Supplementary Materials

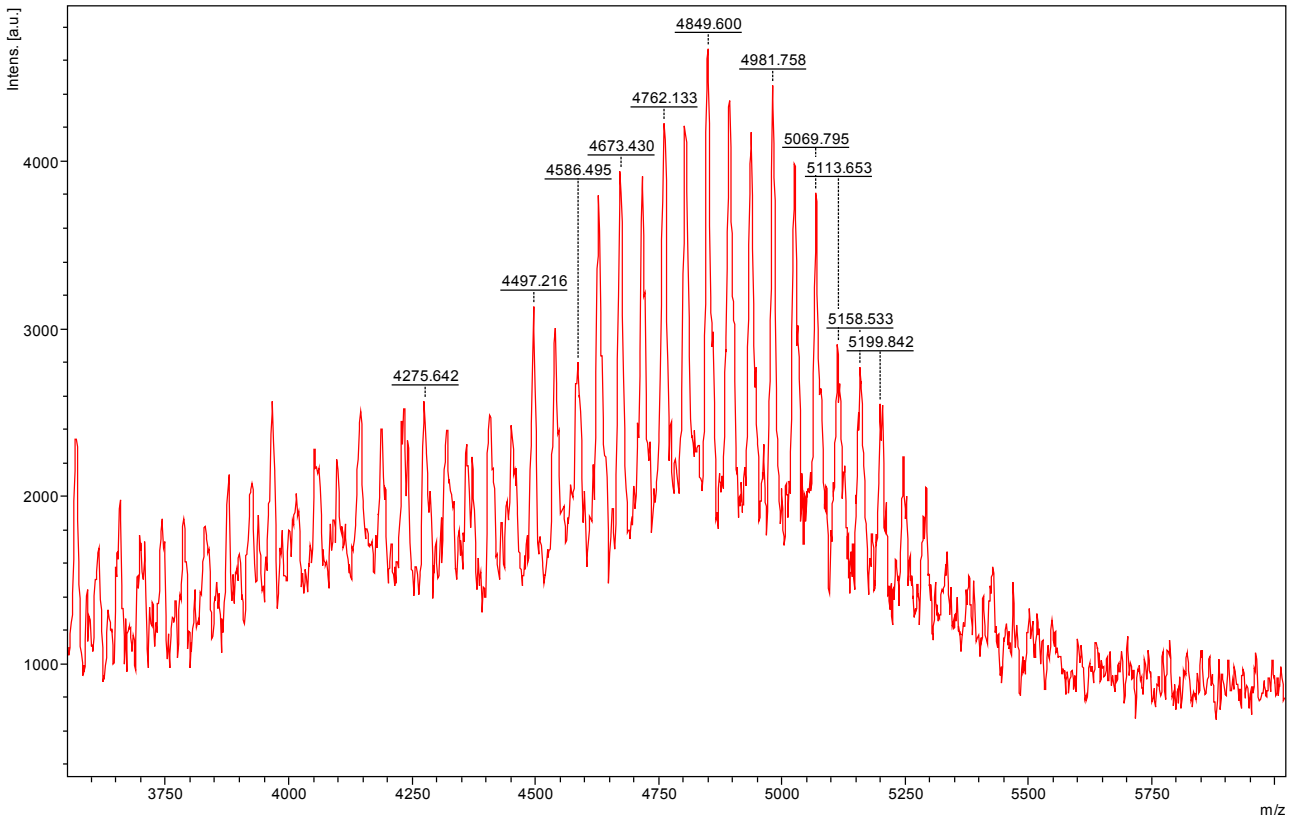

Fig. S1. The MALDI-TOF mass spectrum of DSPE-PEG_{2000}-R8-dGR.

