

### Supplementary information

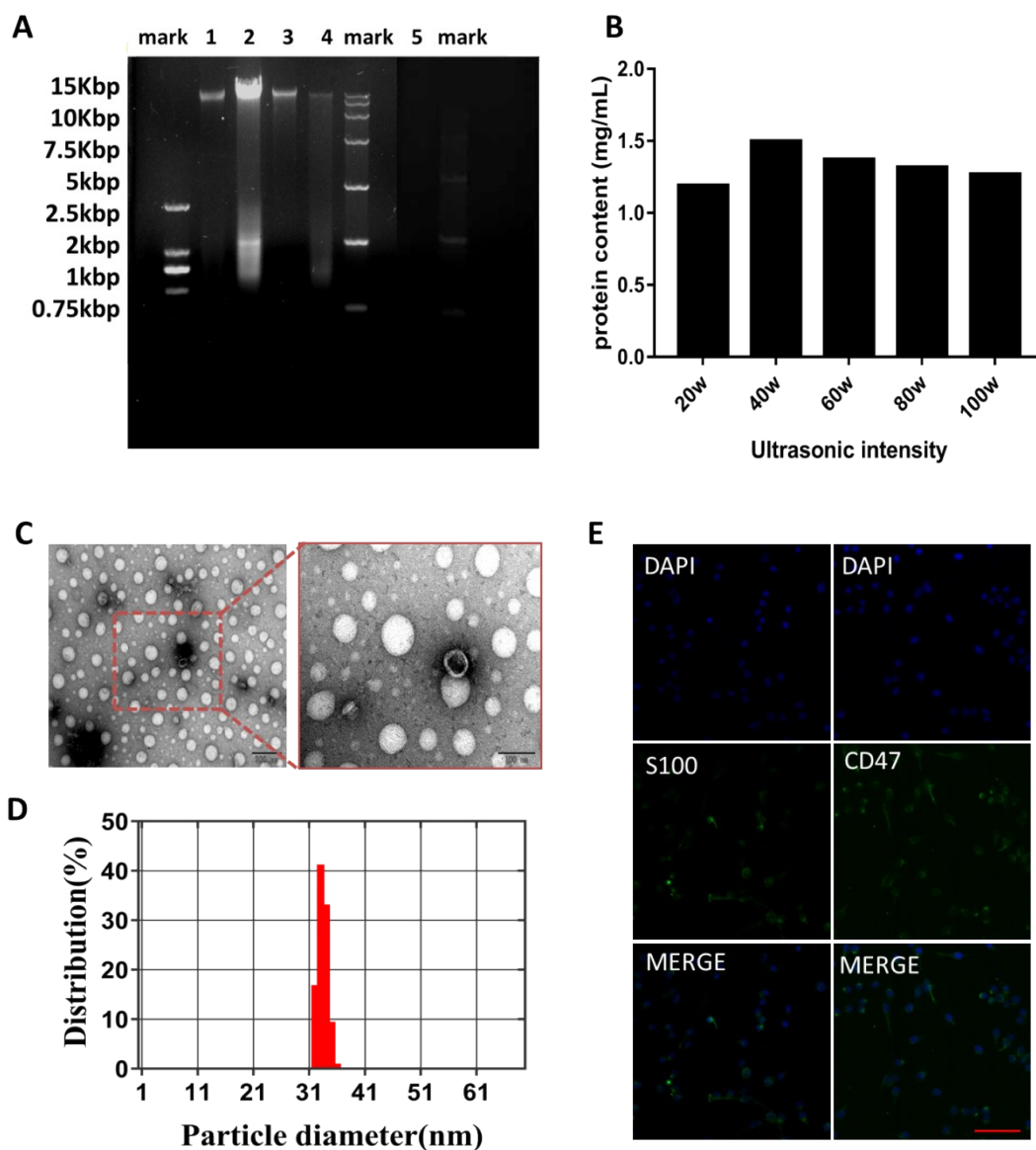


Fig S1 (A) Agarose gel electrophoresis of DNA from different cancer membrane extract: (1) Unbroken cell suspension, (2) Low speed centrifugation precipitated suspension, (3) High speed centrifugal precipitation suspension, (4) crude extract membrane vesicle and (5) cancer-cell membrane vesicle; (B) the total cell membrane protein extracted by using different ultrasonic intensity; (C) Particle size distribution of cancer-cell membrane vesicle and (D) Representative TEM