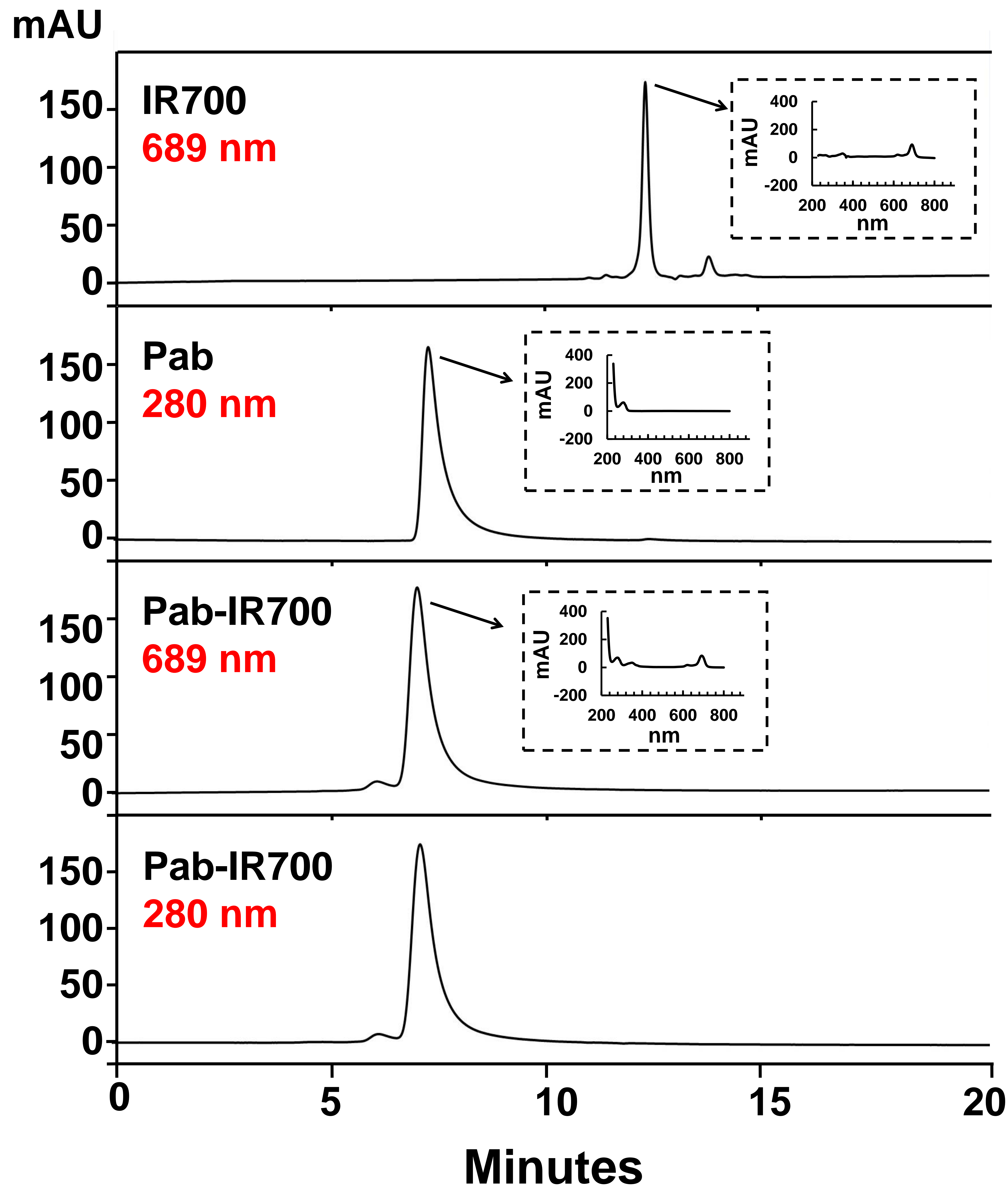
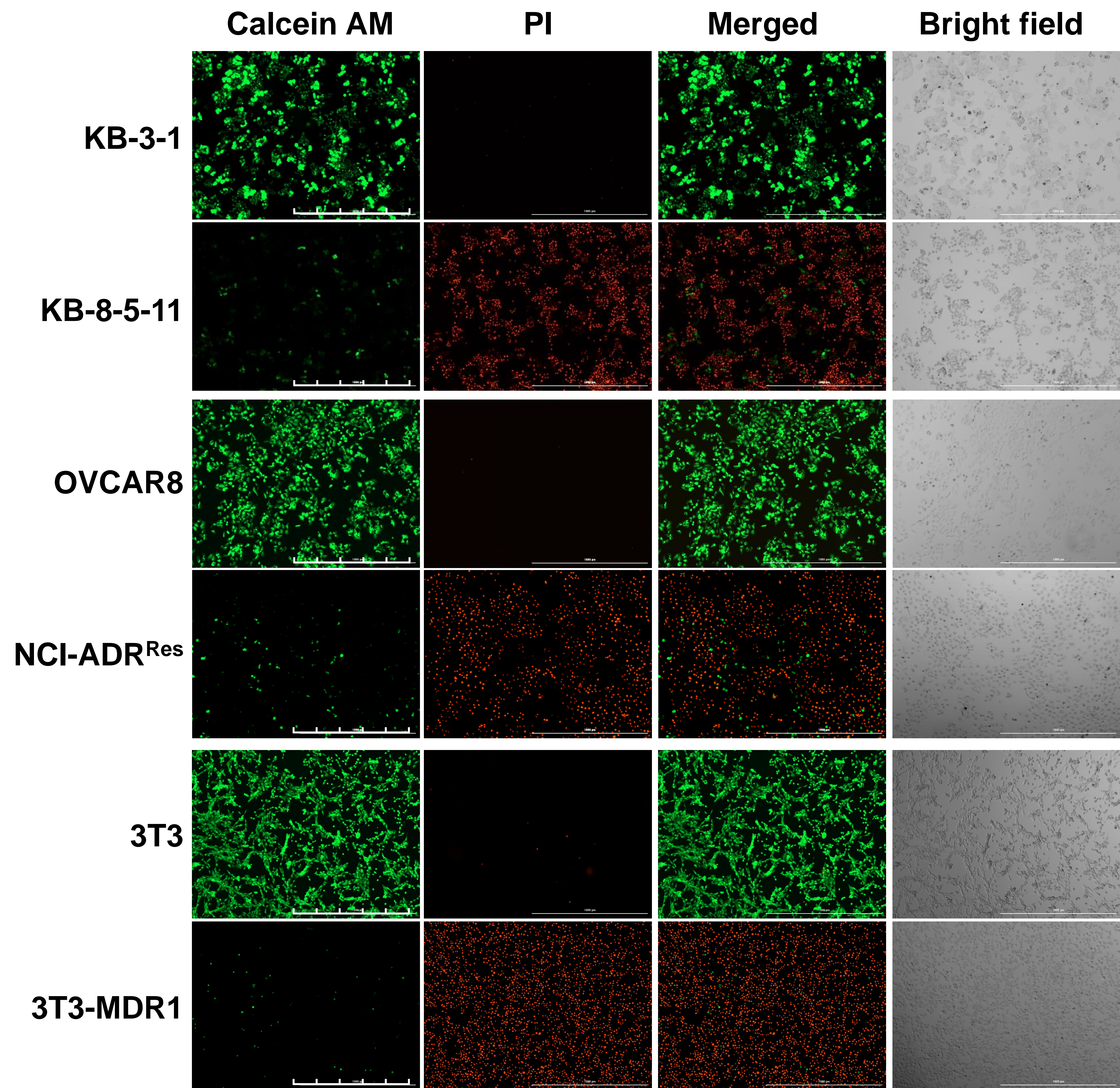


**Supplementary Figure 1.** Transmission electron microscopy (TEM) images and size distribution of (A) paclitaxel albumin-bound nanoparticles and (B) doxorubicin liposome. Nanoparticles were negative stained with 2% Uranyl Acetate for TEM image. Hydrodynamic diameter of nanoparticles in PBS was assessed by dynamic light scattering using a Malvern Zetasizer NS90. The Z-average particle size for paclitaxel albumin-bound nanoparticles is  $102.6 \pm 1.1$  nm; and for doxorubicin liposome is  $85.3 \pm 0.9$  nm.