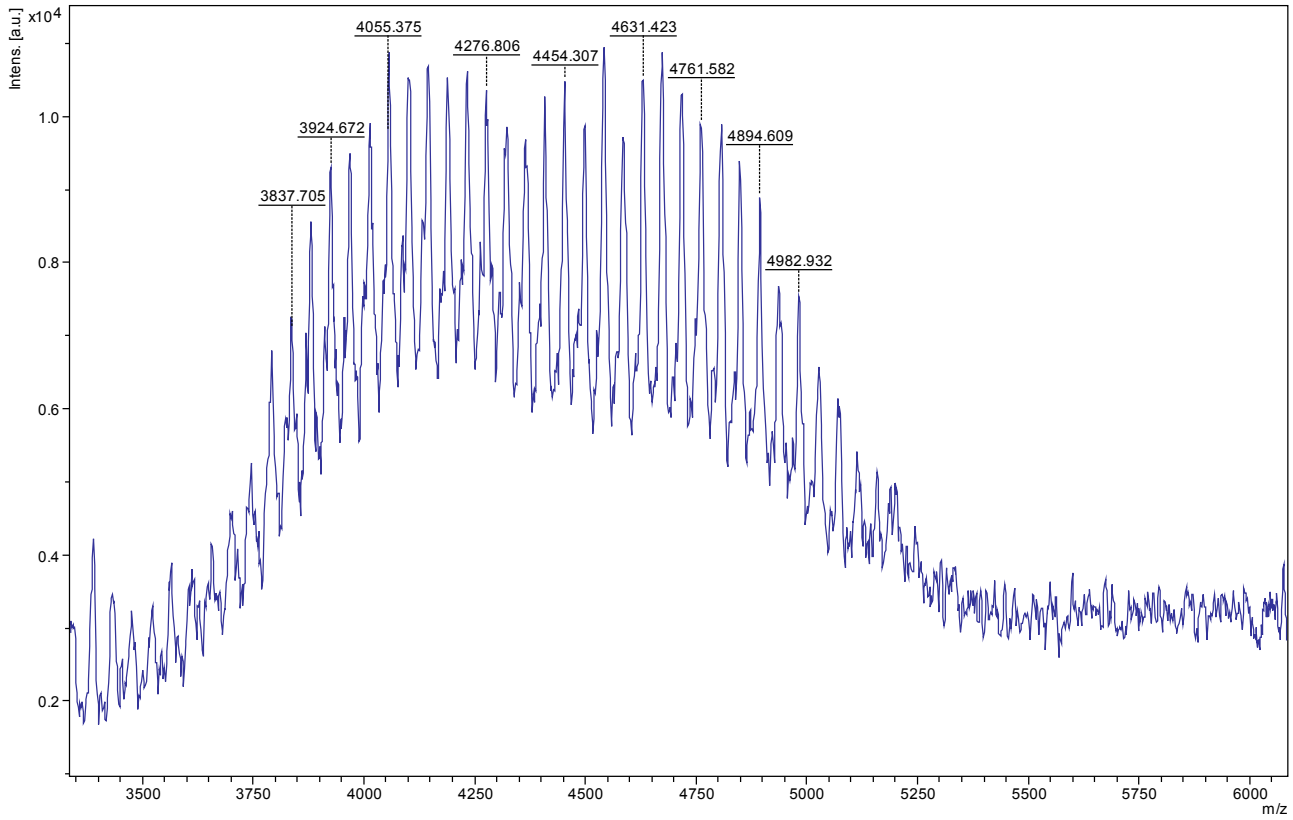

Fig. S2. The MALDI-TOF mass spectrum of DSPE-PEG$_{2000}$-R8-RGD.