images of cancer-cell membrane vesicle, scale bar = 200nm(left) and 100nm (right) and (E)Immunofluorescence assays of CD47 and S100 protein on C6 (Blue: cell nuclei stained by DAPI. Green: the expression of CD47 and S100 protein). Scale bar: 50 $\mu$ m.

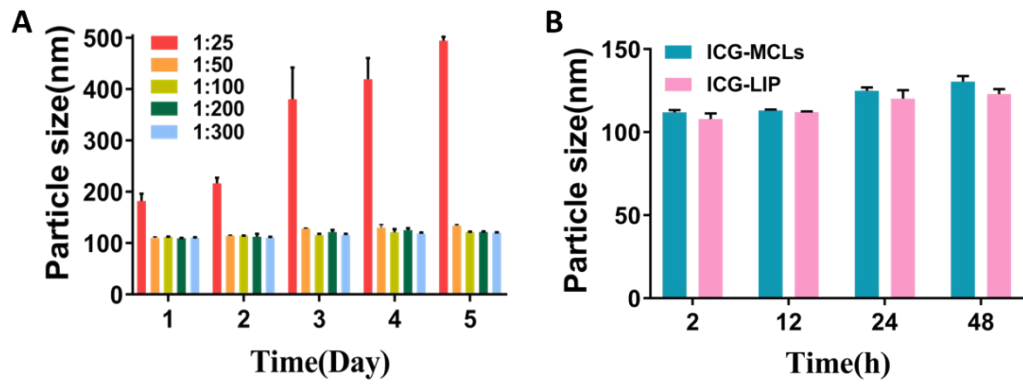


Fig S2 (A) Particle stability of MCLs with different ratio of cancer-cell membrane protein and lipid in pH7.4 PBS; (B) Particle stability of ICG-LIP and ICG-MCLs (ratio of cancer-cell membrane protein and lipid at 1:50) in DMEM containing 10% FBS.

