

Supplementary Information

Albumin enhances dextran NP's delivery and therapeutic efficacy of PTX for colorectal cancer

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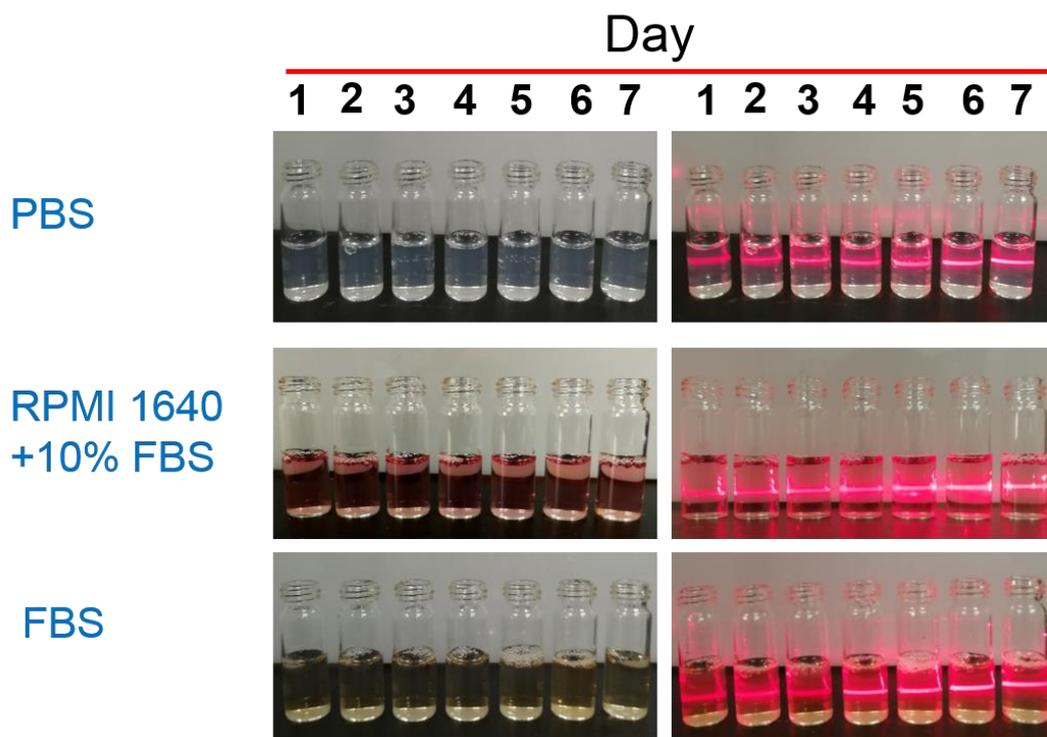


Fig. S1. Photos of the stability about Dex_{6k}-BSA/PTX NPs dispersed in PBS, fetal bovine serum (FBS) and RPMI-1640 culture media containing 10% FBS for 7 days.

