

Supplementary Material for

Size dependent kinetics of gold nanorods in EPR mediated tumor delivery

Xiao Tong, Zhantong Wang, Xiaolian Sun, Jibin Song, Orit Jacobson, Gang Niu, Dale O. Kieseletter, Xiaoyuan Chen*

¹Laboratory of Molecular Imaging and Nanomedicine, National Institute of Biomedical Imaging and Bioengineering, National Institutes of Health, Bethesda, Maryland 20892, United States.

*Corresponding author: Xiaoyuan Chen (shawn.chen@nih.gov)

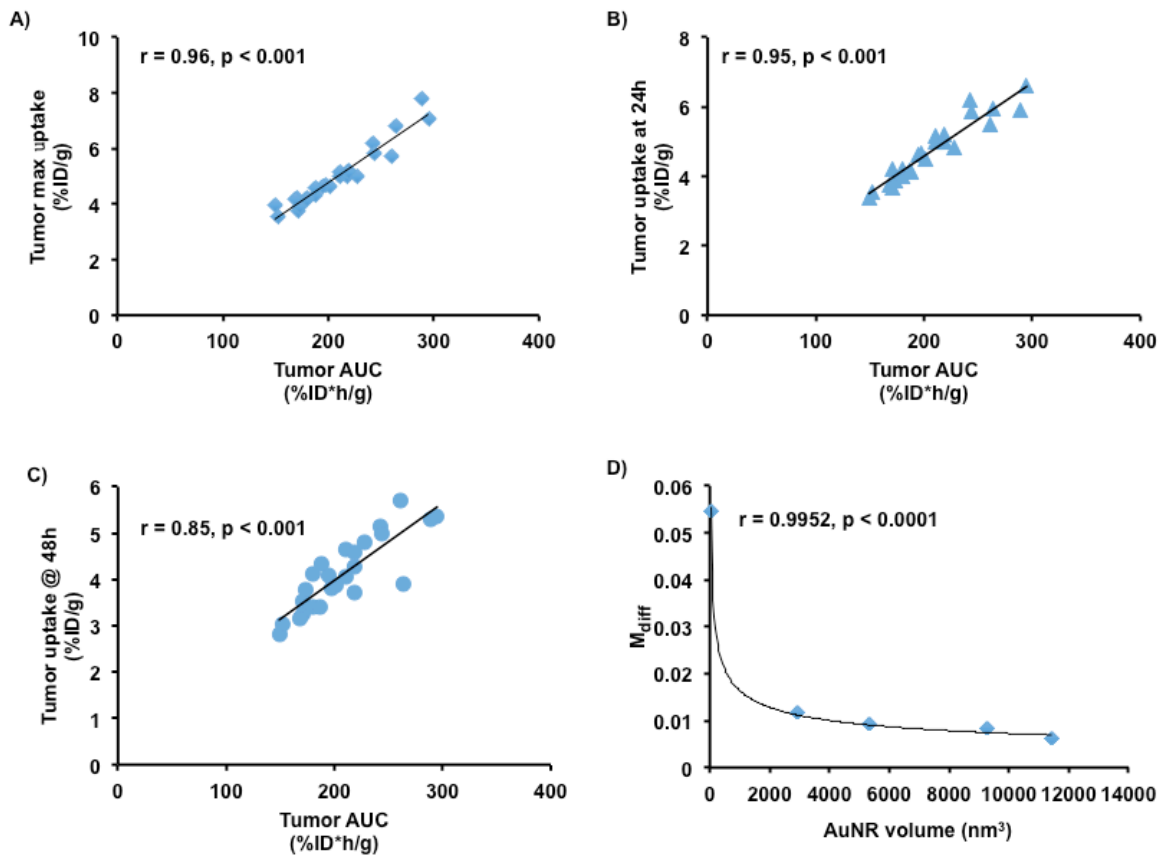


Figure S1: A-C): The correlation between the tumor AUC with the tumor maximum uptake (A), the tumor uptake at 24 h (B) and the tumor uptake at 48 h (C). D) The power regression of diffusion parameter (M_{diff}) as a function of AuNR volume. The Pearson correlation coefficient r and the significance p values are shown for each correlation and regression.

