Electronic Supplementary Material (ESI) for Biomaterials Science.
This journal is © The Royal Society of Chemistry 2015

Electronic Supplementary Information

Laponite-stabilized iron oxide nanoparticles for *in vivo* MR imaging of tumors

Ling Ding,[‡a] Yong Hu,[‡a] Yu Luo,[a] Jianzhi Zhu,[a] Yilun Wu,[a] Zhibo Yu,[a] Xueyan Cao,[a] Chen Peng,*[b] Xiangyang Shi,*[ac] Rui Guo*[a]

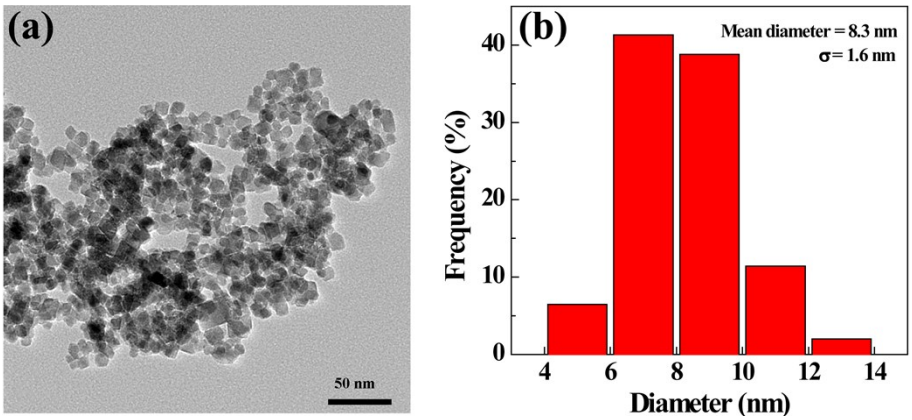

Figure S1. TEM micrographs (a) and size distribution histograms (b) of Fe_3O_4 NPs.

