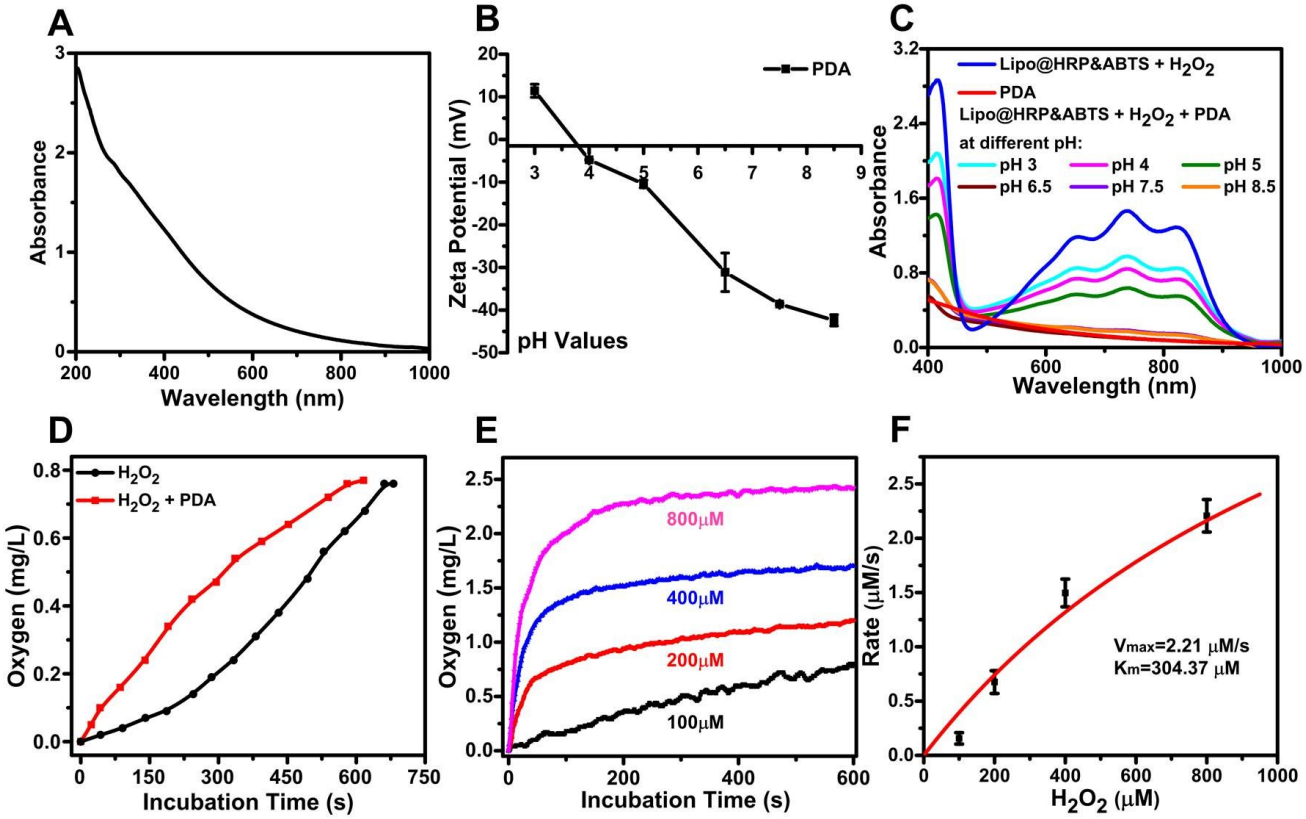
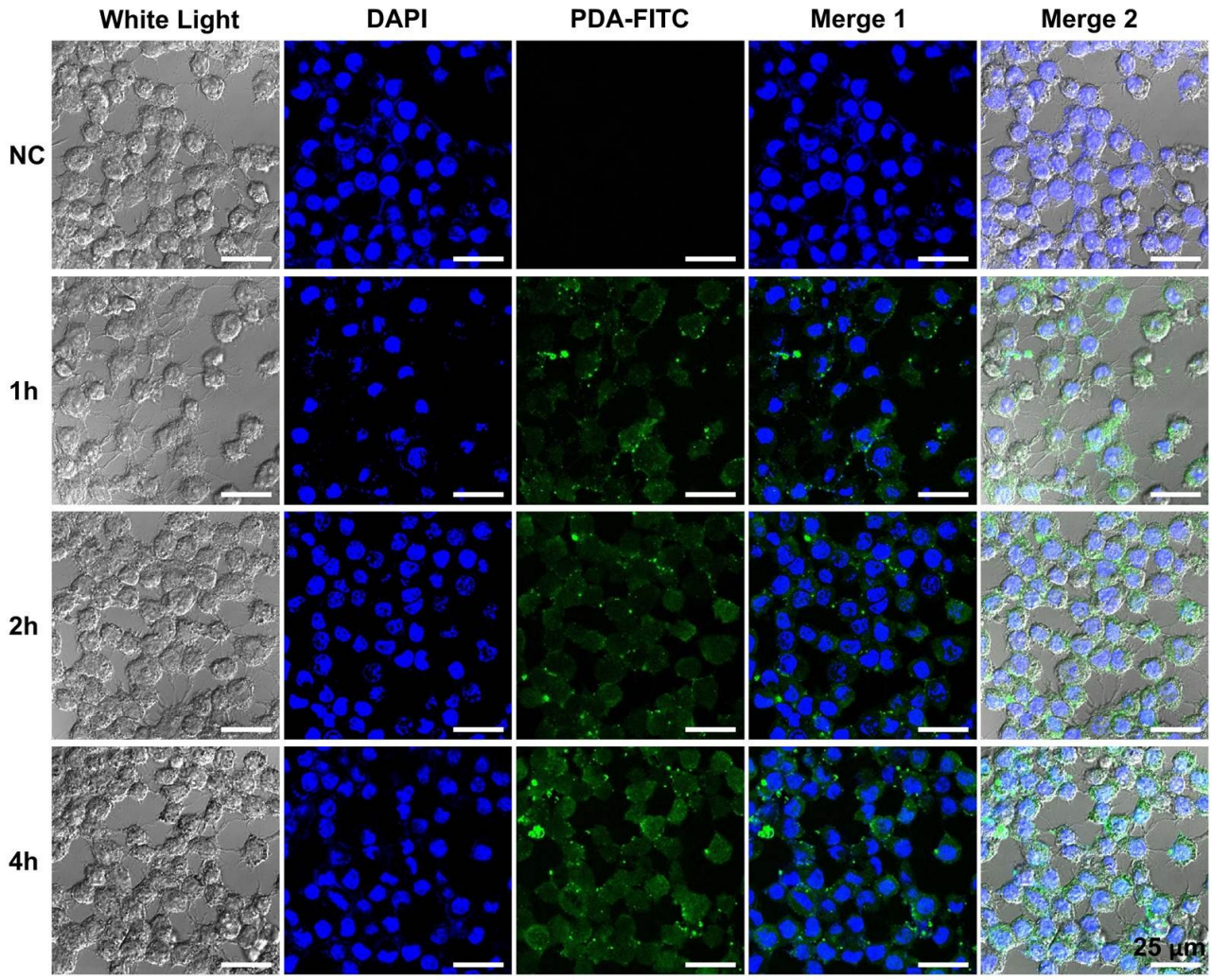
Electronic Supplementary Material (ESI) for Nanoscale.

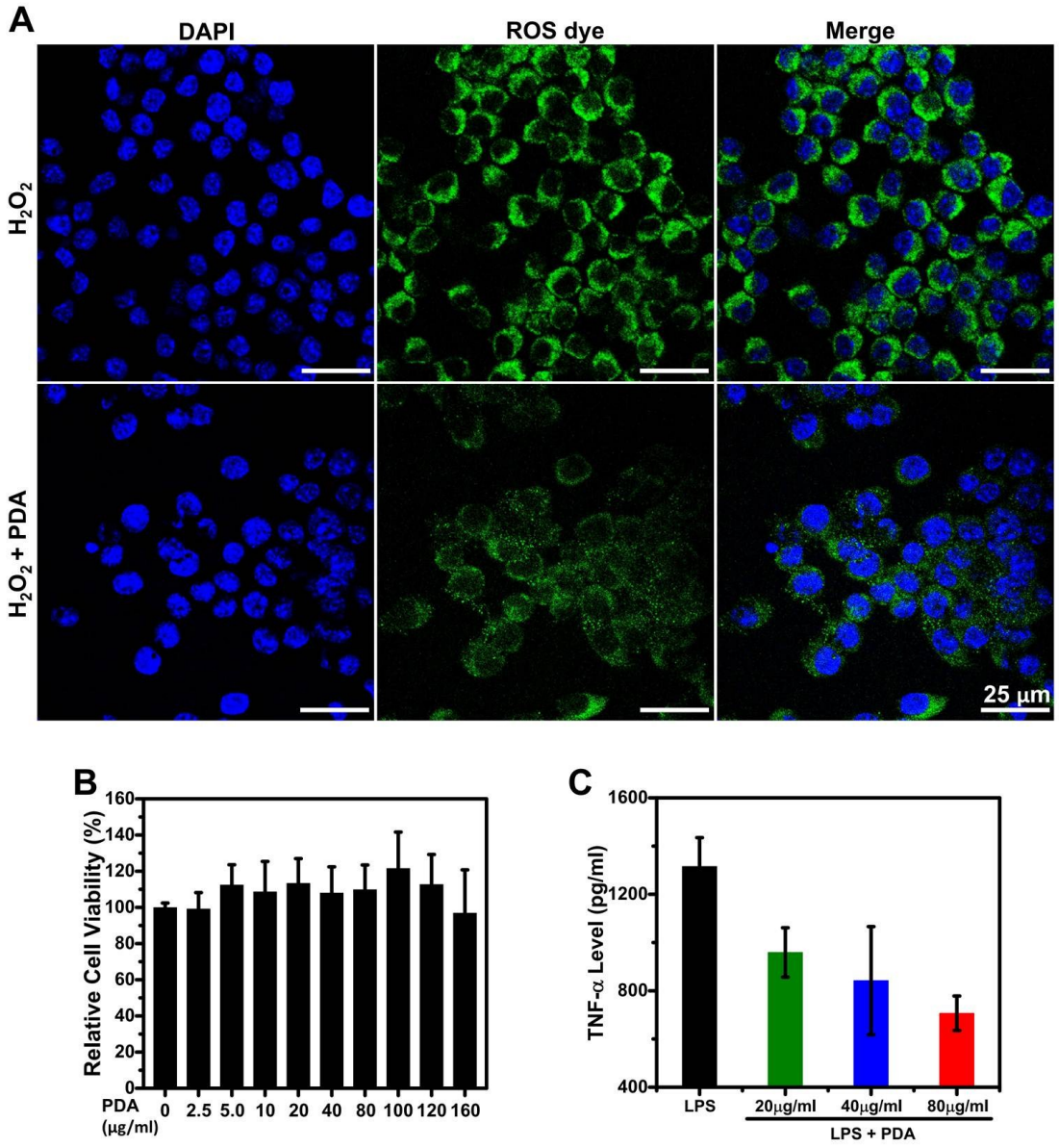
Supporting information



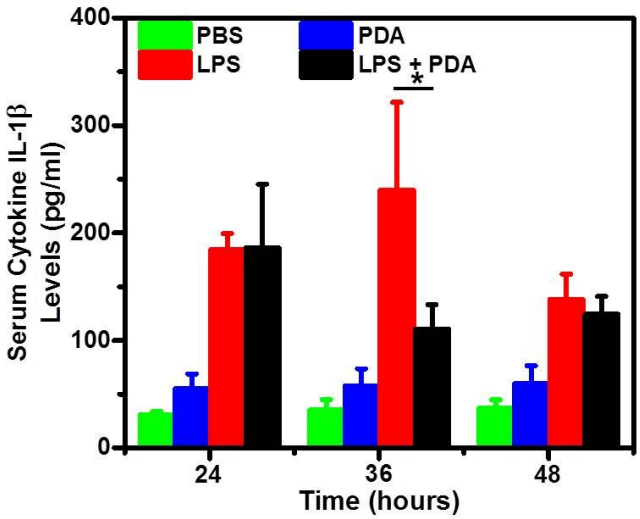
Supporting Figure S1. (A) UV–Vis–NIR absorbance spectra of PDA