

Supplementary Materials

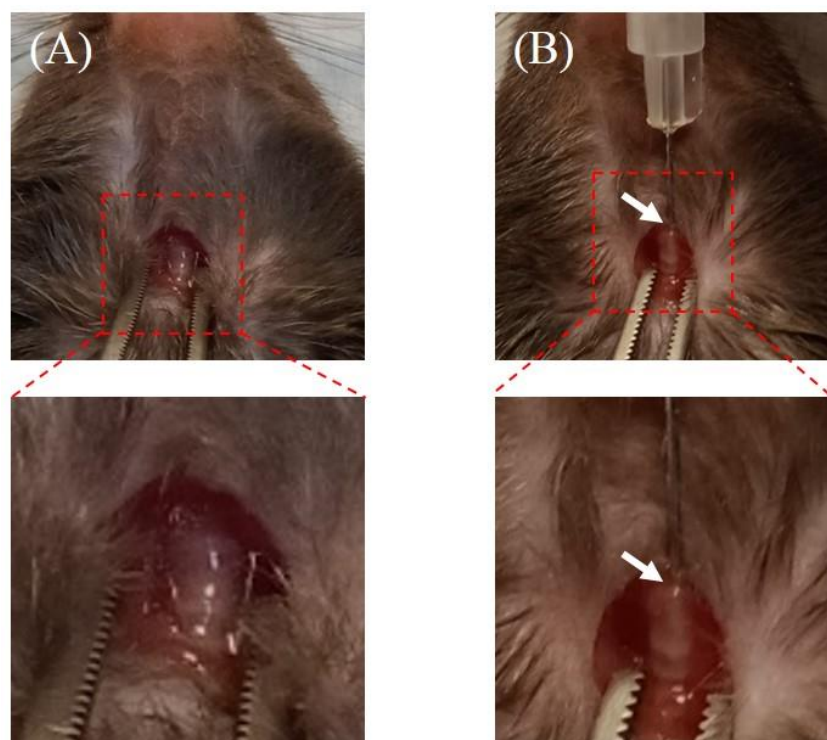
# Solid Lipid Nanoparticles Loaded with Dexamethasone Palmitate for Pulmonary Inflammation Treatment by Nebulization Approach