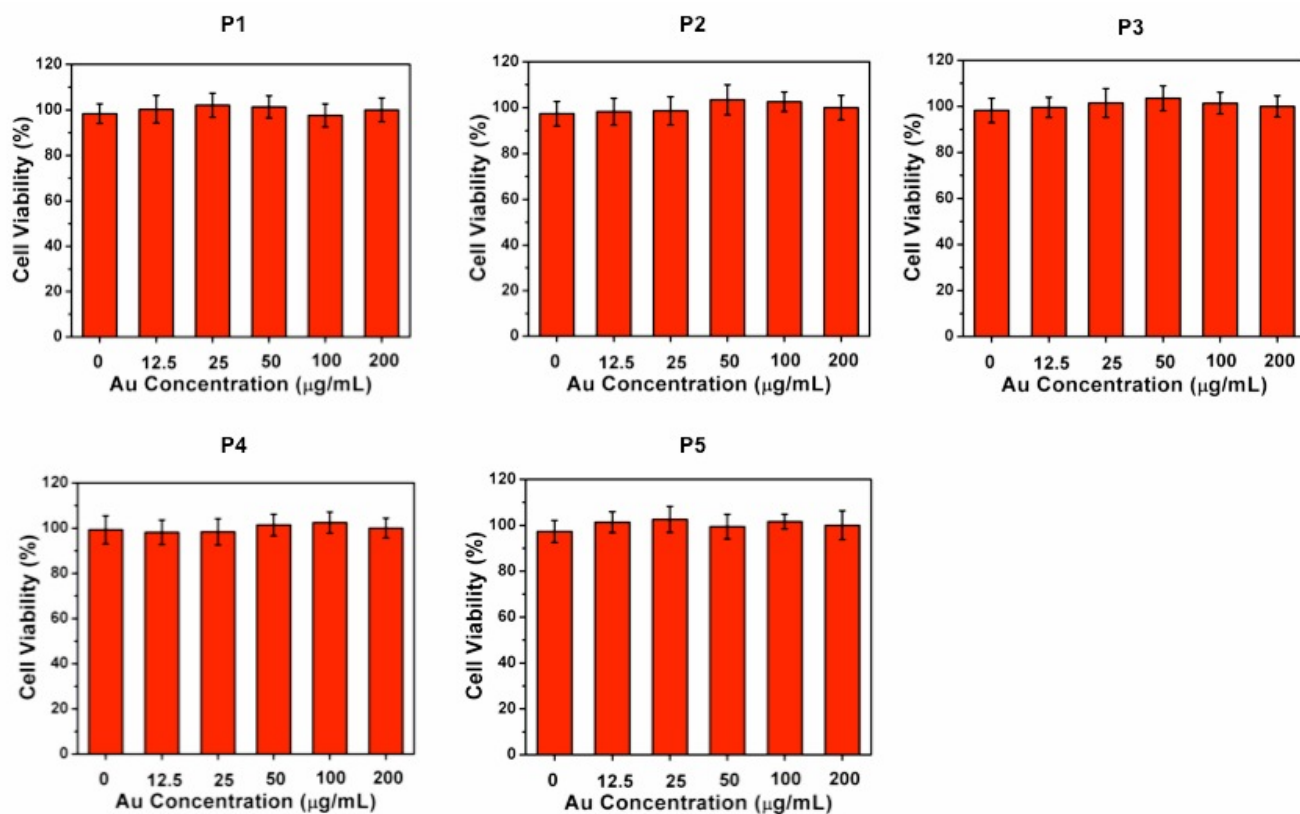


Figure S2: The cytotoxicity of the five AuNRs (P1 to P5) in U87MG cells. Closed to 100% viability indicates no cytotoxicity of these AuNRs.