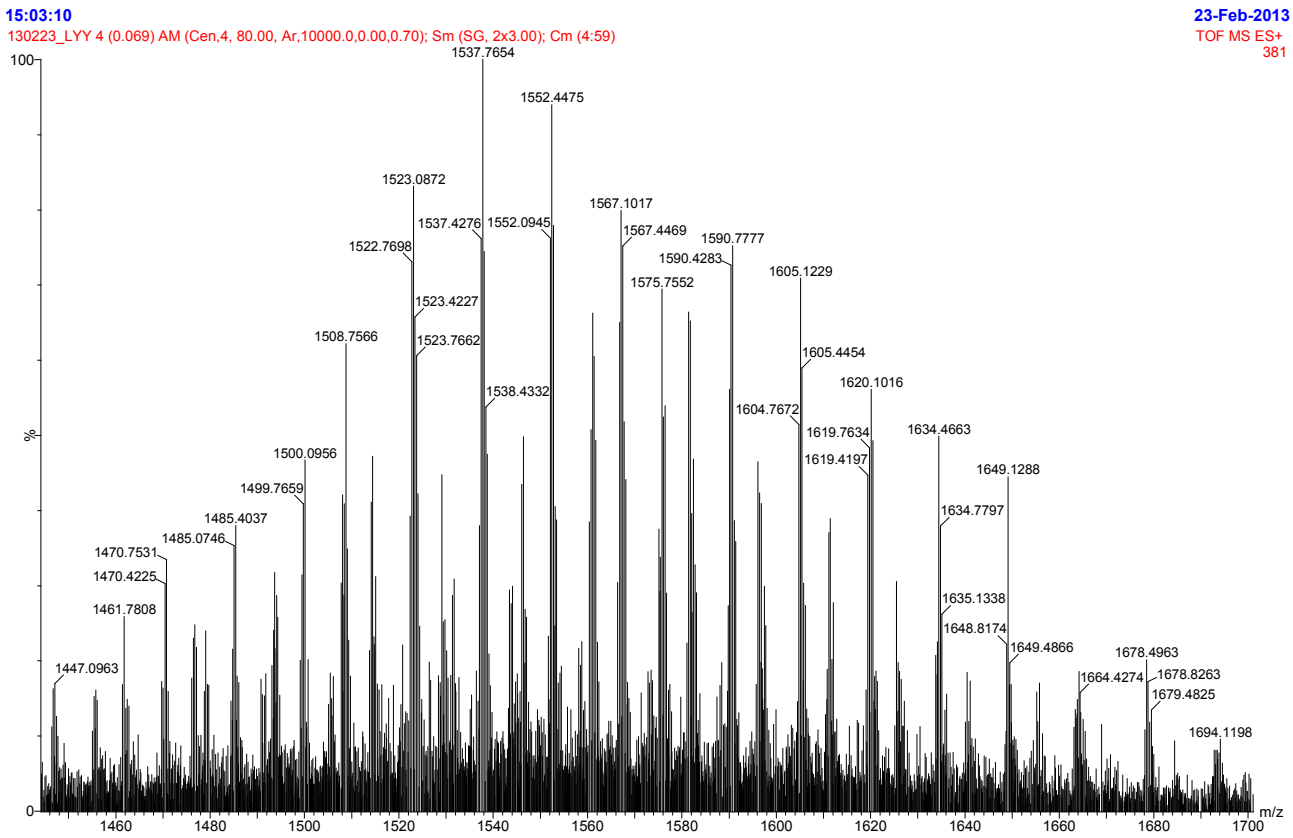

Fig. S3. The MALDI-TOF mass spectrum of DSPE-PEG$_{2000}$-R8-EGR.