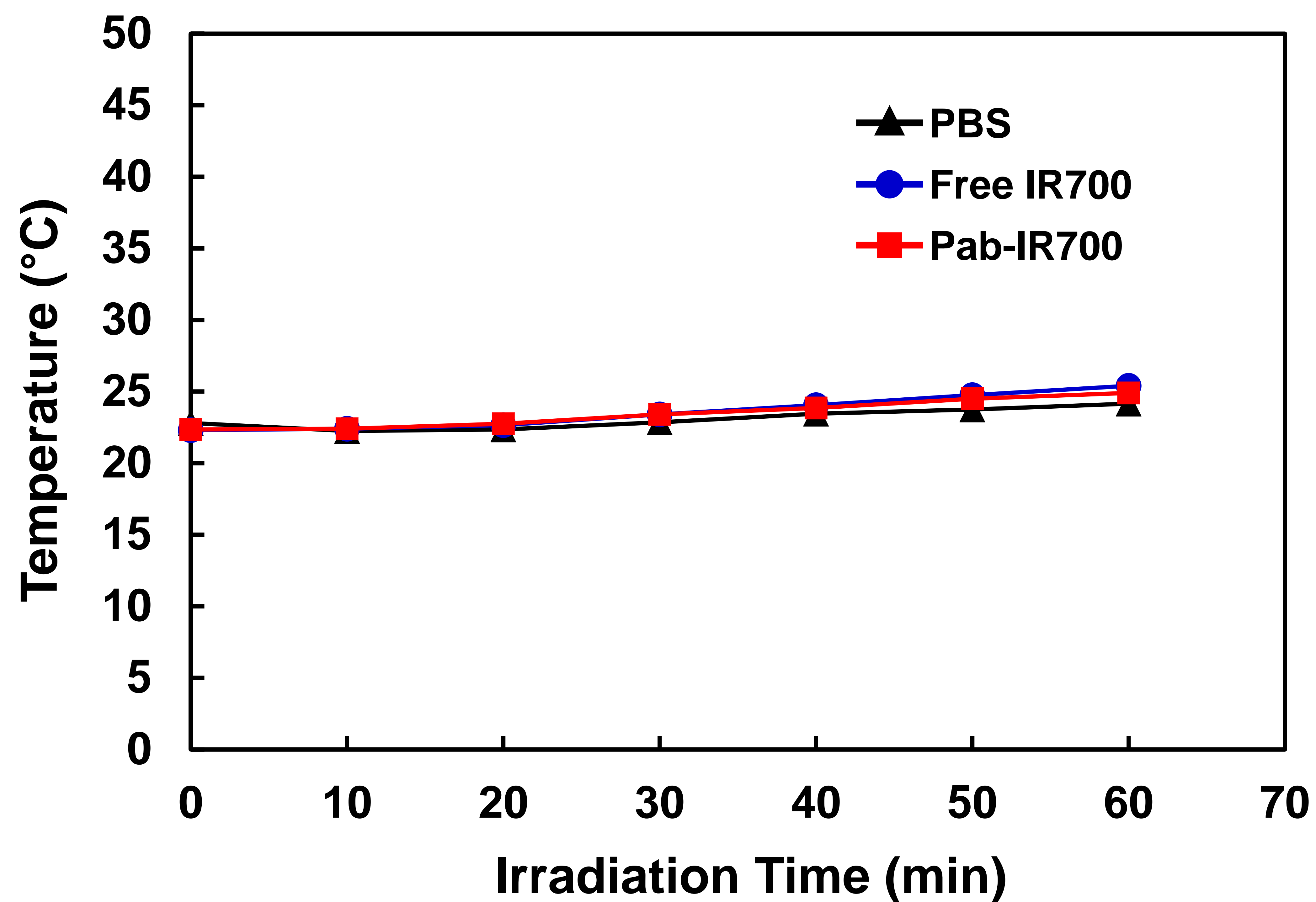
**Supplementary Figure 2.** SEC-HPLC analysis of IR700, Pab, and Pab-IR700. Absorption spectra captured by an inline diode-array detector were shown in dotted line rectangle.