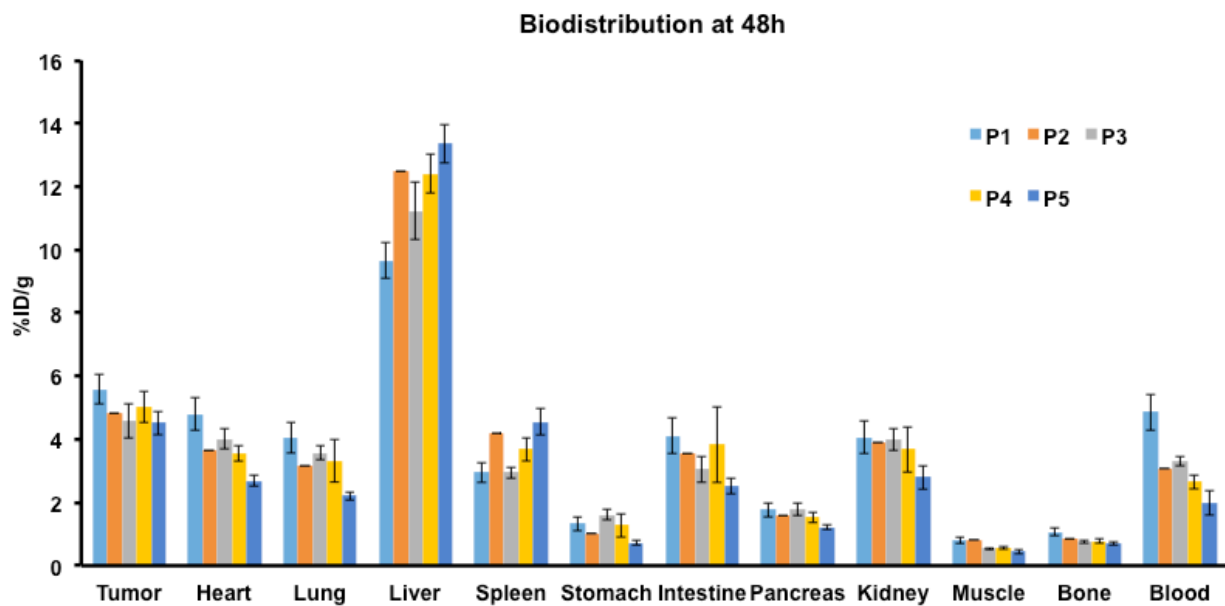


Figure S3: The biodistribution of the five AuNRs (P1 to P5 represented by different colors) at 48 h postinjection of ^{64}Cu -AuNR. The ^{64}Cu remained in major organs (weighted) and tissues were measured and expressed in %ID/g.

