

Supporting Information

Folic acid modified superparamagnetic iron oxide nanocomposites for targeted hepatic carcinoma MR imaging

Zhongling Wang, Jing Zhu, Yinyin Chen, Kaiming Geng, Nong Qian, Liang Cheng, Ziwei Lu, Yue Pan, Liang Guo*, Yonggang Li*, Hongwei Gu*

Table S1 Properties of nanoparticles materials

Nanocomposites	size (nm)	T ₂ values		r ₂ (sec ⁻¹)
		DLS	(ms)	
IONP-DA-dextran-FA	96		10.9	91.7
IONP-DA-dextran	89		11.8	84.7

Table S2 MRI Intensity changes of Bel 7402 cells 1h after incubation with folic acid

Folic acid (mmol/L)	0mmol/L	0.5 mmol/L	1.0 mmol/L	1.5 mmol/L	2.0 mmol/L
MRI signal Intensities	493.53	700.99	877.35	961.32	1013.37
$\bar{x} \pm s$	± 38.97	± 56.93	± 46.72	± 46.81	± 77.91

Intensity is presented as mean±standard deviation,SD. At final concentrations of 40ug/ml.

Table S3. MRI Intensity changes at different Fe concentrations for incubates Bel 7402 cells

Groups	IONP-DA-dextran-FA	IONP-DA-dextran
	Signal intensities	Signal intensities
	$\bar{x} \pm s$	$\bar{x} \pm s$
Control	1446.17±88.91	1465.17±78.42
5μg/ml	1391.83±83.36	1439.83±76.31
10μg/ml	1095.83±81.17 ^b	1397.33±72.49
20μg/ml	823.83±71.00 ^b	1358.17±69.05 ^a
40μg/ml	448.33±59.41 ^b	1157.17±63.22 ^b
80μg/ml	155.00±41.09 ^b	901.50±55.37 ^b
Stat.value	F= 305.05	F=58.92
P value	P<0.01	P<0.01

a, P<0.05; b, P<0.01. Signal intensities change is significant compared with the control group. Rate of signal intensity variety of two groups were -89.76% (b) and -37.92% (a) respectively. Rate of signal intensity variety is calculated as (Postinjection-Preinjection)/Preinjection × 100%. Intensity is presented as mean±standard deviation,SD

Table S4.

Time	Experiment group					Control group			
	SI_T		SI_S			SI_T		SI_S	
	$\bar{x} \pm s$	<i>P value</i>	$\bar{x} \pm s$	<i>P value</i>	$\bar{x} \pm s$	<i>P value</i>	$\bar{x} \pm s$	<i>P value</i>	
Pre.	2601.67±195.60	—	792.50±81.58	—	2418.00±97.39	—	838.33±71.72	—	
Post.0.5h	2067.67±123.17	<0.01**	669.17±79.11	<0.01**	1856.00±107.76	<0.01**	739.17±68.88	0.03*	
Post. 1h	1935.17±76.91	<0.01**	615.50±59.77	<0.01**	1929.17±96.16	<0.01**	730.33±73.02	0.02*	
Post. 2h	1607.00±92.01	<0.01**	599.00±55.58	<0.01**	1893.00±100.13	<0.01**	699.50±58.87	<0.01**	
Post. 4h	1546.50±101.58	<0.01**	736.83±29.73	0.06	2273.50±98.12	<0.01**	729.50±98.31	0.02*	
Post. 8h	1443.17±69.63	<0.01**	775.00±17.79	0.55	2372.83±63.96	0.36	780.33±83.77	0.20	
Post. 12h	1467.50±109.09	<0.01**	751.50±23.87	0.16	2344.33±43.28	0.14	799.83±62.55	0.39	
Post. 18h	1138.83±131.44	<0.01**	749.17±26.69	0.14	2349.67±50.89	0.17	813.83±96.58	0.58	
Post. 24h	1070.83±151.52	<0.01**	764.83±26.86	0.35	2394.00±71.29	0.62	804.67±71.34	0.45	

Intensity is presented as mean±standard deviation,SD

SI_T = T₂ signal intensities of tumor SI_S = T₂ signal intensities of muscle

T₂ signal intensities of preinjection compared with postinjection , **P* values less than 0.05 or

***P* values less than 0.01 were considered be statistically significant