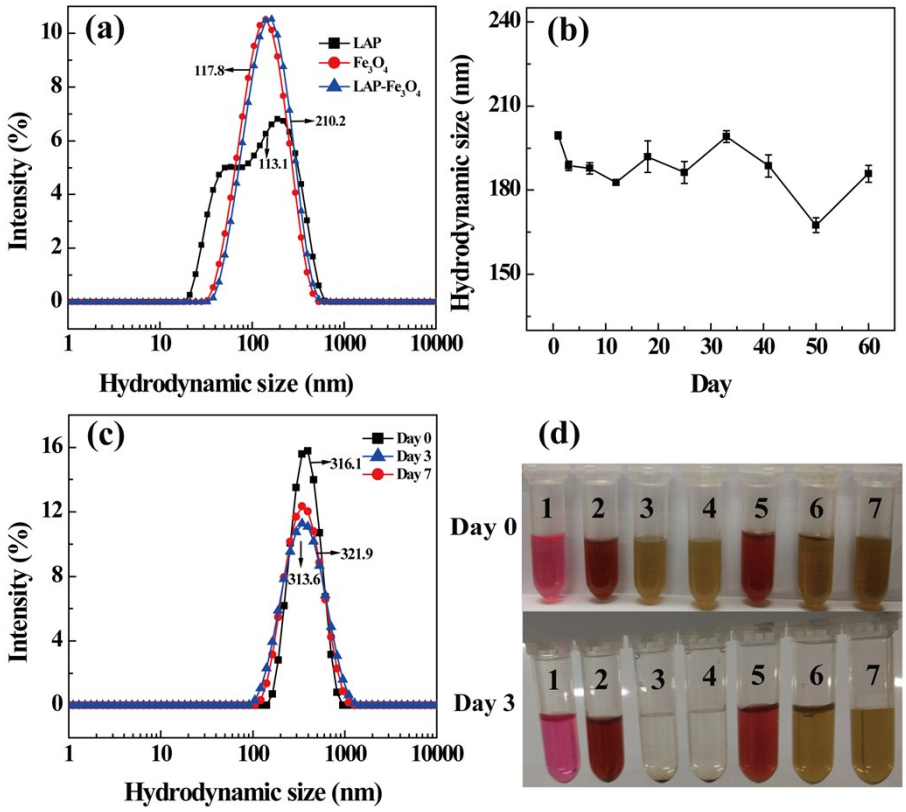

Figure S2. (a) The intensity weighted particle size distribution of LAP, Fe_3O_4, LAP-Fe_3O_4 NPs; (b) hydrodynamic size of the LAP-Fe_3O_4 NPs, (c) the intensity weighted particle size distribution of LAP-Fe_3O_4 NPs in DMEM, (d) photos of (1) blank DMEM, Fe_3O_4 NPs dispersed in DMEM (2), PBS buffer (3), water (4), and LAP-Fe_3O_4 NPs dispersed in DMEM (5), PBS buffer (6), water (7), at different time periods, as obtained from DLS measurements.

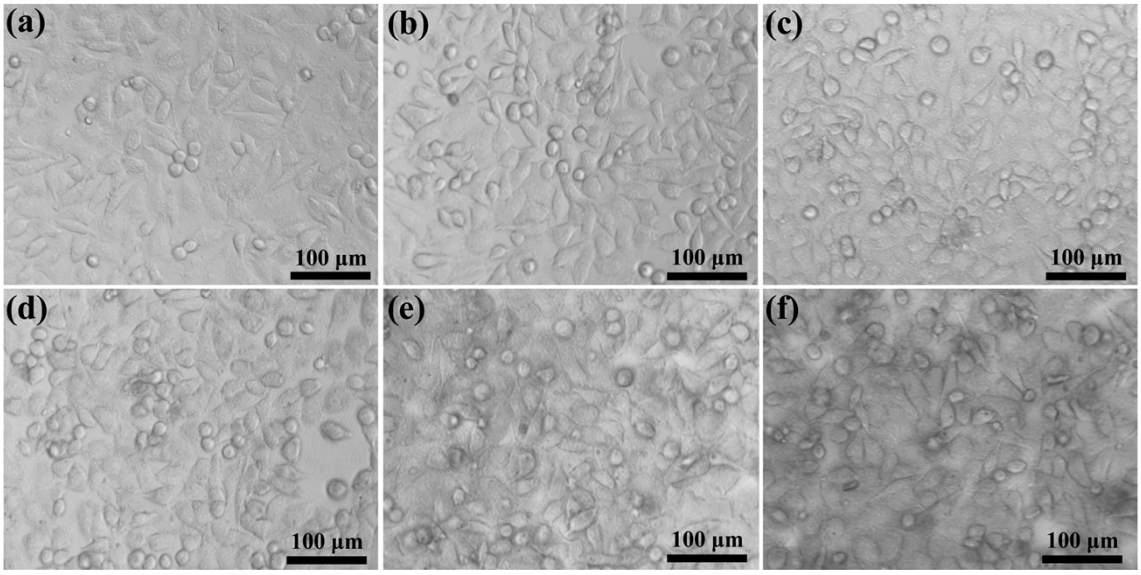

Figure S3. The phase contrast microscopic images of HeLa cells treated with PBS buffer (a), LAP-Fe_3O_4 NPs at Fe concentration of 10 (b), 25 (c), 50 (d), 75 (e), 100 μg mL^{-1} (f) for 24 h.