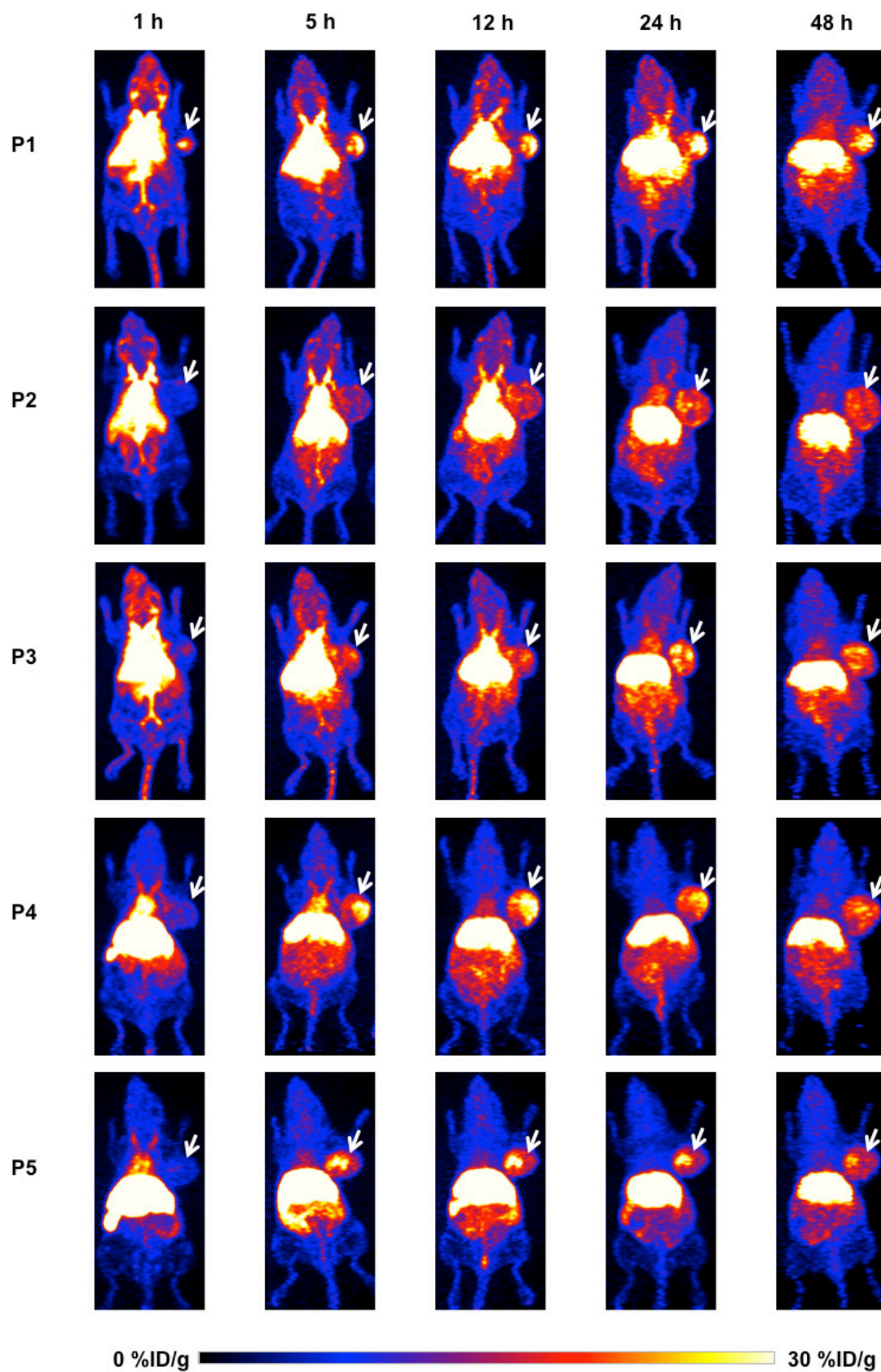


Figure S2 : Maximum intensity projection (MIP) PET images of U87MG tumor-bearing mice at different time points (from left to right) after intravenous injection of ^{64}Cu -AuNRs (from top to bottom: P1 to P5). Tumors were indicated with white arrows.