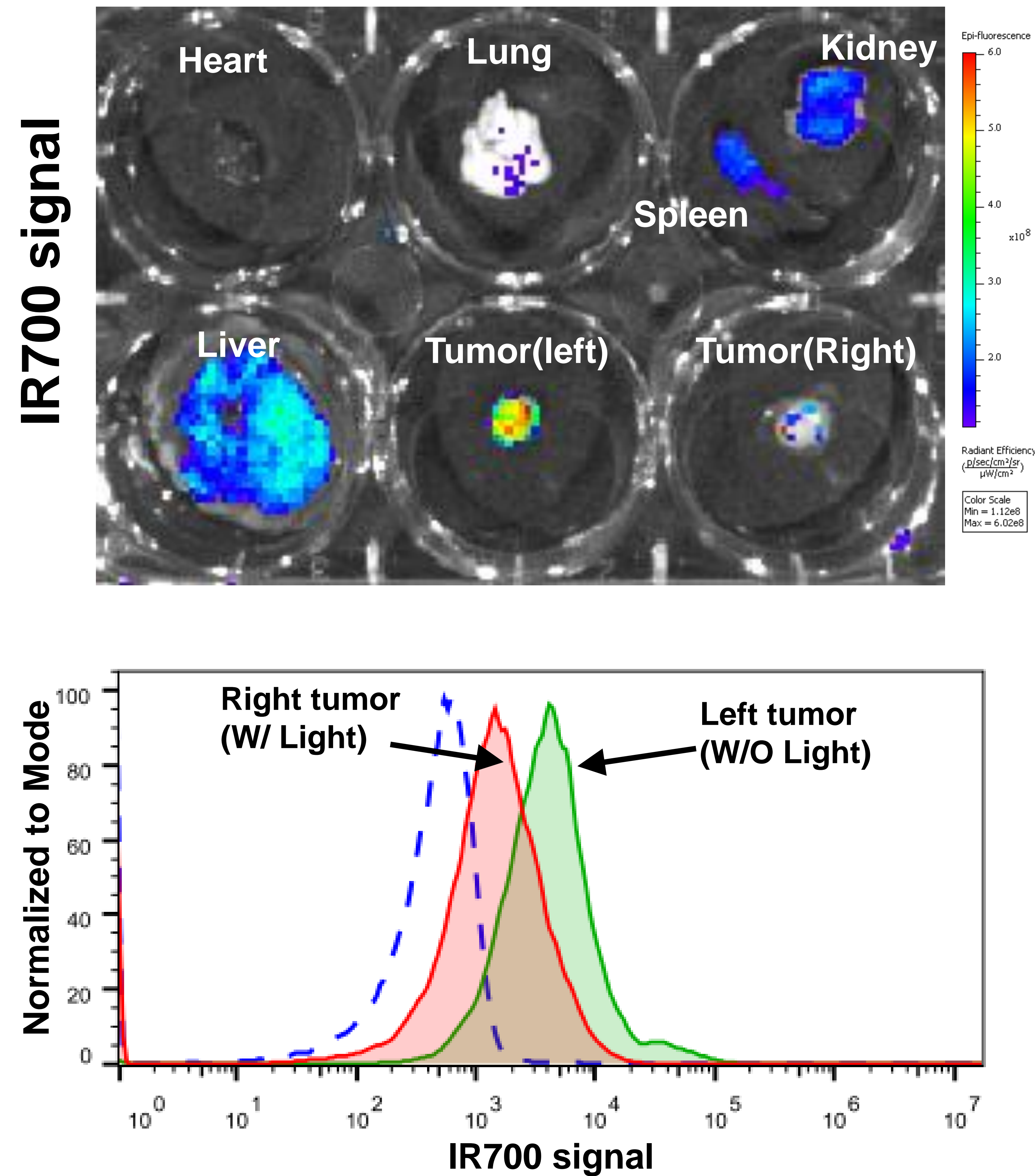


**Supplementary Figure 3.** Live/Dead cells staining with Calcein AM and PI and microscopic observation of chemosensitive cells, KB-3-1, OVCAR8, and 3T3, and chemoresistant cells, KB-8-5-11, NCI-ADR<sup>Res</sup>, and 3T3-MDR1 after Pab-IR700 mediated PDT. Scale bar, 1000  $\mu\text{m}$ .



