Supporting Information for

# Evaluating the Pharmacokinetics and *In Vivo* Cancer Targeting Capability of Au Nanocages by Positron Emission Tomography Imaging

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***In Vitro* Photothermal Study.** The AuNCs suspensions (100 μL) were placed in a single well of 96-well plate, and the laser radiation was delivered with a light diode from the top at a density of 0.8 W $cm^{-2}$. A near infrared camera was placed upon the suspension, and the thermographs and temperature were recorded by an infrared camera (ICI7320, Infrared Camera Inc.) at an interval of 15 seconds. The images were analyzed using IR Flash software (version 2.10) to obtain the average temperature of the AuNCs suspensions.

***In Vitro* Cell Growth Inhibition Assay.** EMT-6 cells were seeded in 96-well plates at 5000 cells per well in 100 μL of complete medium, and incubated at 37 ºC in 5% $CO_2$ humidified atmosphere overnight. The culture medium was then replaced with 100 μL of freshly prepared culture medium containing AuNCs or DOTA-PEG-AuNCs at different concentrations. The cells were further incubated for 48 h, and then 25 μL of MTT (3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide, Sigma-Aldrich, Saint Louis, MO) stock solution (5 mg $mL^{-1}$ in PBS) was added to each well to achieve a final concentration of 1 mg $mL^{-1}$, with the exception of the wells as blank to which 25 μL of PBS was added. After incubation for another 2 h, 100 μL of extraction buffer (20% SDS in 50% DMF, pH 4.7, prepared at 37 °C) was added to the wells and incubated for another 4 h at 37 °C. The absorbance was measured at 570 nm using an Infinite F200 multimode reader (Tecan, Switzerland). Cell viability was normalized to that of EMT-6 cells cultured in complete culture media.

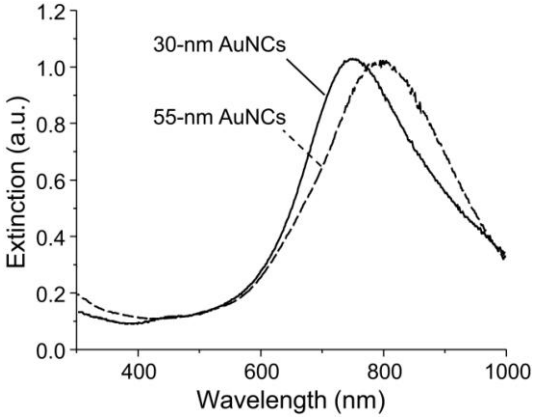


**Figure S1.** Normalized UV-vis spectra of aqueous suspensions of 30 nm and 55 nm AuNCs.

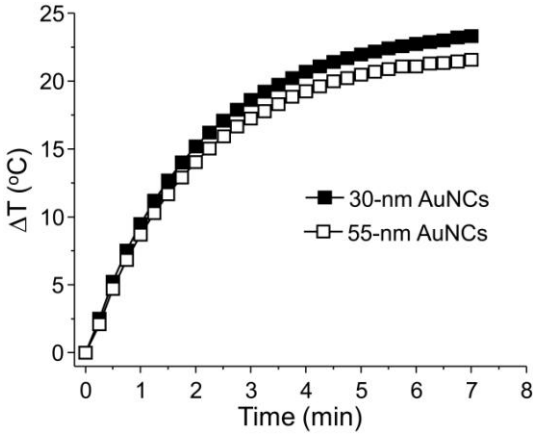


**Figure S2.** Plots of temperature increase of aqueous suspensions of 30 nm and 55 nm AuNCs as a function of irradiation time using the diode laser at a laser density of 0.8 W $cm^{-2}$. The wavelength of the diode laser was centered at 808 nm. Concentrations of Au atoms were $5 \times 10^{-5}$ M for both AuNCs.

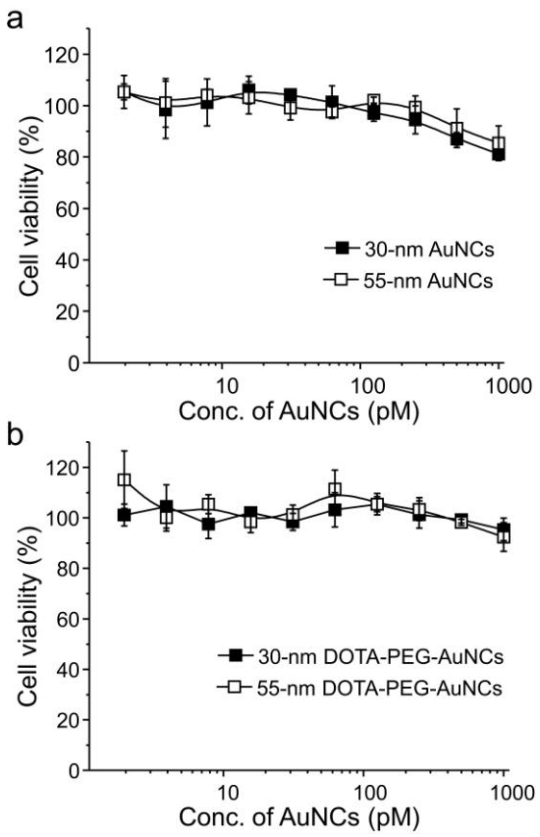


**Figure S3.** Cell viability of EMT-6 cells after incubation with AuNCs or DOTA-PEG-AuNCs for 48 h. Cell viability was determined using MTT assay.