Supporting Information

Comprehensive Characterizations of Nanoparticle Biodistribution
Following Systemic Injection in Mice

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Supplemental information: 8 supporting figures
**Figure S1** Scanning electron microscopy images of 20, 40, 100, 200, and 500 nm nanoparticles.
Figure S2. Total fluorescein equivalents and acid/basic resistance of the nanoparticles under various pH conditions. Nanoparticle stability under different pH conditions (a). Left y-axis: fluorescence leakage from the nanoparticles, right y-axis: polydispersity index. n≥4 in each group. Dye-containing supernatant after o-xylene extraction (b).
**Figure S3.** Total fluorescence equivalents and brain fluorescence intensity. (a) Total fluorescence equivalents for HPLC. (b) There was no difference after normalization of nanoparticle fluorescein intensity in the brain tissue.
**Figure S4.** Lipopolysaccharide (LPS) alters nanoparticles penetration in brain tissue. (a) IVIS images of nanoparticle retention in the brain tissue. (b) HPLC quantified nanoparticles retention in the brain tissue.
Figure S5. Whole field images of the brain tissue subjected to nanoparticle treatments. Nanoparticles: red; DAPI: blue. Arrows indicate the presence of nanoparticles.
Figure S6. Whole field images of the brain tissue subjected to nanoparticle treatments under high magnification. Nanoparticles: red; DAPI: blue. Scale bar = 50 mm.
Figure S7. Total retention of different-sized nanoparticles in the six vital organs and blood, as quantified using HPLC in normal mice.
Figure S8. The tissue retention of nanoparticles of different sizes. Heart, kidney, skin and muscle sections were injected with normal saline, 20, 40, 100, 200, or 500 nm nanoparticles. Red, nanoparticles; green, isolectin; blue, DAPI.