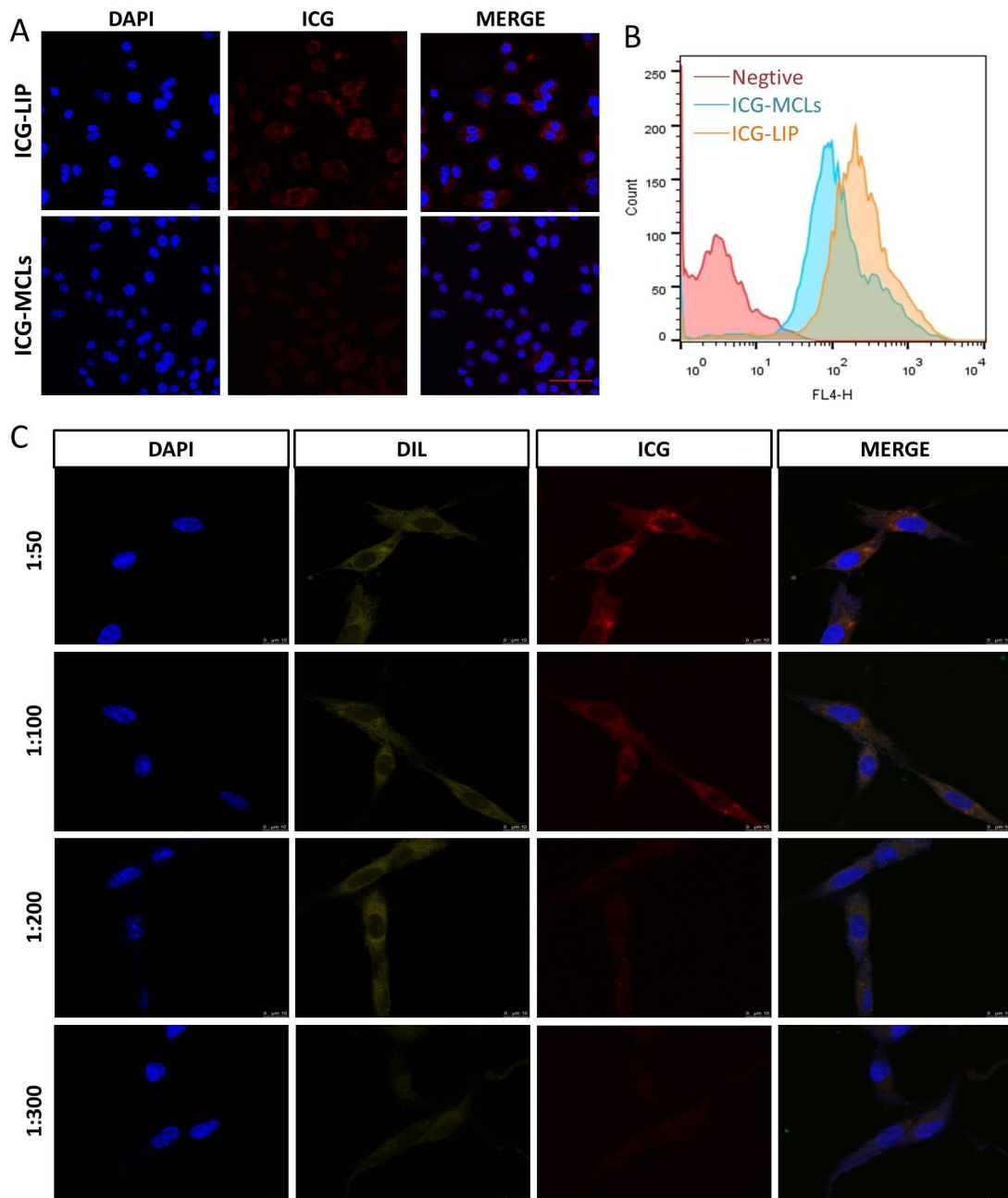


Fig S3 Cellular uptake of ICG-LIP and ICG-MCLs (the ratio of cancer-cell membrane protein and lipid at 1:50, 40 $\mu$ g/mL of ICG) by RAW264.7 cells through CLSM (A) and flow cytometer analysis(B), and (C) Cellular uptake of ICG-MCLs with different ratio of cancer-cell membrane protein and lipid (40 $\mu$ g/mL of ICG) by C6 cells (Scale bar: 10 $\mu$ m).