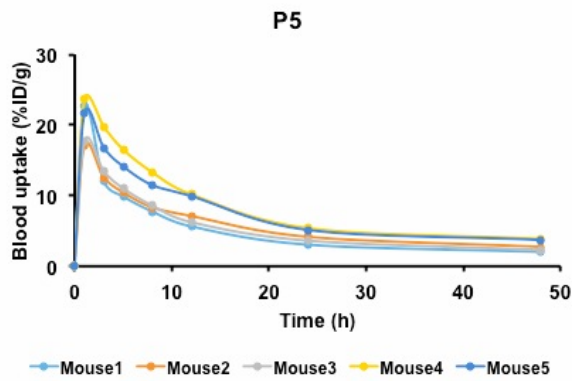
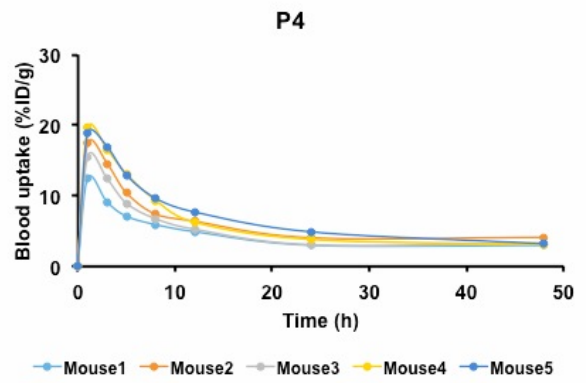
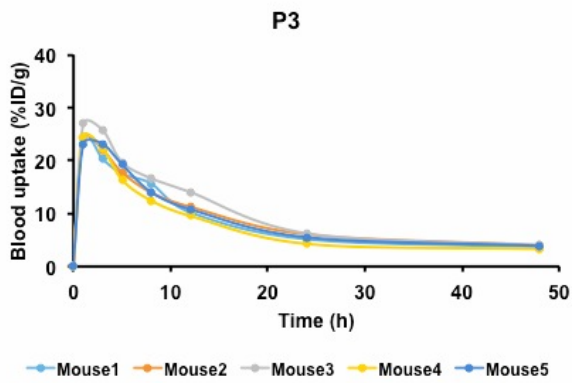
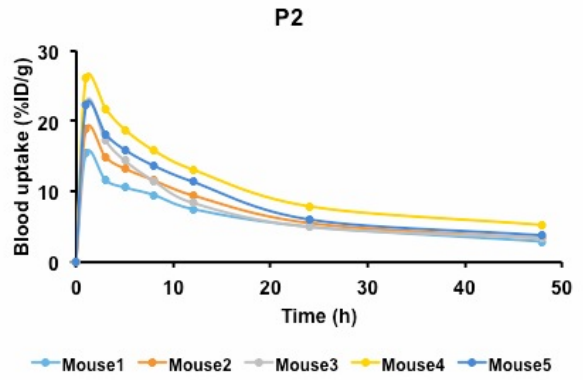
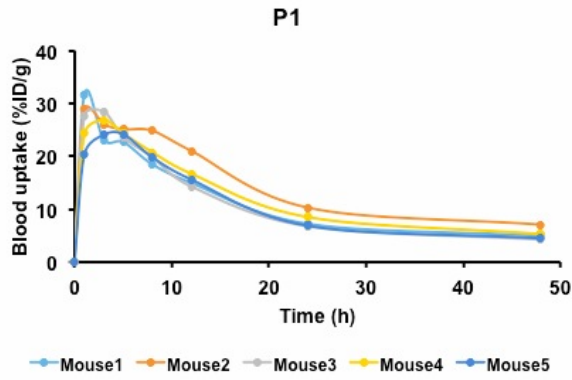


Figure S3 : Blood time activity curves (TAC) of all mice used for each size of AuNR (P1 to P5). The uptake was expressed in %ID/g.