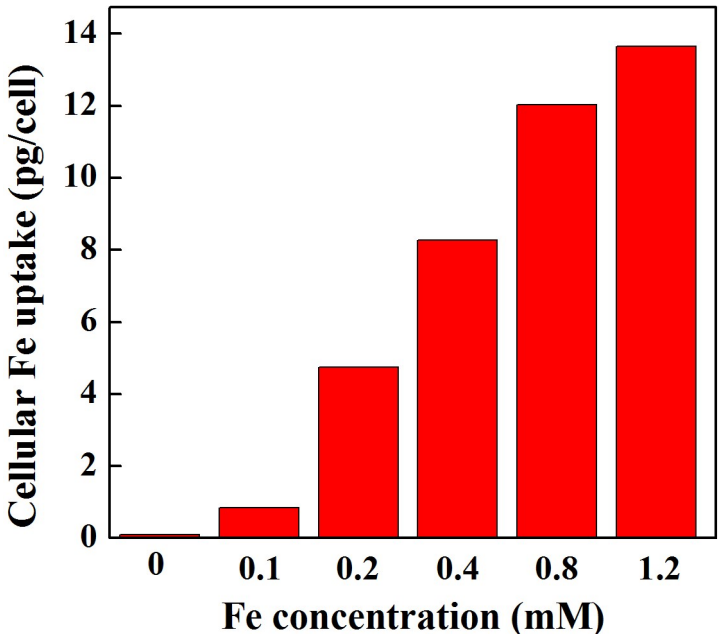

Figure S4. The Fe uptake by HeLa cells treated with LAP-Fe_3O_4 NPs at the Fe concentration of 0.1, 0.2, 0.4, 0.8 and 1.2 mM, respectivily, for 4 h.

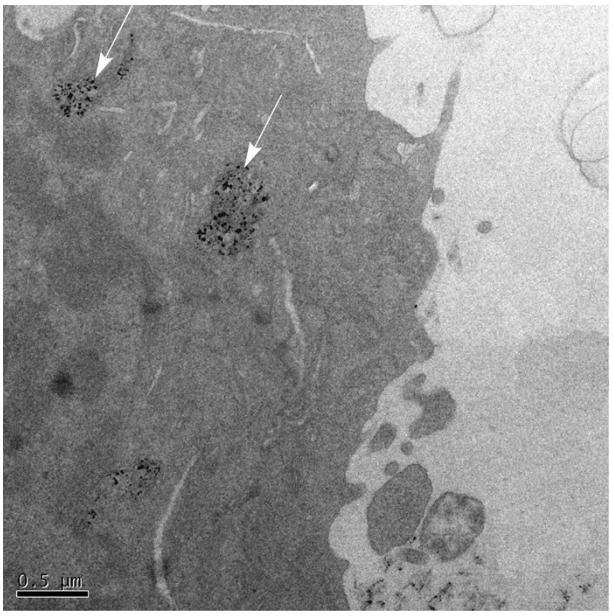

Figure S5. TEM imaging of HeLa cells treated with LAP-Fe_3O_4 NPs, for 4 h.