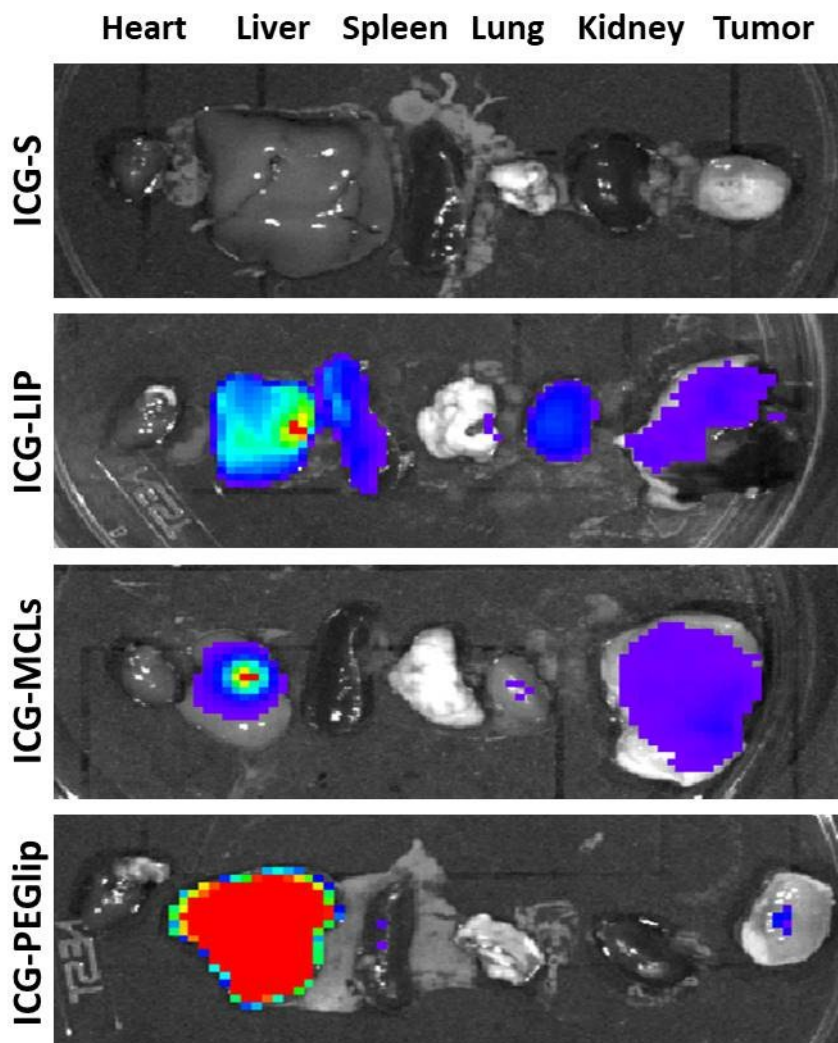


Fig S4 Ex vivo NIR FL images of the major organs and tumors of each group at 12h after intravenous injection of ICG-containing formulations.



Fig S5 Photographs of C6 tumor-bearing mice in various groups during the treatment.

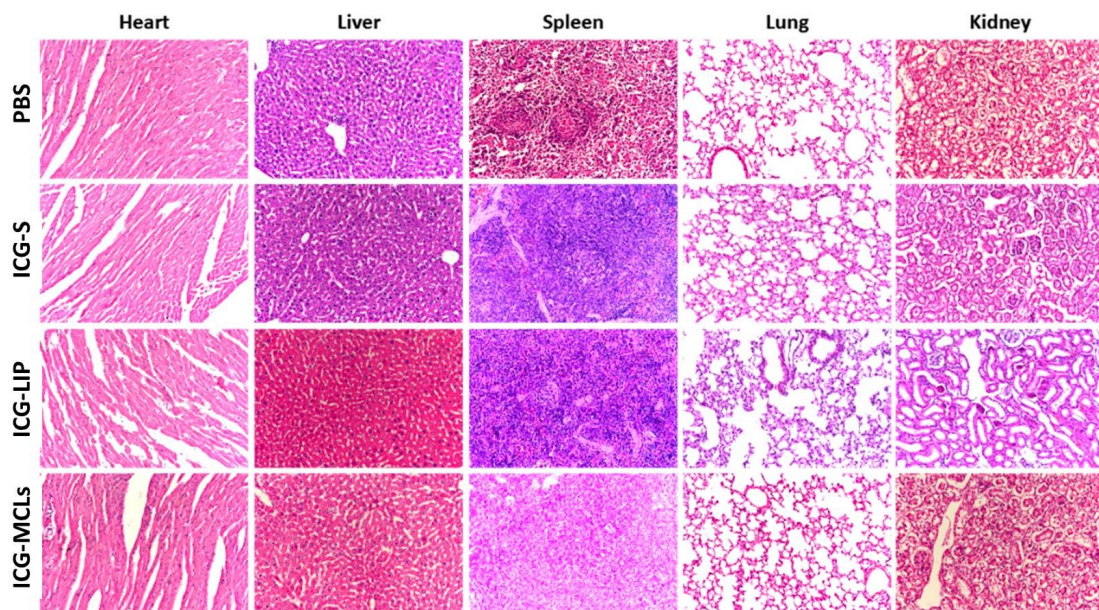


Fig S6 Histological staining of organs from mice treated with different formulations.