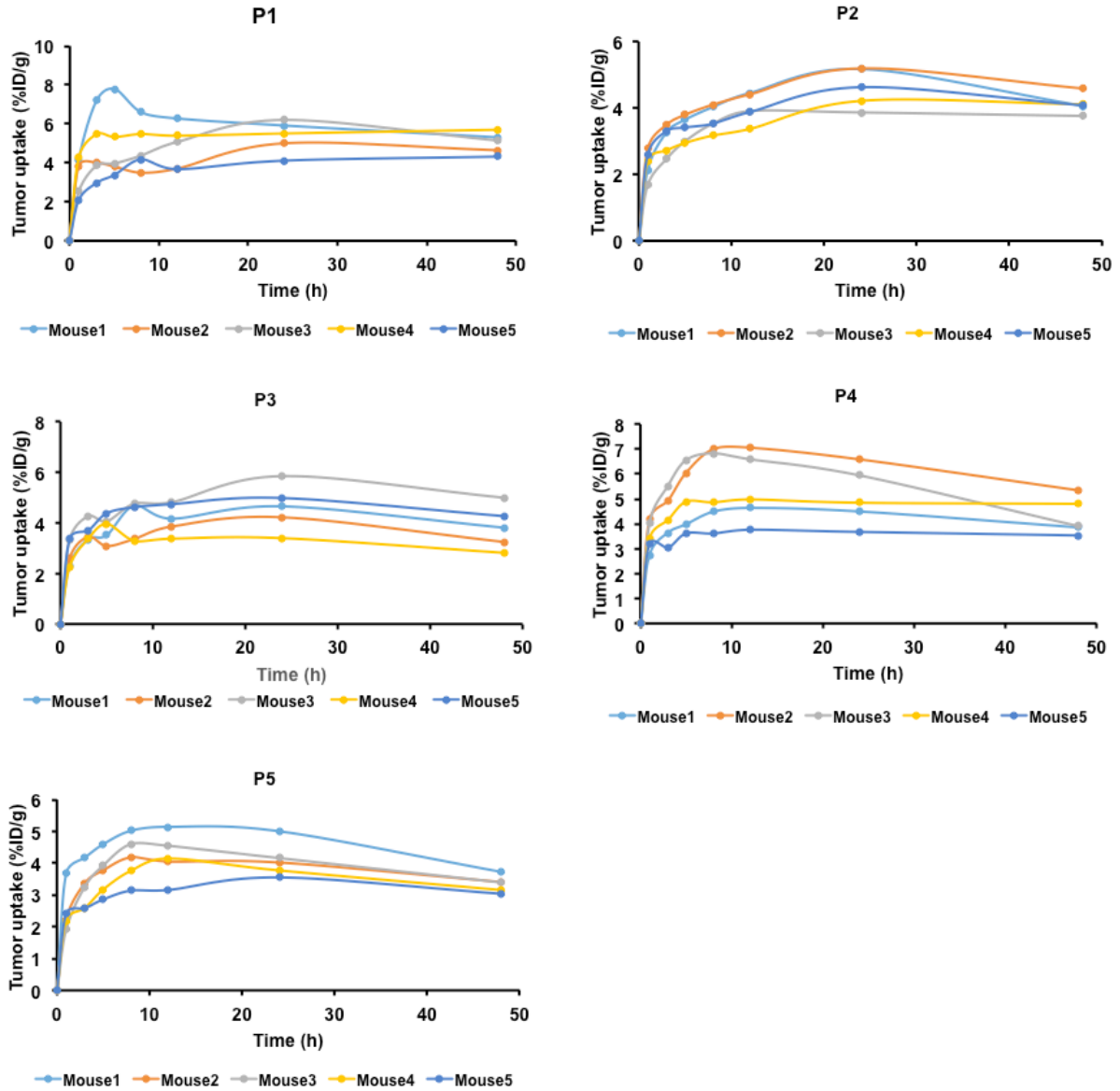


Figure S4: Tumor time activity curves (TAC) of all mice used for each size of AuNR (P1 to P5). The uptake was expressed in %ID/g.

