Macrophage-biomimetic nanoparticles ameliorate ulcerative colitis through reducing inflammatory factors expression
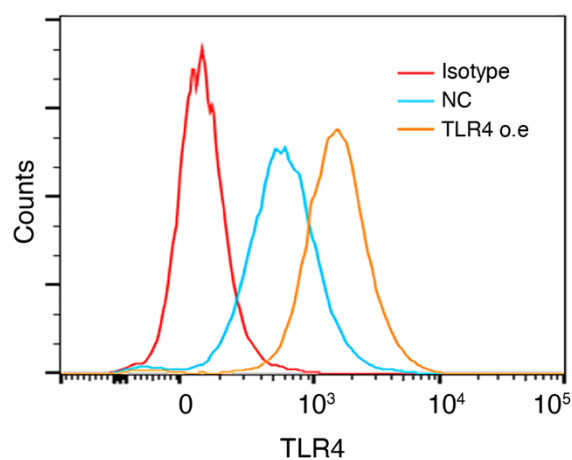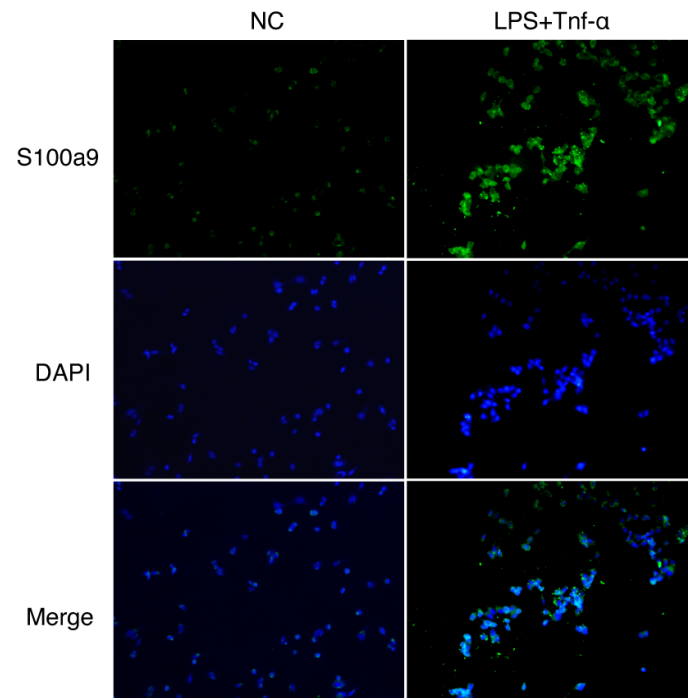
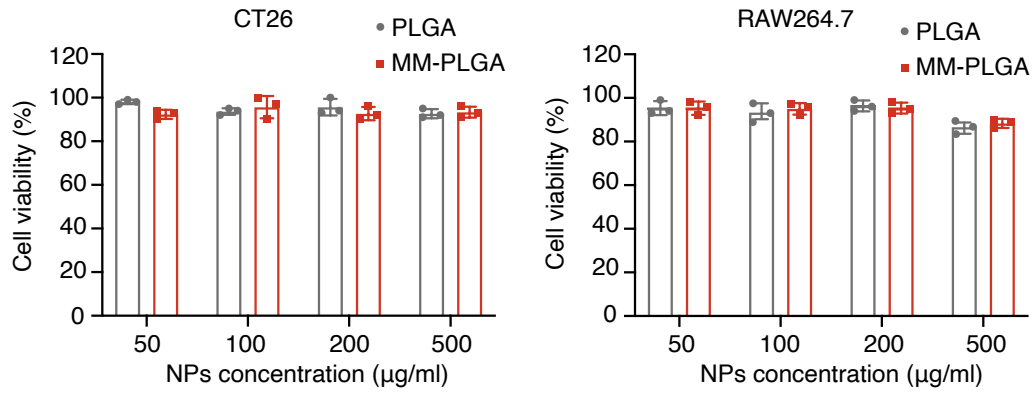
Supplementary Information

Figure S1. TLR4 overexpressed in RAW264.7 cells. TLR4 overexpression vector was transfected in RAW264.7 cells for 48 h, and the expression of TLR4 molecules on the cell surface was determined by flow cytometry. Isotype, antibody isotype control. NC, untransfected group.

Figure S2. Inflammation induced S100a9 expression. Immunofluorescence detection of S100a9 protein expression after treatment with LPS and Tnf-α in RA264.7 cells. NC, untreated group.

Figure S3. In vitro cytotoxicity of PLGA or MM-PLGA**.** CT26 cells (left) or RAW264.7 cells (right) were co-incubated with PLGA or MM-PLGA nanoparticles for 24 h and assessed for cell viability by MTT assay.

Table S1. Primers for qRT-PCR

Gene	Forward primer [5'-3']	Reverse primer [5'-3']
S100A9-mouse	ACCACCATCATCGACACCTTC	AAAGGTTGCCAACTGTGCTTC
Il1β-mouse	AGCCTCGTGCTGTCGGACCC	TCCAGCTGCAGGGTGGGTGT
Il6-mouse	CCTCTCTGCAAGAGACTTCCATCC	AGCCTCCGACTTGTGAAGTGG
Il10-mouse	CAGTACAGCCGGGAAGACAA	CCTGGGGCATCACTTCTACC
Il17-mouse	AACATGAGTCCAGGGAGAGC	CTGCCTGGCGGACAATCGAG
iNos-mouse	ACCACCATCATCGACACCTTC	CCAGAGGCAGCACATCAAAGC
Tnfα-mouse	AGGGGCCACCACGCTCTTCT	CATGCCGTTGGCCAGGAGGG
Gapdh-mouse	TCTGACGTGCCGCCTGGAGA	CAGCCCCGGCATCGAAGGTG

Table S2. Characterization of PLGA nanoparticles and membrane coated nanoparticle.

Nanoparticles	Mean size [nm]	PDI	Zeta [mV]	DL [%]	EE$_{TAS}$ [%]
PLGA-TAS	168.1± 0.5	0.048± 0.02	-20.3± 0.5	6.37± 0.26	67.42± 1.79
PLGA-TAS/DIR	173.6± 1.2	0.033± 0.06	-19.8± 0.7	5.52± 0.53	62.04± 2.84
MM-PLGA-TAS	207.2± 3.7	0.036± 0.03	-18.4± 1.1	6.02± 0.58	64.87± 3.50
MM-PLGA-TAS/DIR	203.6± 5.8	0.059± 0.05	-19.3± 0.5	5.19± 0.74	58.14± 2.53

DL: drug loading, EE: encapsulation efficiencies