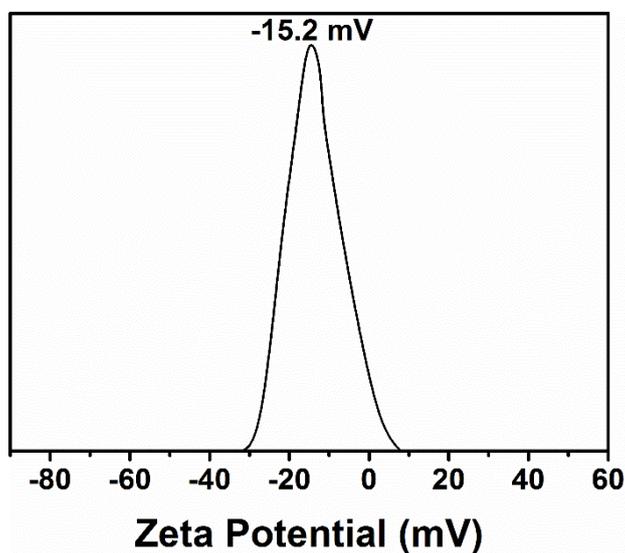


Fig. S2. The zeta potential Dex_{6k}-BSA/PTX NPs

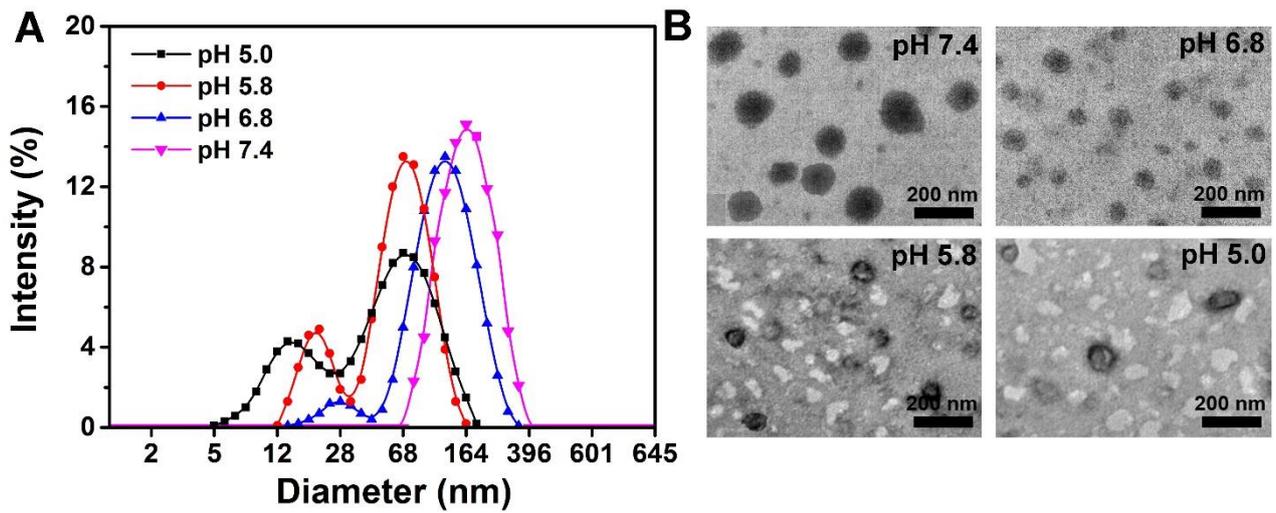


Fig. S3. Size distribution (A) and TEM (B) of Dex_{6k}-BSA/PTX NPs when treated under different pH values after 4h incubation.

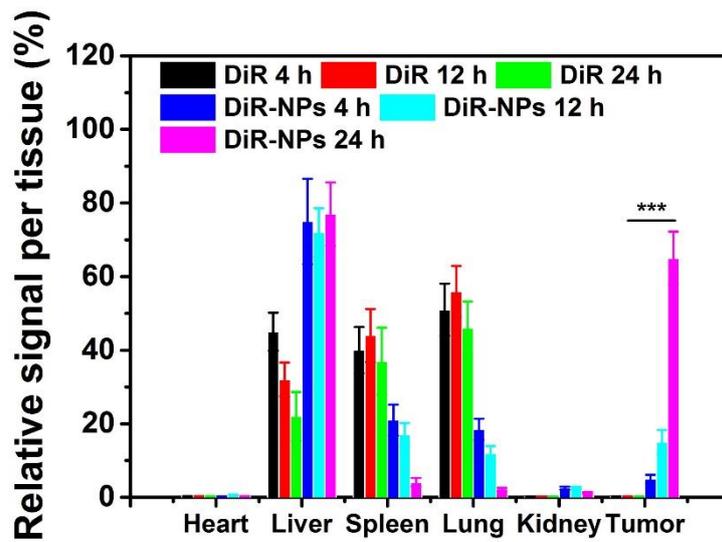


Fig. S4. Relative fluorescence signal per tissue as quantified. The data are presented as means \pm SD (n = 3) ***, $p < 0.001$.

