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Title	Polydopamine nanoparticles for treatment of acute inflammation-induced injury
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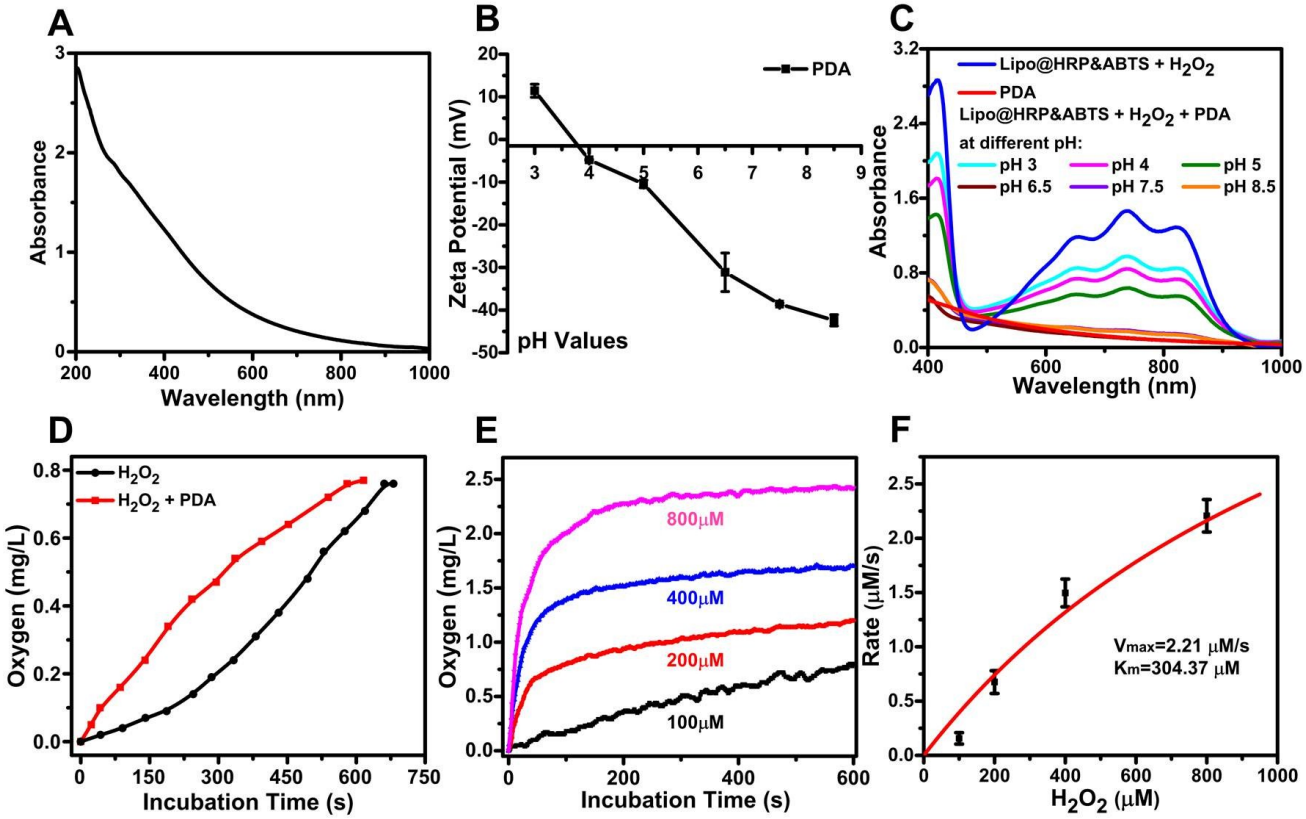
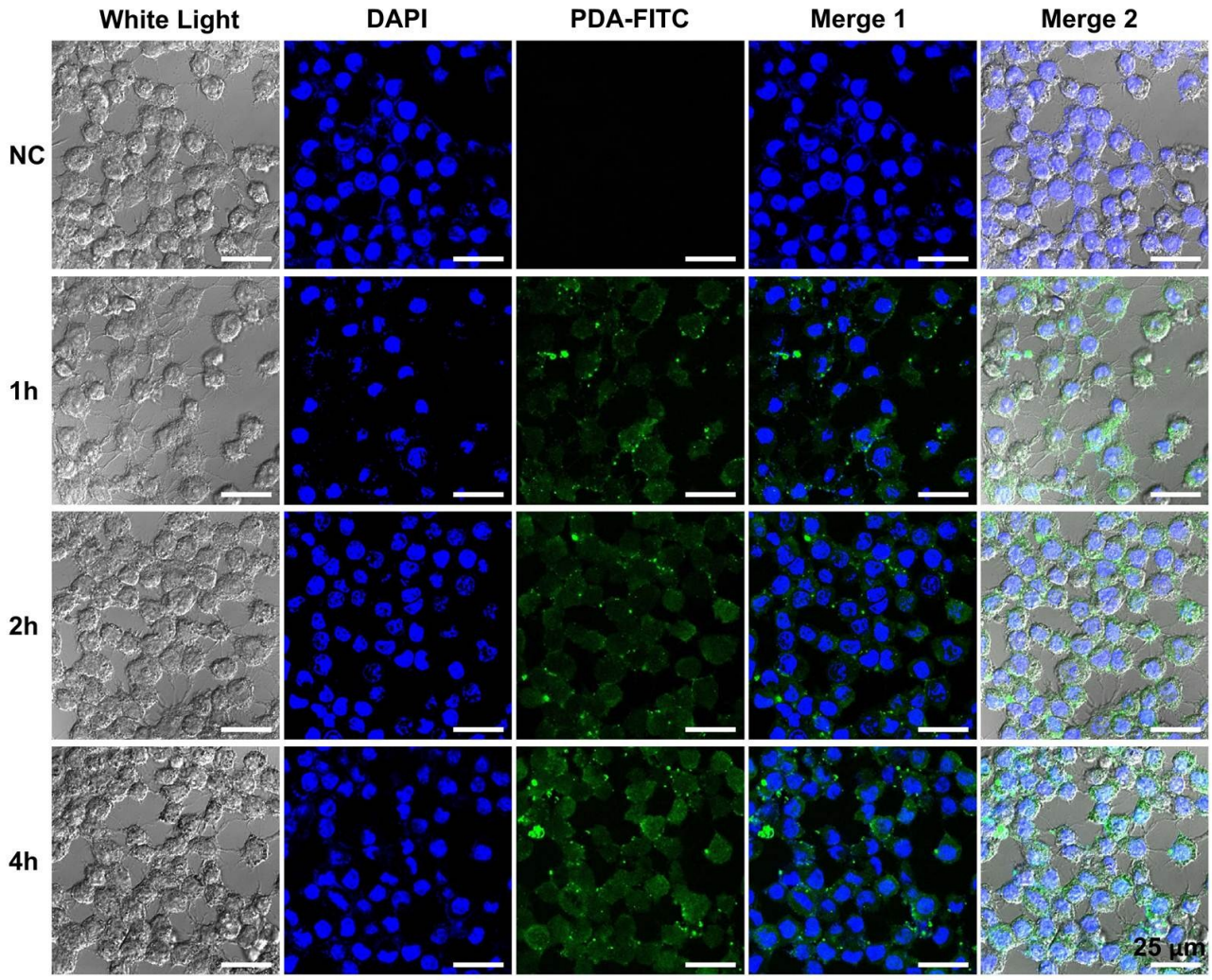
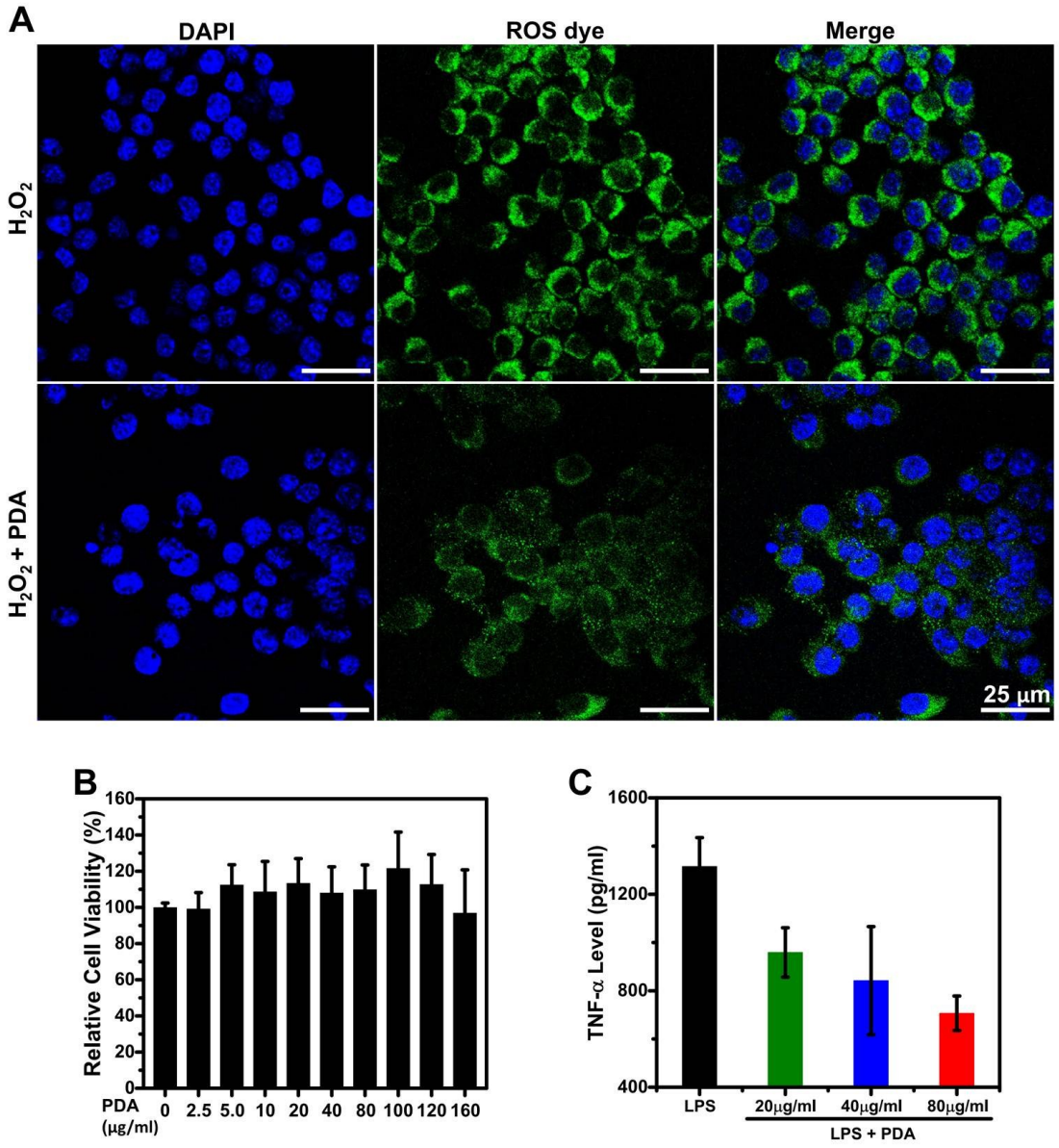
Supporting information



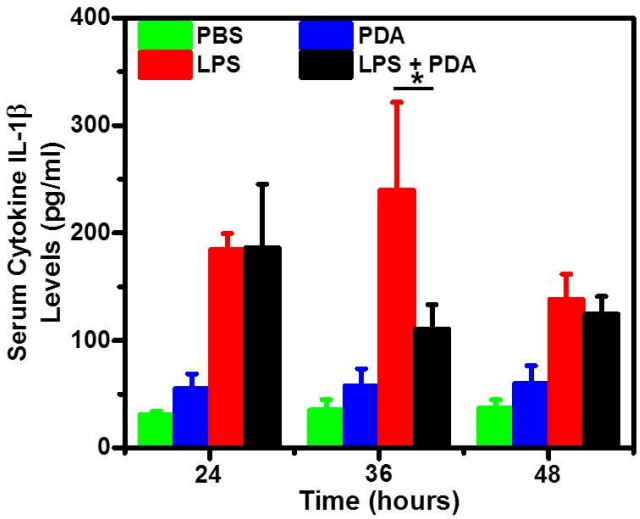
Supporting Figure S1. (A) UV–Vis–NIR absorbance spectra of PDA nanoparticles in water. (B) Zeta potentials of PDA nanoparticles in aqueous solutions with different pH values. (C) UV-Vis-NIR absorbance spectra changes of the reaction solutions measured at different pH values (i.e. 3, 4, 5, 6.5, 7.5, 8.5) after H_2O_2 (25 μM) was incubated with PDA (0.02 mg/ml). The absorbance was originated from the Lipo@HRP&ABTS probe in the presence of H_2O_2. (D) O_2 production from the H_2O_2 solution (100 μM) with or without PDA. (E) PDA accelerates the decomposition of H_2O_2 under different the concentration of H_2O_2 (i.e. 100, 200, 400, 800 μM). (F) Michaelis-Menten kinetic plot of the reaction rate vs the H_2O_2 concentration for PDA-'catalase-like'-catalyzed decomposition of H_2O_2.