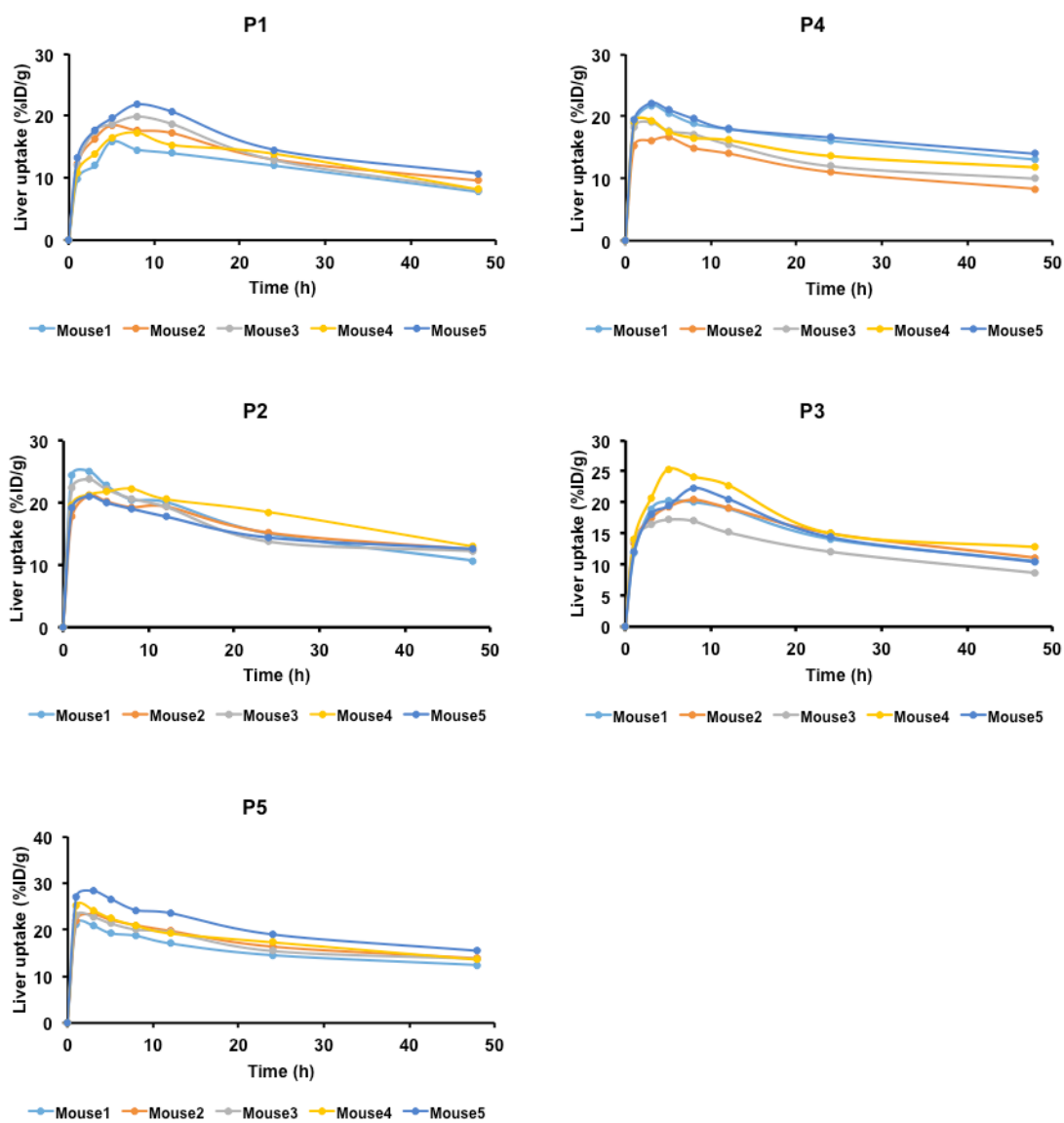


Figure S5: Liver time activity curves (TAC) of all mice used for each size of AuNR (P1 to P5). The uptake was expressed in %ID/g.