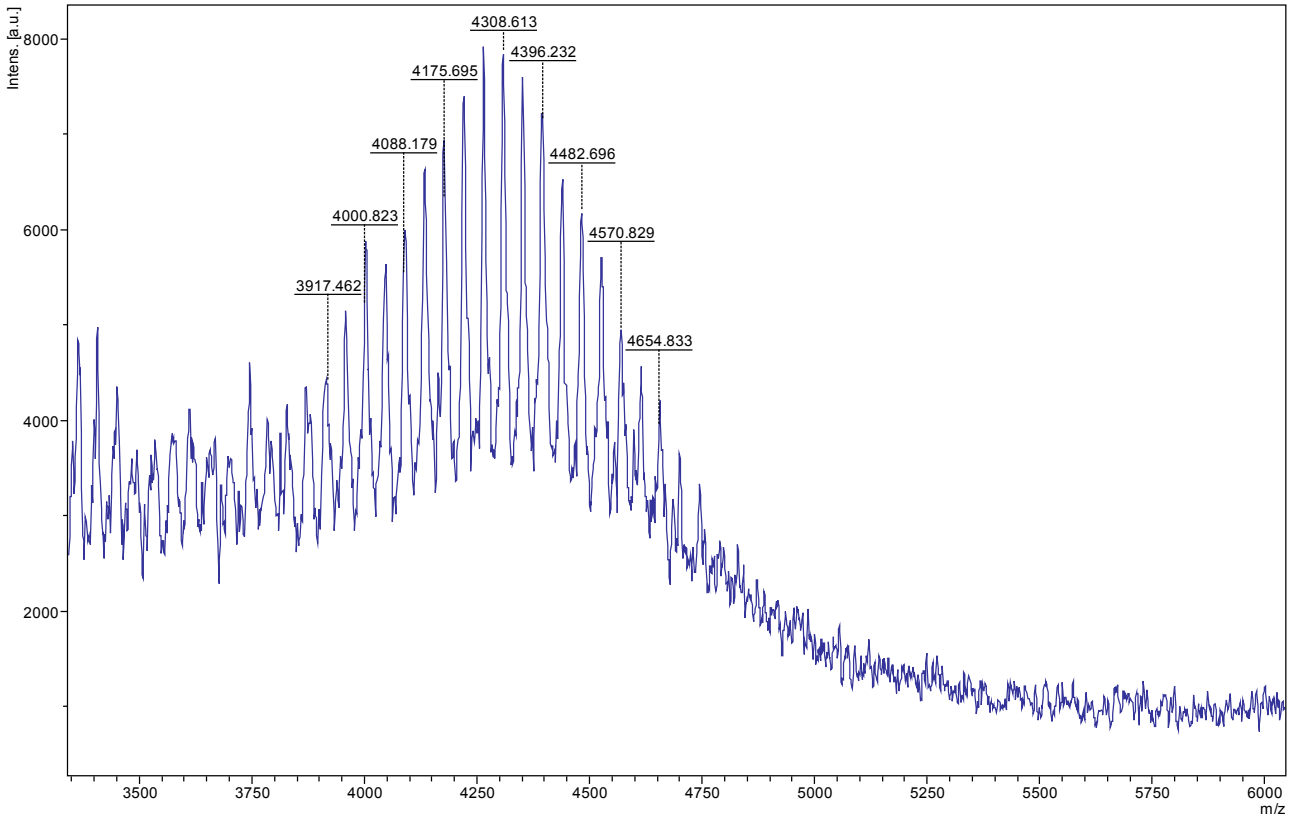

Fig. S4. The MALDI-TOF mass spectrum of DSPE-PEG_{2000}-R8.