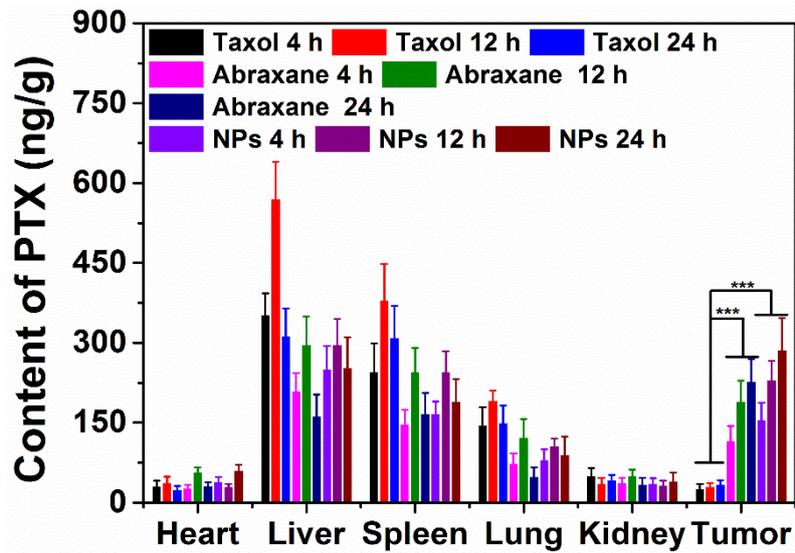


Fig. S5. Biodistribution of PTX in tumor and different organs in mouse after administration of Taxol (5 mg/kg), Abraxane (5 mg/kg) and Dex_{6k}-BSA-PTX NPs (equivalent 5 mg/kg PTX). The data are presented as means \pm SD (n = 3) ***, $p < 0.001$.

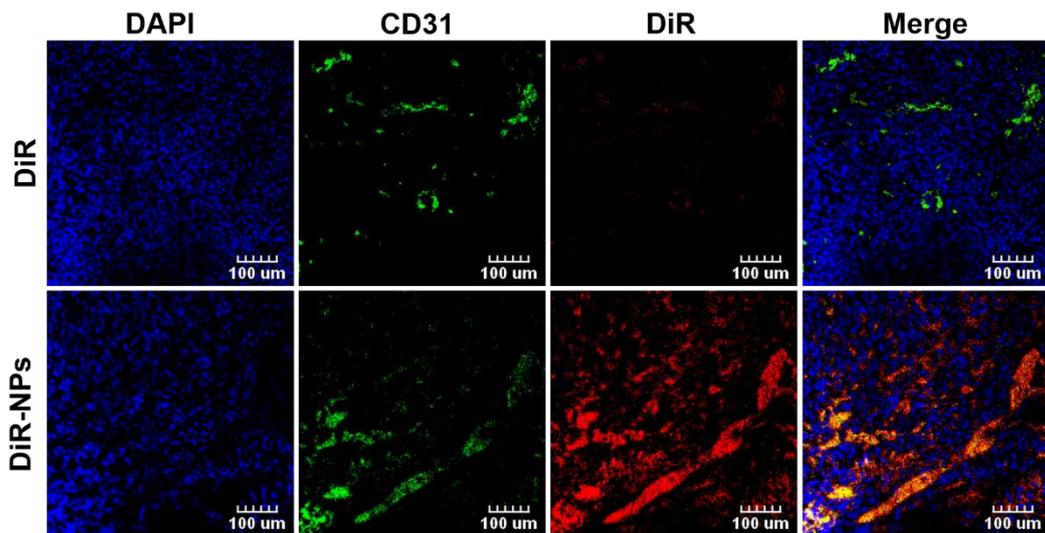


Fig. S6. CLSM images of the tumors of CT26 tumor-bearing mice 24 h after i.v. administration of DiR labeled nanoparticles (red). Blood vessels were stained with anti-CD31 (green) and nuclei were visualized with DAPI (blue). Scale bar = 100 μ m.