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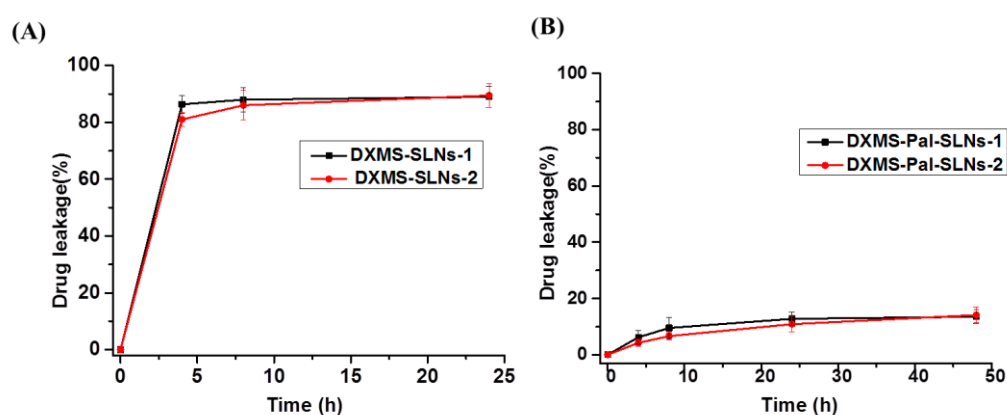
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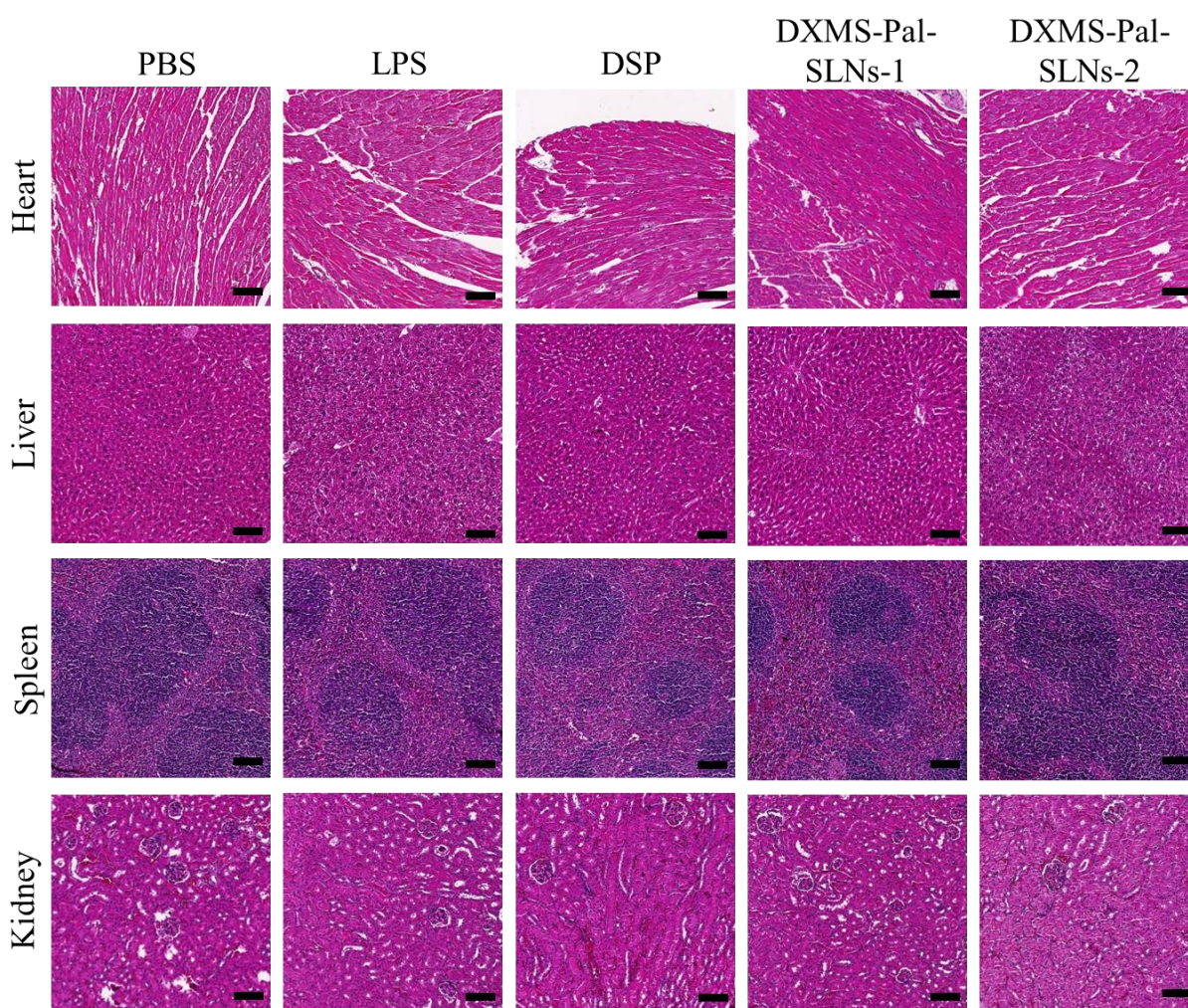
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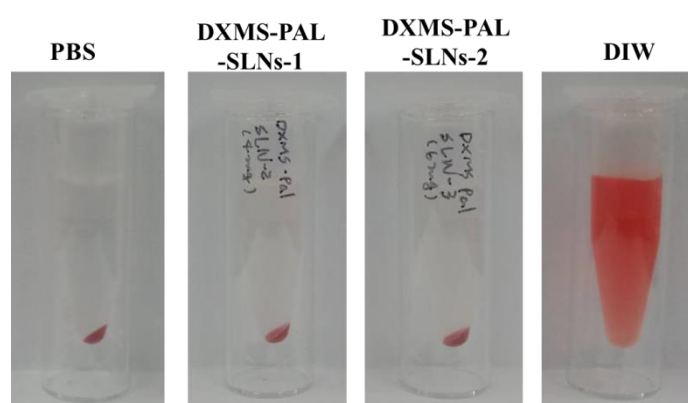
**Figure S1.** The trachea of the C57BL/6J male mouse experiencing LPS-induced pulmonary inflammation (A) before and (B) after the treatment with DXMS-Pal-SLNs in PBS by intratracheal injection (represented by white arrow).



**Figure S2.** Drug leakage profiles of (A) DXMS-SLNs and (B) DXMS-Pal-SLNs in PBS at 37 °C. (n=3). The study was performed in PBS at 37 °C by dialysis technique. The preparation of DXMS-SLNs was essentially identical to that of DXMS-Pal-SLNs except that the amounts of DXMS in feed during the preparation were 2.5 mg in DXMS-SLNs-1 and 3.75 mg in DXMS-SLNs-2.



**Figure S3.** H&E staining of major organs of mice experiencing LPS-induced lung inflammation after treatments with DSP and DXMS-Pal-SLNs, respectively (lung not included). The scale bars are 50 µm.



**Figure S4.** Hemolysis test of DXMS-PAL-SLNs. The red blood cells were co-incubated with PBS, DIW and DXMS-Pal-SLNs, respectively, for 6 h at 37 °C.

**Table S1.** Drug retention and leakage of DXMS-Pal-SLNs in PBS at 37 °C for 24 h.<sup>a</sup>

	DXMS-Pal-SLNs-1		DXMS-Pal-SLNs-2	
	µg	%	µg	%
Initial DXMS amount	297.5	100.0	385.8	100.0
Retention	256.7	86.3	360.8	93.5
Leakage	24.8	8.3	7.8	2.0

<sup>a</sup>The separation of DXMS-Pal and DXMS-Pal-SLNs was performed by gel permeation chromatography (Sephadex G-25 PD-10 column). The quantities of DXMS-Pal both released and retained were determined by UV/Vis spectroscopy at 238 nm.