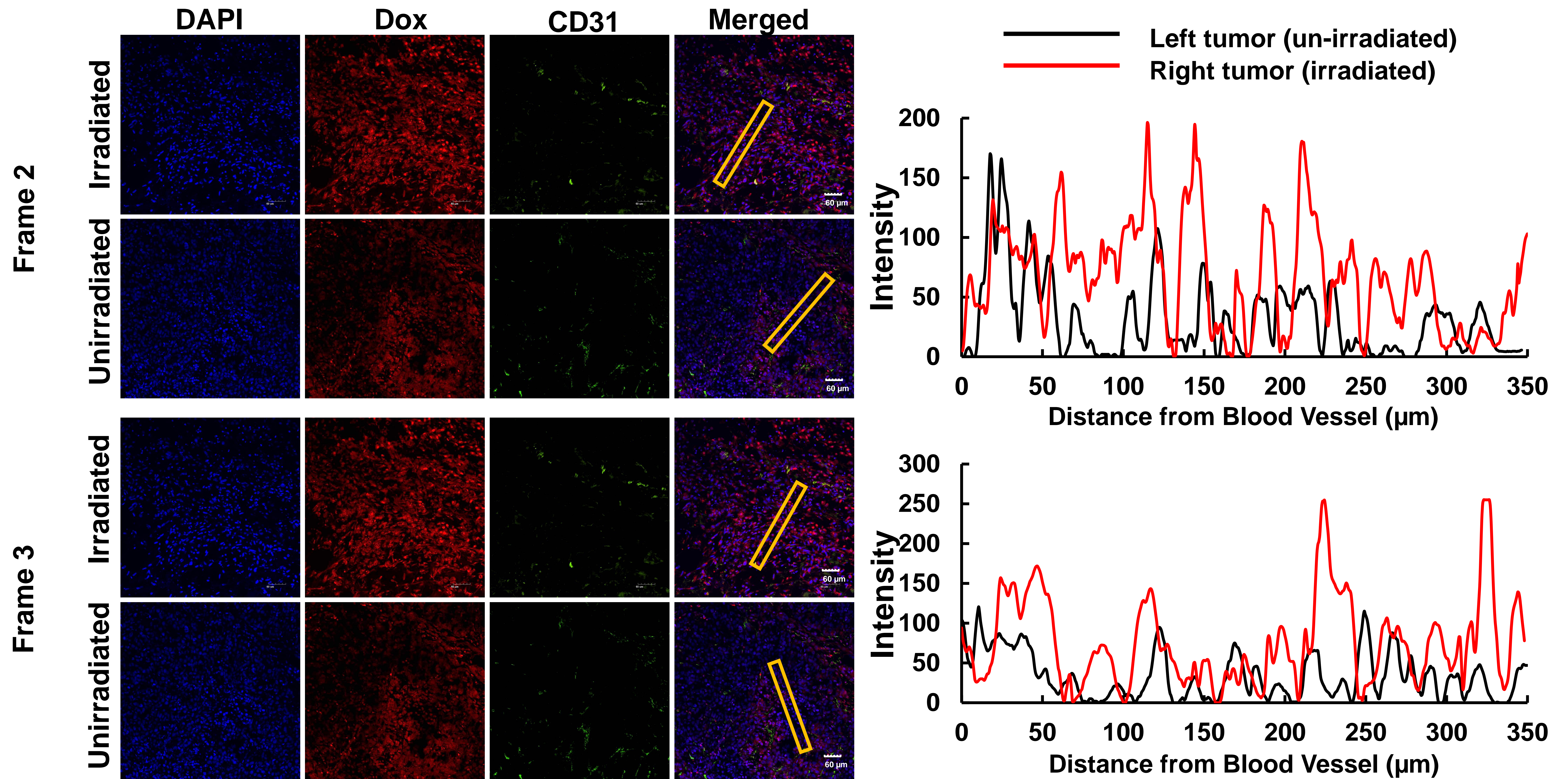


**Supplementary Figure 4.** Determination of photothermal activity of IR700 or Pab-IR700. Free IR700 or Pab-IR700 (both equivalent to 200 nM IR700 in PBS buffer) were exposed to a 690 nm laser irradiation from 0 to 60 min (20 min exposure to light could achieve a light dose of 5 J/cm<sup>2</sup>) and the temperature was measured using a thermocouple.