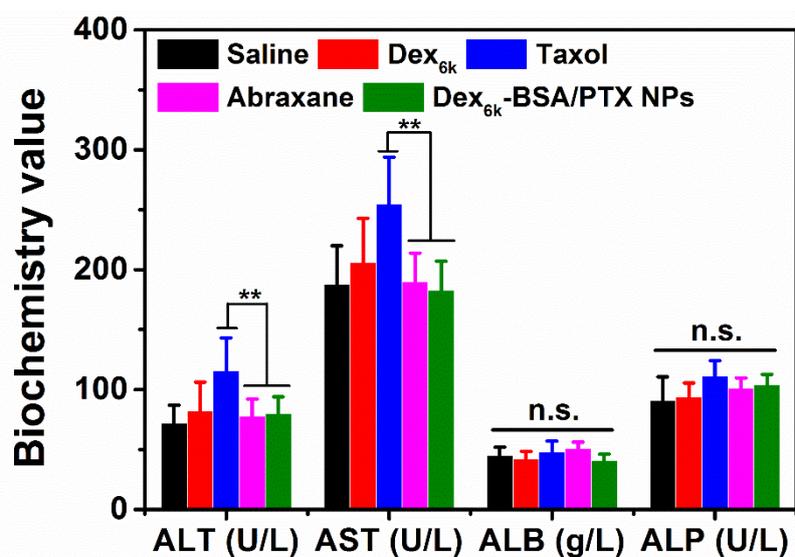


Fig. S7. The relevant blood biochemistry analysis of the mice
The examined parameters of blood biochemistry including the alanine aminotransferase (ALT), aspartate aminotransferase (AST), albumin (ALB) and alkaline phosphatase (ALP).

Tab. S1 Pharmacokinetics of SD rats post intravenous injection of Taxol, Abraxane and Dex_{6k}-BSA/PTX NPs

Parameter	Taxol	Abraxane	Dex _{6k} -BSA/PTX NPs
T_{1/2} (h)	5.09 ± 1.53	12.93 ± 3.65	18.29 ± 5.47
C_{max} (mg/L)	13.11 ± 3.73	15.28 ± 1.17	15.21 ± 3.77
MRT_(0-∞) (h)	6.50 ± 1.87	17.39 ± 2.07	24.71 ± 6.13
AUC_(0-∞) (h·mg/L)	38.065 ± 4.98	98.57 ± 8.51	121.83 ± 38.45
CL (L/(h/kg))	0.26 ± 0.044	0.10 ± 0.084	0.08 ± 0.026

Tab. S2 Hematological parameters of the blood collected from mice treated with saline, Dex_{6k}, Taxol, Abraxane and Dex_{6k}-BSA/PTX NPs

	WBC (10⁹/L)	RBC (10¹²/L)	HGB (g/L)	PLT (10⁹/L)	MCV (fL)
Saline	4.48 ± 0.36	8.53 ± 0.32	132.7 ± 8.3	840.9 ± 12.7	50.4 ± 0.72
Dex_{6k}	4.15 ± 0.24	7.87 ± 0.78	141.2 ± 6.1	742.3 ± 21.8	49.2 ± 0.59
Taxol	3.13 ± 0.39↓	8.42 ± 1.01	147.8 ± 9.5	572.1 ± 19.2↓	47.8 ± 0.26
Abraxane	4.22 ± 0.31	8.24 ± 0.47	140.9 ± 8.5	812.8 ± 22.9	55.2 ± 0.57
Dex_{6k}-BSA/PTX NPs	3.92 ± 0.53	7.97 ± 0.28	136.9 ± 7.2	782.6 ± 17.1	52.1 ± 0.97