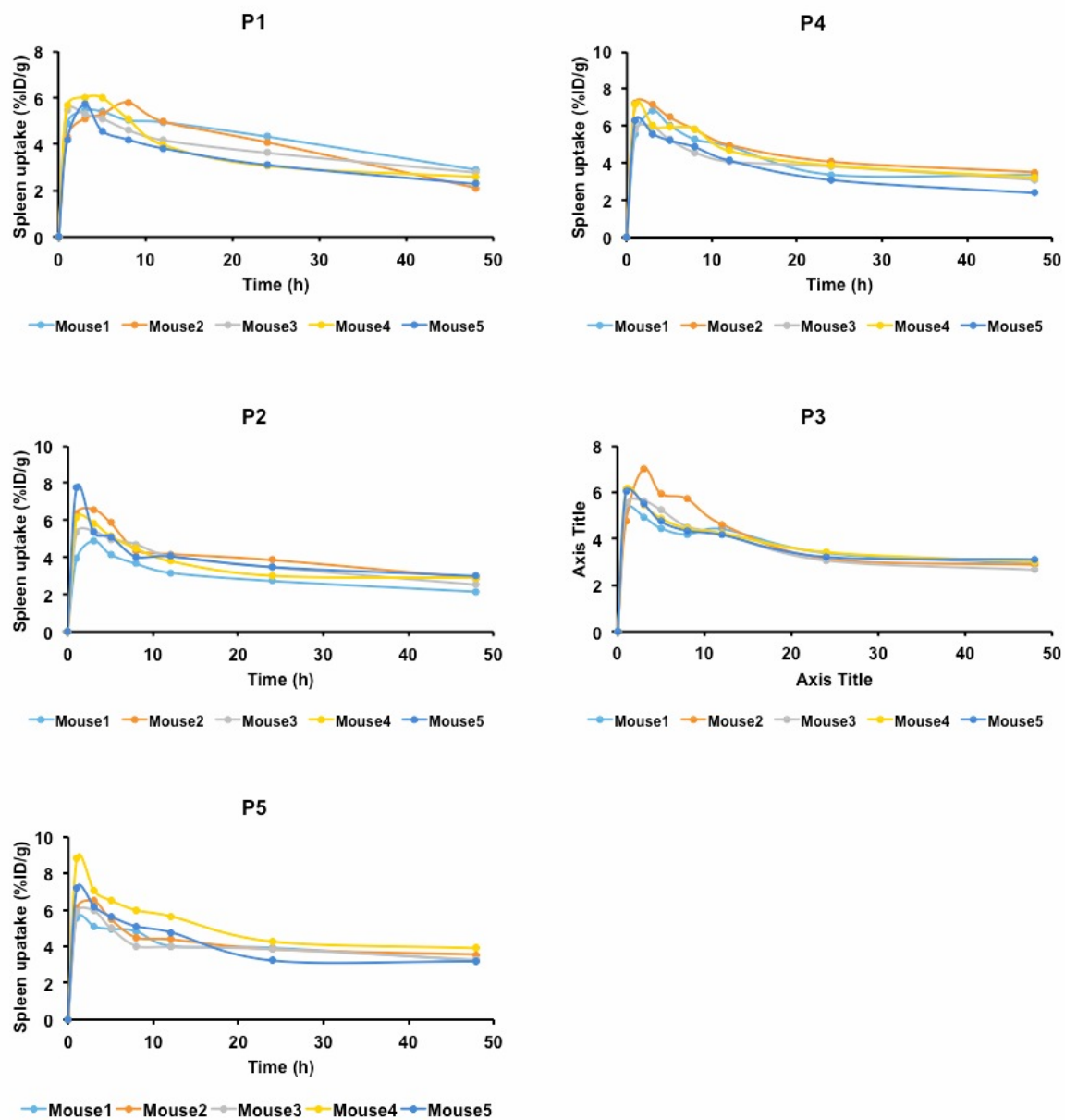


Figure S6: Spleen time activity curves (TAC) of all mice used for each size of AuNR (P1 to P5). The uptake was expressed in %ID/g.

Table S1: Mann-Whitney U test of the mean tumor uptake (mean tumor TAC of Figure 4B) at each time point between the neighboring size of AuNR. The significance p values of the U test are shown here in this table, where $p < 0.05$ (marked in red color) indicates significant difference between the tumor uptakes of the two sizes.

Time(h)	1	3	5	8	12	24	48
P1 vs P2	0.2113	0.0601	0.0601	0.09492	0.4009	0.2113	0.02144
P1 vs P3	0.4009	0.2113	0.2113	0.5287	0.5287	0.2113	0.03662
P1 vs P4	1	1	0.67448	0.4009	0.4009	0.83366	0.2113
P1 vs P5	0.1443	0.1443	0.2113	0.5287	0.5287	0.0601	0.01208
P2 vs P3	0.29834	0.29834	0.2113	0.4009	0.67448	1	0.67448
P2 vs P4	0.02144	0.0601	0.03662	0.03662	0.09492	0.67448	1
P2 vs P5	1	1	0.5287	0.29834	0.5287	0.1443	0.01208
P3 vs P4	0.09492	0.29834	0.09492	0.2113	0.1443	0.5287	0.4009
P3 vs P5	0.29834	0.5287	0.83366	0.83366	1	0.4009	0.4009
P4 vs P5	0.0601	0.1443	0.09492	0.29834	0.2113	0.2113	0.02144