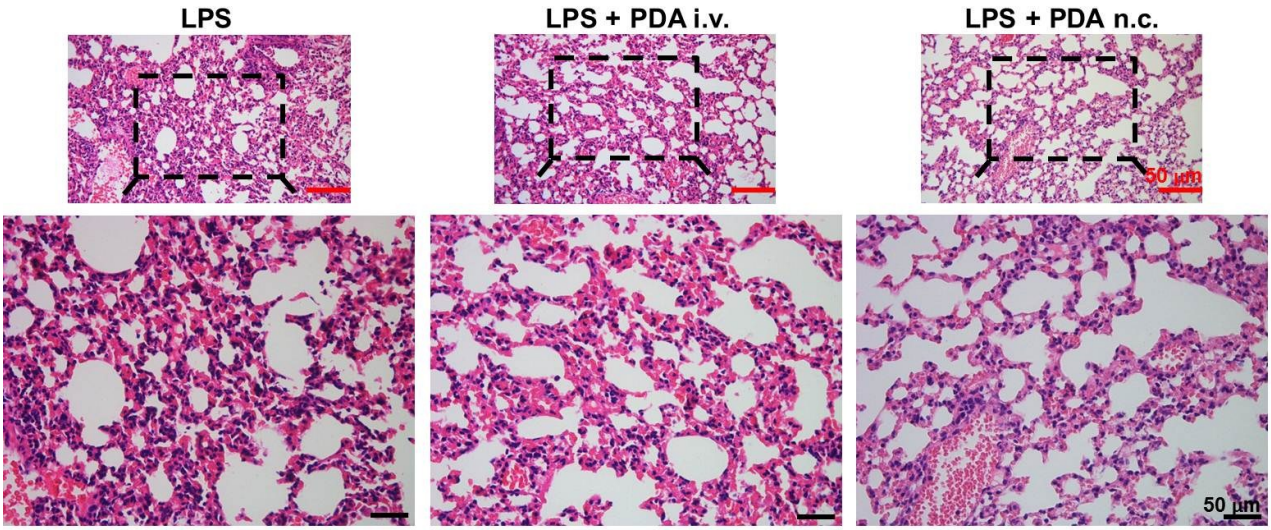
Supporting Figure S2. Confocal fluorescence images of Raw 264.7 cells incubated with FITC labeled PDA nanoparticles (PDA-FITC) for various periods of time. NC represented negative control. The concentration of PDA was 80 μg/ml.



Supporting Figure S3. (A) Confocal fluorescence images of ROS levels in the H_2O_2-treated cells with or without PDA treatment using DCFH-DA as a ROS probe. Scale bar = 25 μm. (B) Relative cell viabilities of Raw 264.7 cells after incubation with various concentrations of PDA nanoparticles for 24 h. (C) Cellular supernatant TNF-α levels for cells after LPS stimulation, in the absence or presence of different concentrations of PDA. The concentration of LPS was 1 μg/ml.



Supporting Figure S4. Serum cytokine IL-1β from all mice evaluated at 24 h, 36 h and 48 h post injection of LPS in the acute peritonitis model. P values were calculated by the Student's t-test (* $p < 0.05$).



Supporting Figure S5. H&E stained images of the lung tissues collected from the LPS group, LPS + PDA (i.v.) group, and LPS + PDA (n.a.) group. The tissues were collected at 24 h post LPS treatment. Scale bar (black or red line) = 50 μm.