Glucose Decorated Engineering Platelet for Active and Precise Tumor Targeted Drug Delivery

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Biocompatibility of DPG-PL

L929 was mixed with different concentrations of DPG-PL, and CCK-8 solution was added after co-culture for 24 h, 48 h, and 72 h, respectively. After the reaction in the dark for 2 h, the absorbance value at 450 nm was detected by a microplate reader, and the cell viability was calculated. After coculture for 24 h, the mixture solution of Calcein -AM and propidium iodide (PI) was added and incubated at room temperature for 30 min. Followed by rinsing with PBS for three times and observation under fluorescence microscope.
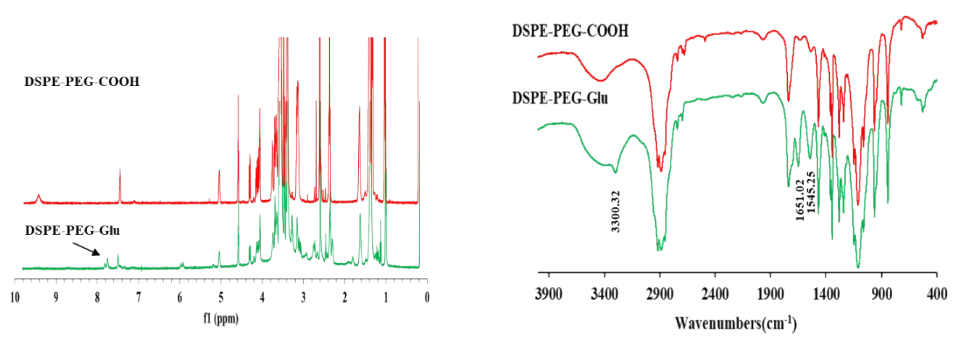
Fig. S1. ^{1}H NMR spectrum and FTIR absorption spectra of DSPE-PEG-Glu.
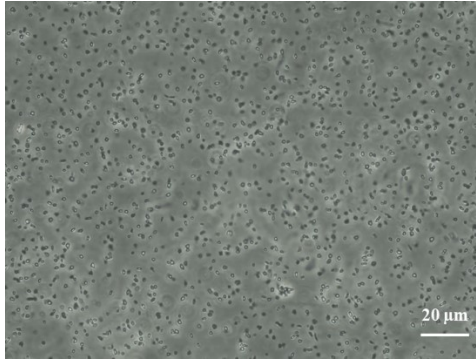
Fig. S2. Representative image of purified platelets (scale bar: 20 µm).
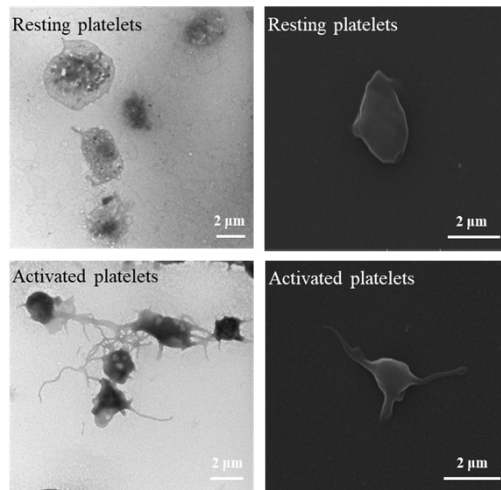
Fig. S3. Representative TEM image and SEM image of resting platelets and actived
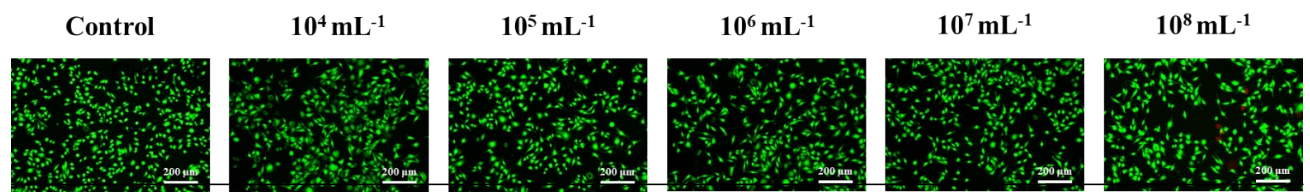Platelet (scale bar: 2 μm).

Control	10^4 mL^{-1}	10^5 mL^{-1}	10^6 mL^{-1}	10^7 mL^{-1}	10^8 mL^{-1}

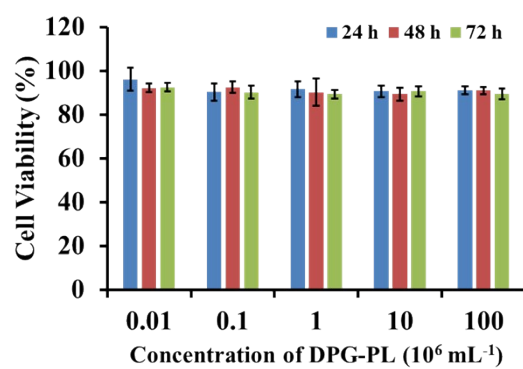Fig. S4. Live/dead assays for DPG-PL -treated L929 (scale bar: 100 µm, n=5).

