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Article

Embedding biomimetic magnetic nanoparticles, coupled with AS-48 peptide, into PLGA for the treatment of intracellular pathogens

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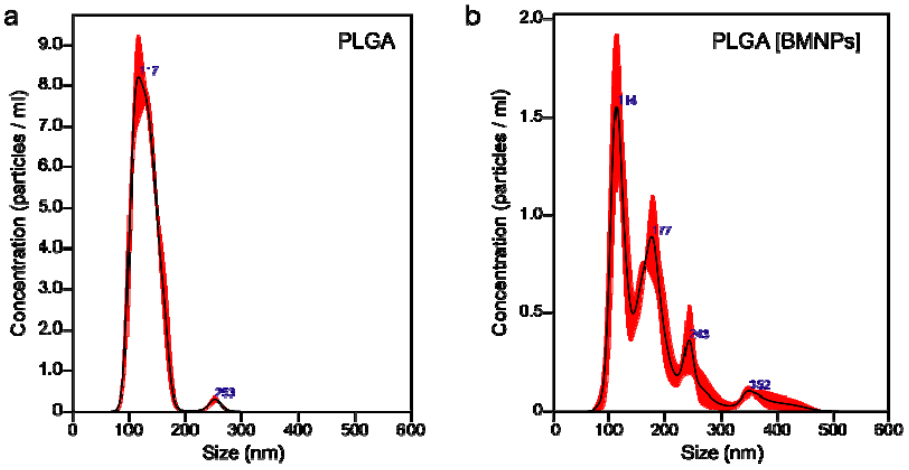

Figure S1. NTA analysis of different control samples: (a) PLGA and (b) PLGA[BMNPs].

Table S1. Summary of specific absorption rate (SAR) and intrinsic loss power (ILP) calculations concerning PLGA(AS-48-BMNPs) at different intensities and at fixed frequency of 120 kHz, after 30 seconds of exposure. Sample volume 0.2 ml.

Nano-formulation	Field (kA/m)	SAR (W/g)	ILP (nHm^2kg^{-1})
BMNPs	13.4 ± 0.2	373 ± 29	20.0 ±1.5
	17.7 ± 0.2	595 ± 40	18.7 ± 1.2
	23.2 ± 0.2	1210 ± 130	20.8 ± 2.1

Nano-formulation	Field (kA/m)	SAR (W/g)	ILP (nHm^2kg^{-1})
PLGA[BMNPs]	13.4 ± 0.2	252 ± 23	13.6 ± 1.2
	17.7 ± 0.2	416 ± 30	13.1 ± 1.0
	23.2 ± 0.2	760 ± 50	13.0 ± 0.9

Nano-formulation	Field (kA/m)	SAR (W/g)	ILP (nHm^2kg^{-1})
AS-48-BMNPs	13.4 ± 0.2	193 ± 12	10.4 ± 0.7
	17.7 ± 0.2	322 ± 30	11.6 ± 1.9
	23.2 ± 0.2	625 ± 30	10.7 ± 0.6

Nano-formulation	Field (kA/m)	SAR (W/g)	ILP (nHm^2kg^{-1})
PLGA[AS-48-BMNPs]	13.4 ± 0.2	314 ± 21	16.9 ± 1.1
	17.7 ± 0.2	440 ± 40	13.8 ± 1.1
	23.2 ± 0.2	836 ± 100	14.4 ± 1.7

Table S2. Summary of the calculation of the specific absorption rate (SAR) for all nano-formulations at different laser power densities after 30 seconds of exposure. Sample volume 0.2 ml

Nano-formulation	Power (W/cm^2)	SAR (W/g)
BMNPs	0.5 ± 0.1	13.5 ± 1.3
	1.0 ± 0.1	37.1 ± 1.3
	2.0 ± 0.1	70.4 ± 2.9

Nano-formulation	Power (W/cm^2)	SAR (W/g)
PLGA[BMNPs]	0.5 ± 0.1	14.9 ± 1.5
	1.0 ± 0.1	36.9 ± 1.3
	2.0 ± 0.1	80.7 ± 1.5

Nano-formulation	Power (W/cm^2)	SAR (W/g)
AS-48-BMNPs	0.5 ± 0.1	18.3 ± 2.8
	1.0 ± 0.1	46.2 ± 2.1
	2.0 ± 0.1	78.0 ± 2.0

Nano-formulation	Power (W/cm^2)	SAR (W/g)
PLGA[AS-48-BMNPs]	0.5 ± 0.1	18.3 ± 2.8
	1.0 ± 0.1	46.2 ± 2.1
	2.0 ± 0.1	78.0 ± 2.0