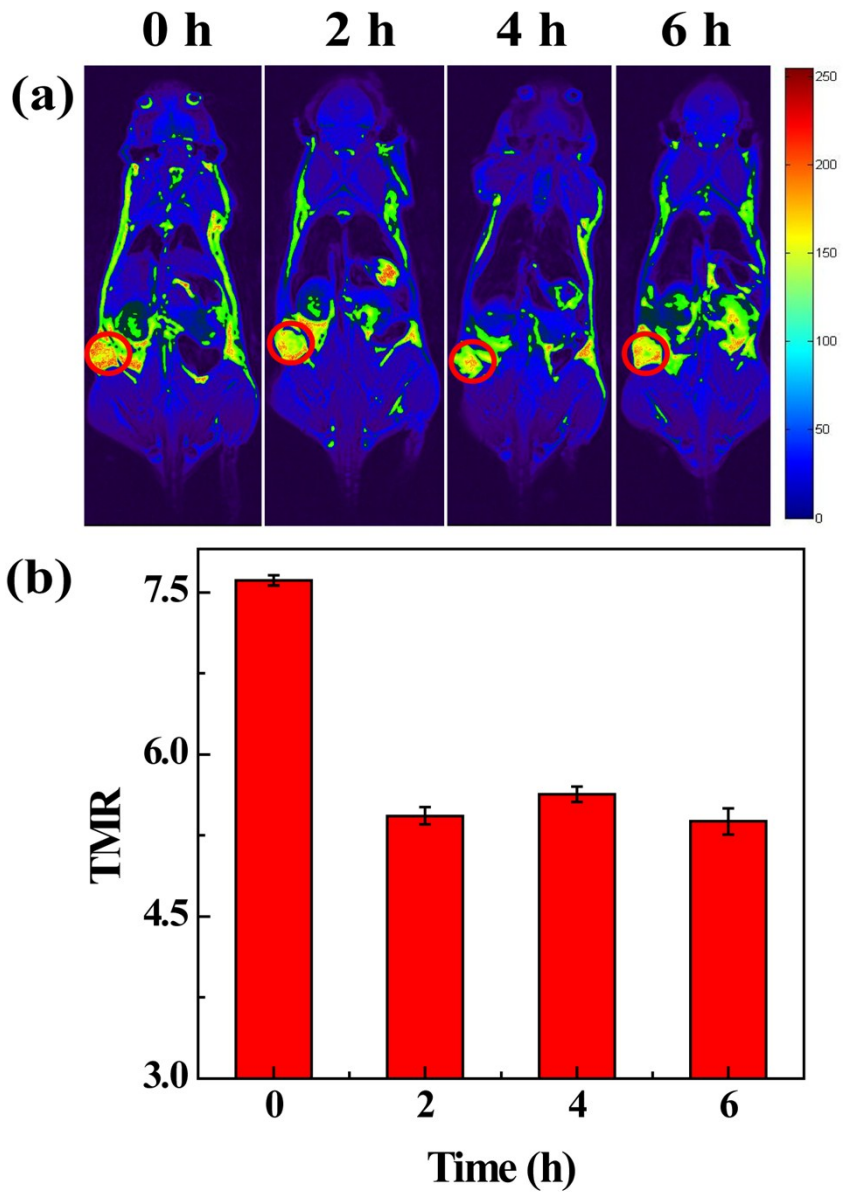

Figure S6. *In vivo* colored T_2-weighted images (a) of tumor (red circle) and tumor-to-muscle signal ratios (TMR) (b) after intravenous injection of LAP-Fe_3O_4 NPs (930 μg mL^{-1} Fe, in 0.1 mL PBS) for 0 h, 2 h, 4 h, and 6 h. The bar from red to blue indicates the gradual decrease of MR signal intensity.

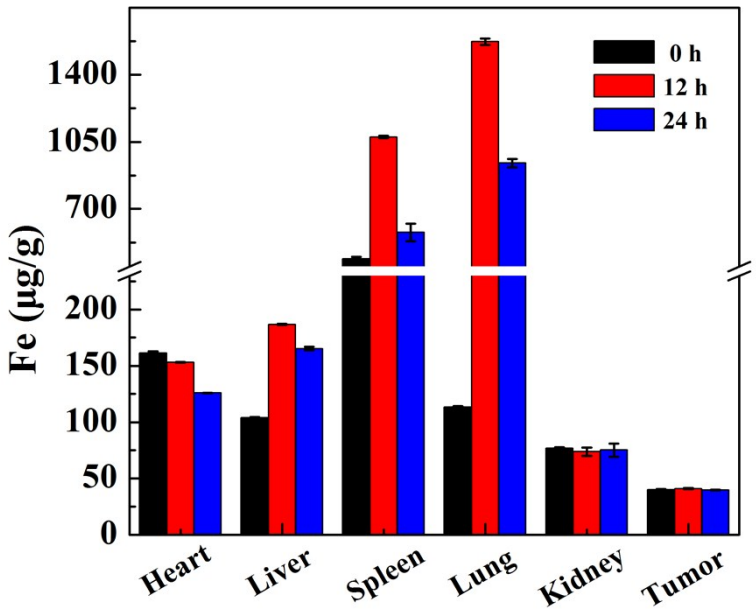

Figure S7. *In vivo* biodistribution of Fe element in different organs and tumor at 0 h, 12 h and 24 h, respectivily, post-injection of the LAP-Fe_3O_4 NPs (5 mg mL^{-1} Fe, in 0.1 mL PBS).