Fig. S5. Viability L929 after incubation with different concentration of DPG-PL (n=5).
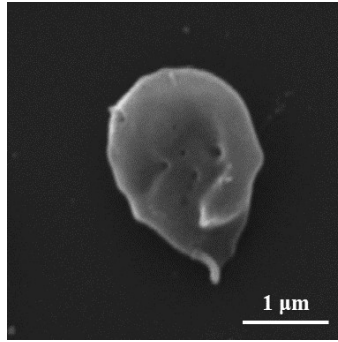
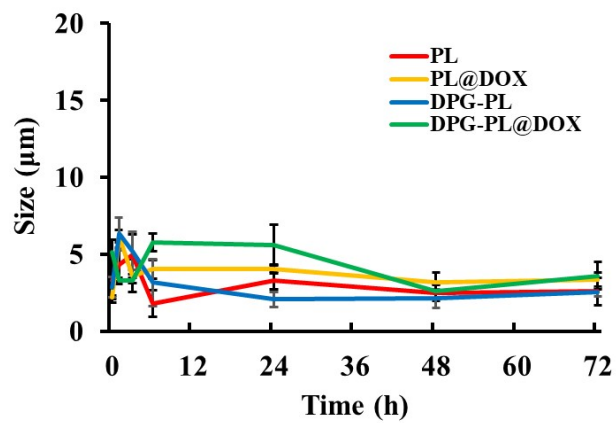Fig. S6. Representative SEM image of DPG-PL@DOX (scale bar: 1 µm).

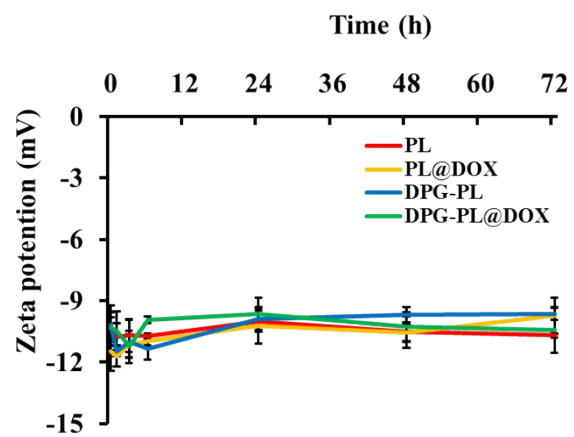Fig. S7. Changes of PL, PL@DOX, DPG-PL, DPG-PL@DOX particle size in 72h.

Fig. S8. Changes of PL, PL@DOX, DPG-PL, DPG-PL@DOX Zeta potential in 72h.
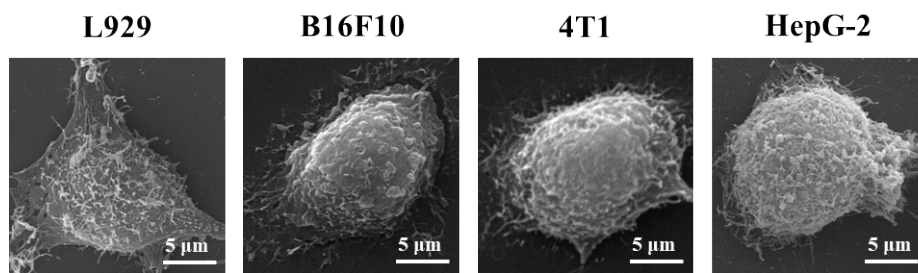
Fig. S9. Representative SEM images of L929, 4T1, B16F10 and HepG-2.

Table S1 Influence of NC, DOX, PL@DOX, and DPG-PL@DOX on heart, liver, and kidney function after different treatments using serum biochemical analysis.

Groups	CK-MB[1]	ALT[2]	AST[3]	AST/ALT	TBIL[4]	CREA[5]	UA[6]
Normal	157.06	54.91	145.95	2.66	7.06	34.99	99.89
	±21.72	±4.6	±7.34	±1.6	±0.47	±7.77	±7.18
NC	143.67	46.81	148.62	3.17	7.29	33.32	119.65
	±31.84	±5.19	±7.33	±1.4	±0.7	±12.12	±12.77
DOX	242.83	48.42	155.3	3.21	7.12	45.52	128.44
	±37.09	±2.2	±11.77	±5.48	±0.4	±9.94	±14.43
PL@DOX	219.77	42.47	150.37	3.54	7.97	34.18	103.86
	±34.15	±7.66	±16.15	±2.16	±0.99	±6.31	±15.92
DPG-PL@DOX	181.03	56.86	156.23	2.75	7.01	36.74	112.22
	±27.57	±8.48	±16.78	±1.97	±0.65	±6.44	±11.47

The heart function is evaluated with serum level of [1] creatine kinase isoenzyme-MB (CK-MB, U L^{-1}). The liver function is evaluated with serum levels of [2] alanine aminotransferase (ALT, U L^{-1}), [3] aspartate aminotransferase (AST, U L^{-1}) and [4]total bilirubin level (TBIL, μmol L^{-1}). The kidney function is evaluated with serum levels of [5] creatinine (CREA, μmol L^{-1}), f uric acid (UA, μmol L^{-1}).