nanoparticles in water. (B) Zeta potentials of PDA nanoparticles in aqueous solutions with different pH values. (C) UV-Vis-NIR absorbance spectra changes of the reaction solutions measured at different pH values (i.e. 3, 4, 5, 6.5, 7.5, 8.5) 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.



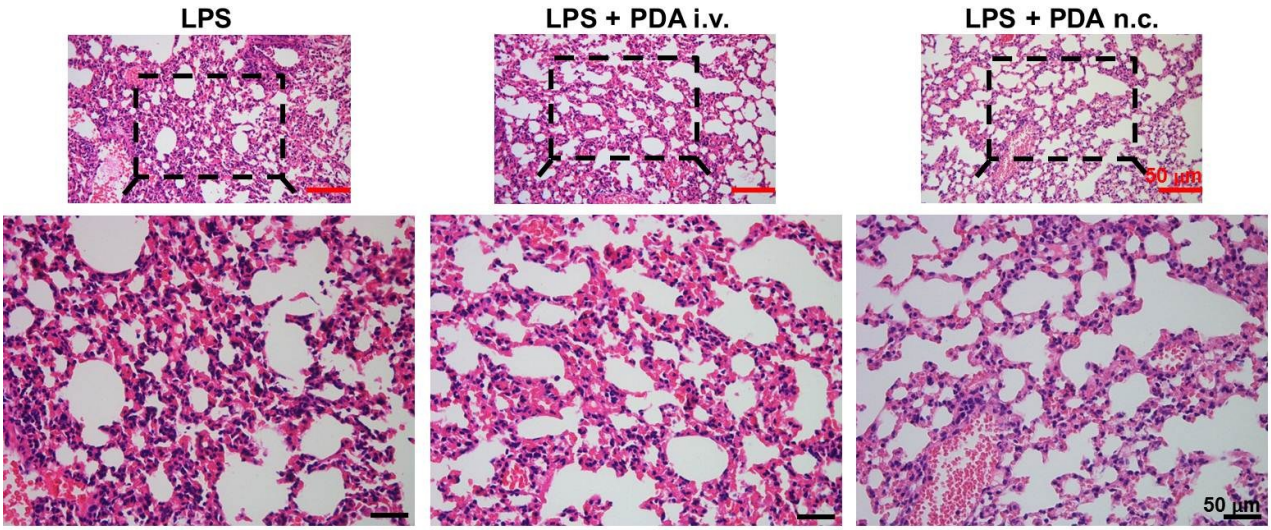
Supporting Figure S2. Confocal fluorescence images of Raw 264.7 cells incubated with FITC labeled PDA nanoparticles (PDA-FITC) for various periods of time. NC represented negative control. The concentration of PDA was 80 μg/ml.



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.