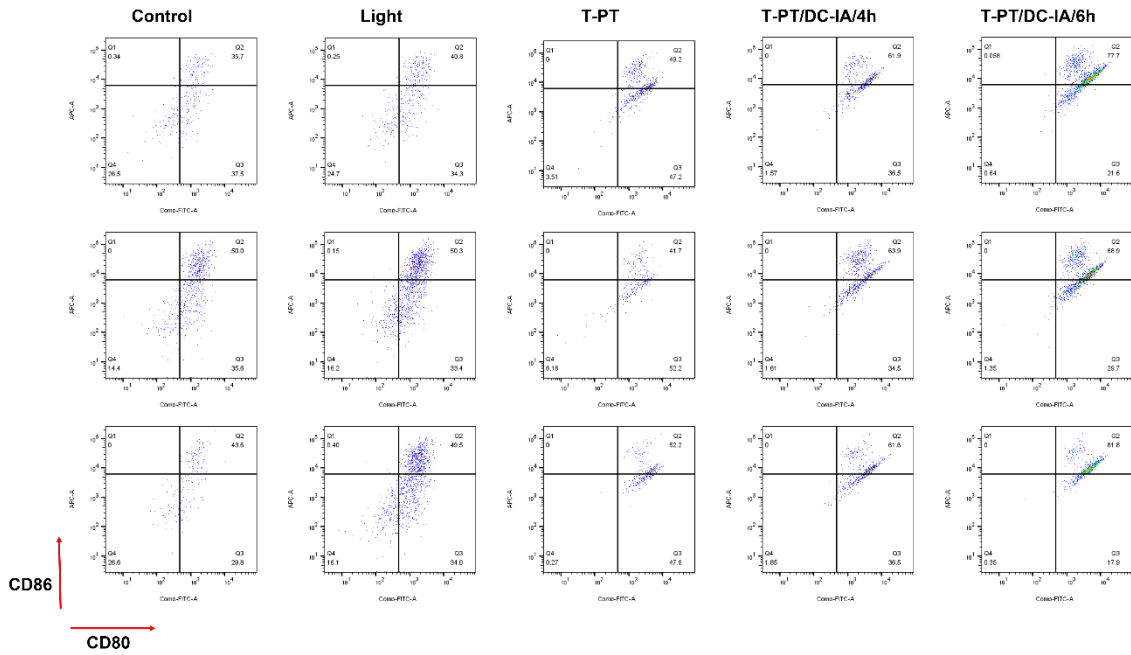


Fig. S8. FACS plots of activated CD80⁺ and CD86⁺ BMDCs with different treatments.

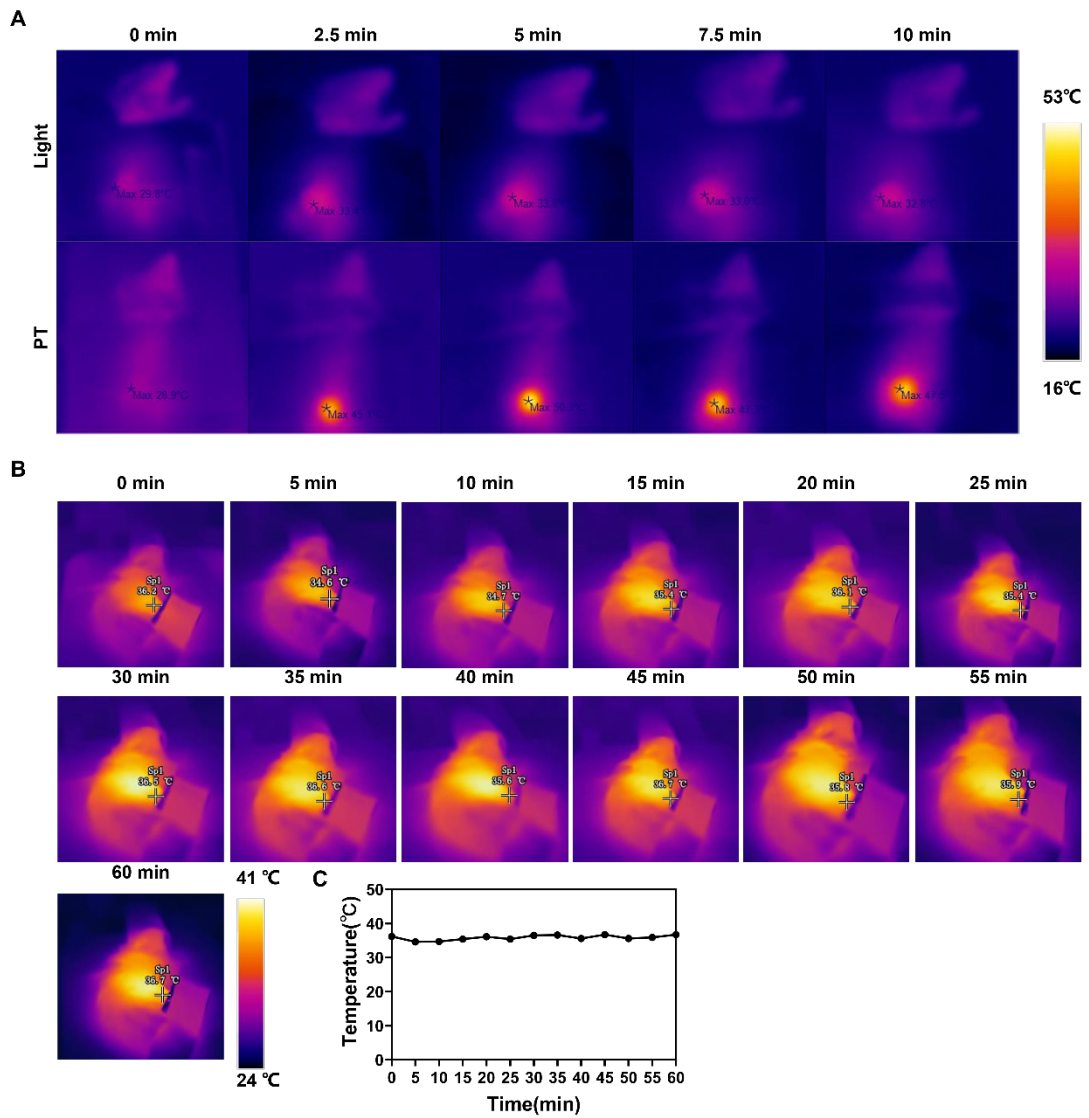


Fig. S9. Temperature measurements during laser irradiation (A) Time-sequenced infrared thermographic maps of mice treated with/out ICG NPs under laser irradiation (808 nm, 1 W/cm²). [ICG]=50 µg/mL. (B) Time-sequenced infrared thermograms of sentinel lymph node of the mice injected with ICG NPs under laser irradiation (808 nm, 1 W/cm²). [ICG]=50 µg/mL. (C) Temperature variation during the photo-activation at sentinel lymph node.