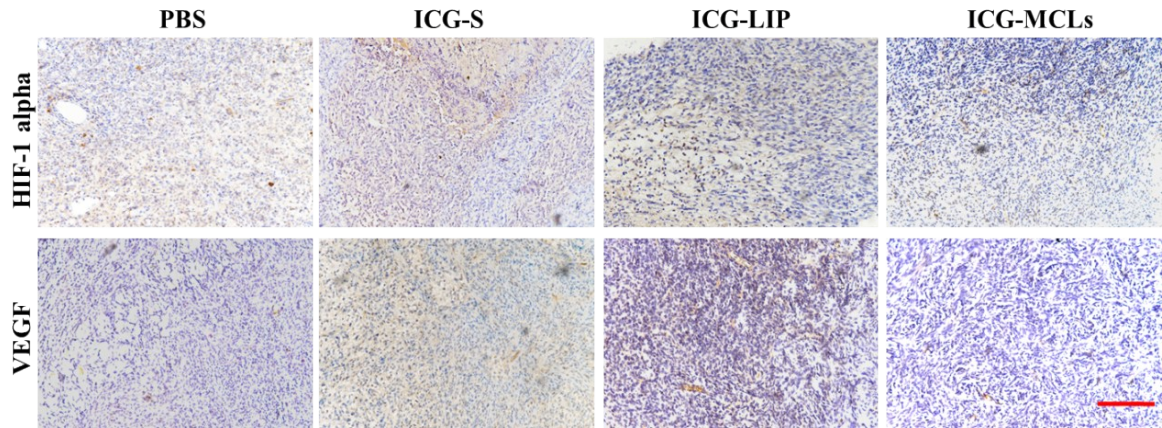


Fig S7 Immunohistochemical staining of HIF-1 $\alpha$  and VEGF protein in tumor at 72h after once laser irradiation. Blue: cell nuclei stained by hematoxylin. Brown: the expression of HIF-1 $\alpha$  and VEGF protein. Scale bar: 50 $\mu$ m.

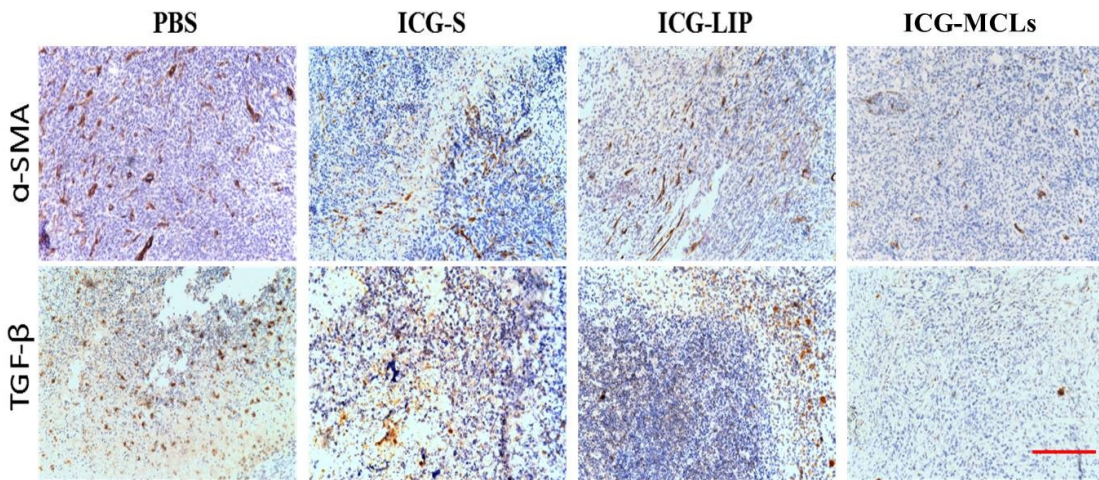


Fig S8 Immunohistochemistry staining of  $\alpha$ -SMA and TGF- $\beta$  protein in tumor at 72h after once laser irradiation. Blue: cell nuclei stained by hematoxylin. Brown: the expression of TGF- $\beta$  and  $\alpha$ -SMA protein. Scale bar: 50  $\mu$ m.