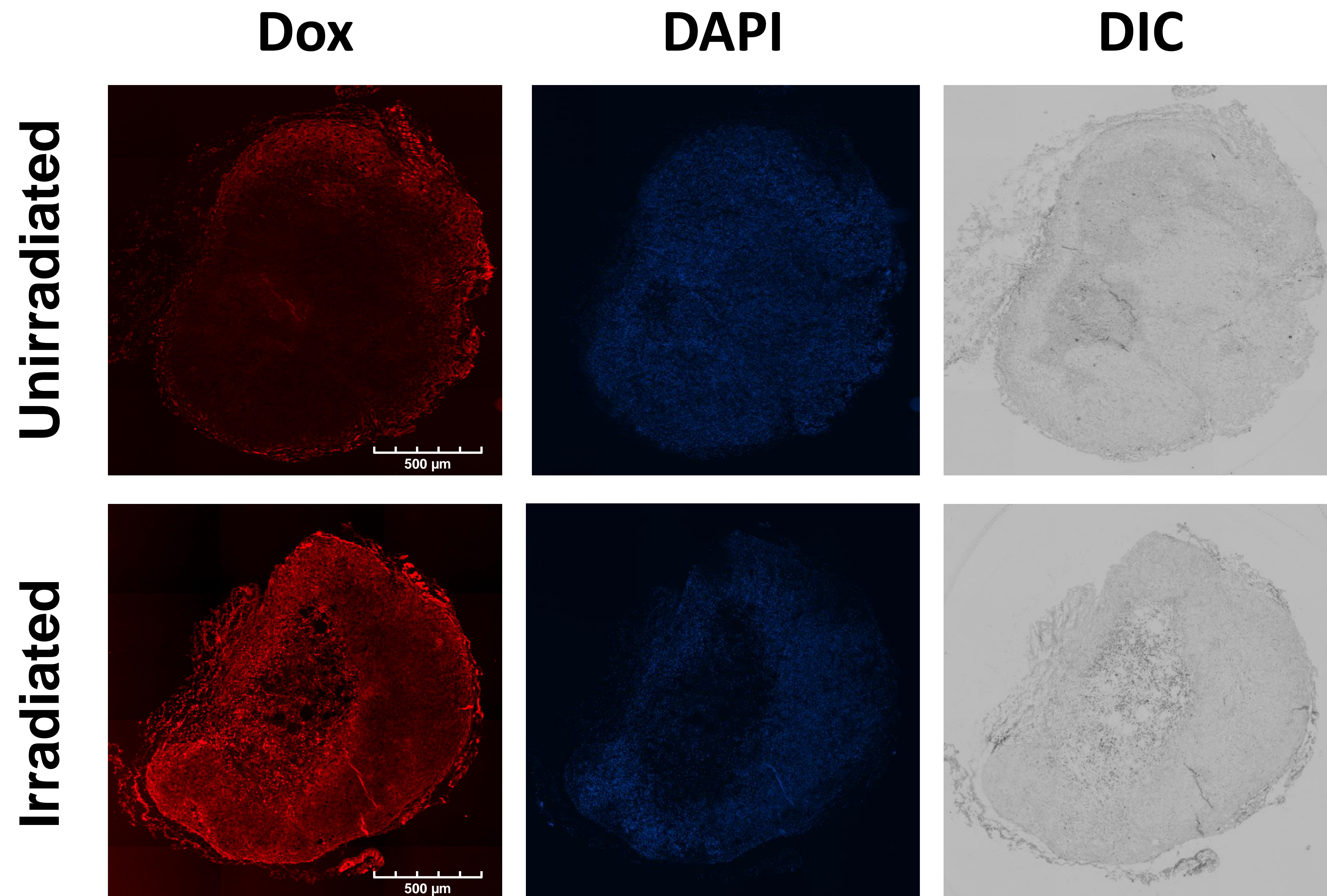
**Supplementary Figure 5.** Biodistribution of IR700 in heart, lung, spleen, kidney, liver, left-flank tumor, and right-flank tumor. Tumors were further digested into single cells for flow cytometry to track the intracellular level of IR700 in the irradiated tumor and unirradiated tumor.





**Supplementary Figure 6.** Confocal image of intratumoral Doxil distribution in light-irradiated or un-irradiated tumors 24 h post injection. CD31 stained blood vessel (green), Doxil (red), and DAPI stained cell nuclei (blue). The scale bar is 60  $\mu\text{m}$ . Distribution of Doxil in Tumors with or without light irradiation. Distance calculated from the CD31 stained blood vessel. Four region marked with the rectangular frame were selected for the analysis.





**Supplementary Figure 7.** Whole-section fluorescent images of intratumoral Doxil distribution in light-irradiated or un-irradiated tumors 24 h post injection. Doxil (red), DAPI stained cell nuclei (blue). The scale bar is 500  $\mu\text{m}$ .