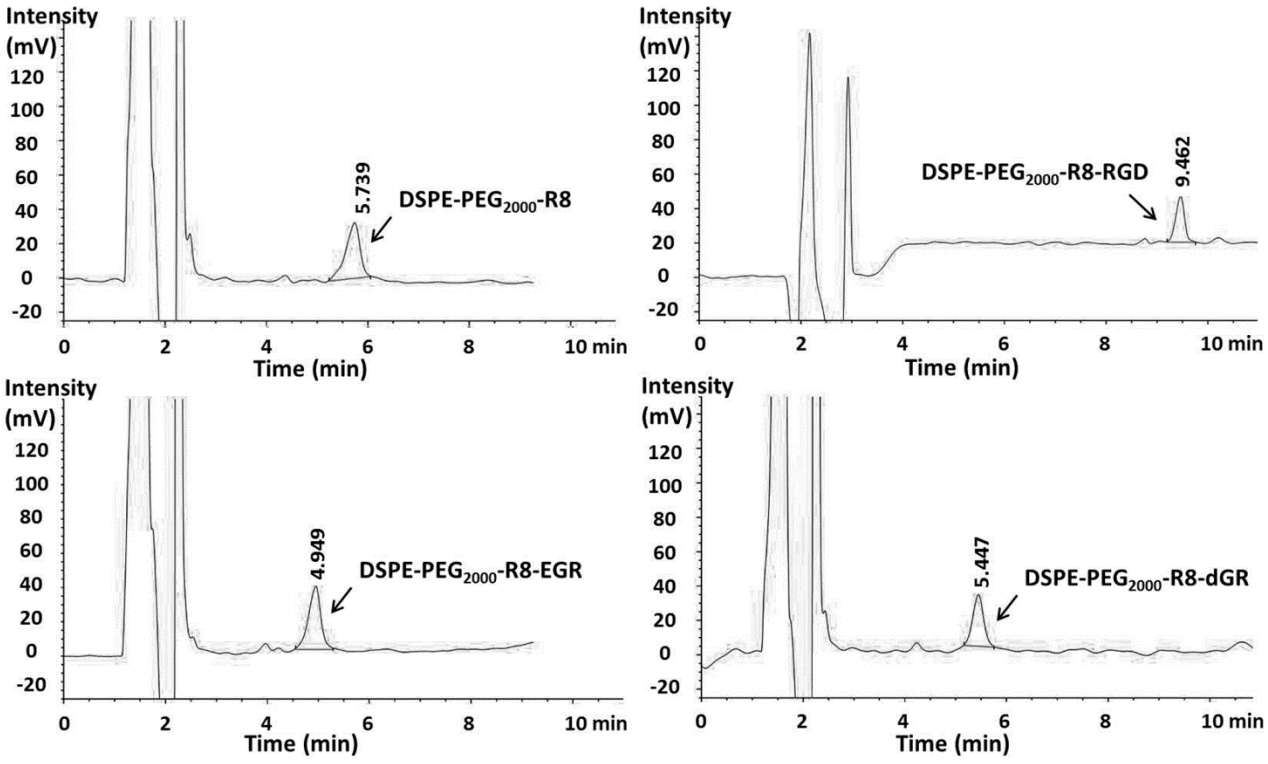

Fig. S5. The HPLC spectra of DSPE-PEG_{2000}-peptide conjugates.

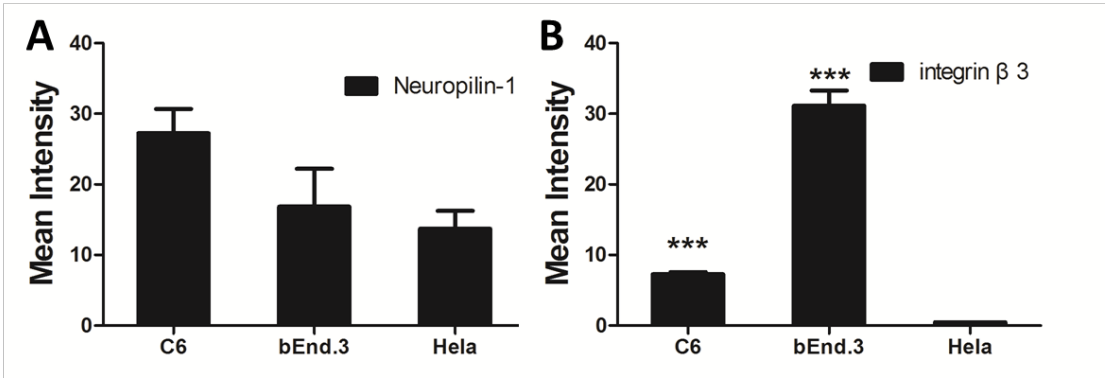

Fig. S6. The semi-quantitative results of western blot study of Neuropilin-1 (A) and integrin β3 (B) expression level on C6, bEnd.3 and Hela cells. *** indicates $p < 0.001$ versus Hela cells group.

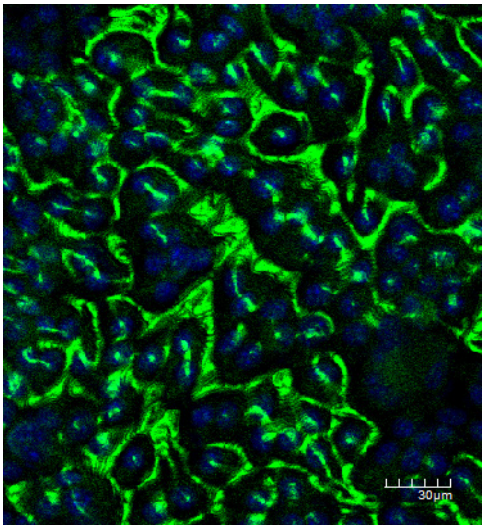

Fig. S7. The identification of tight junction on the bEnd.3 monolayer in vitro. The monolayer was stained with anti-ZO-1 antibody (green) and DAPI (blue) was used for nuclei staining.

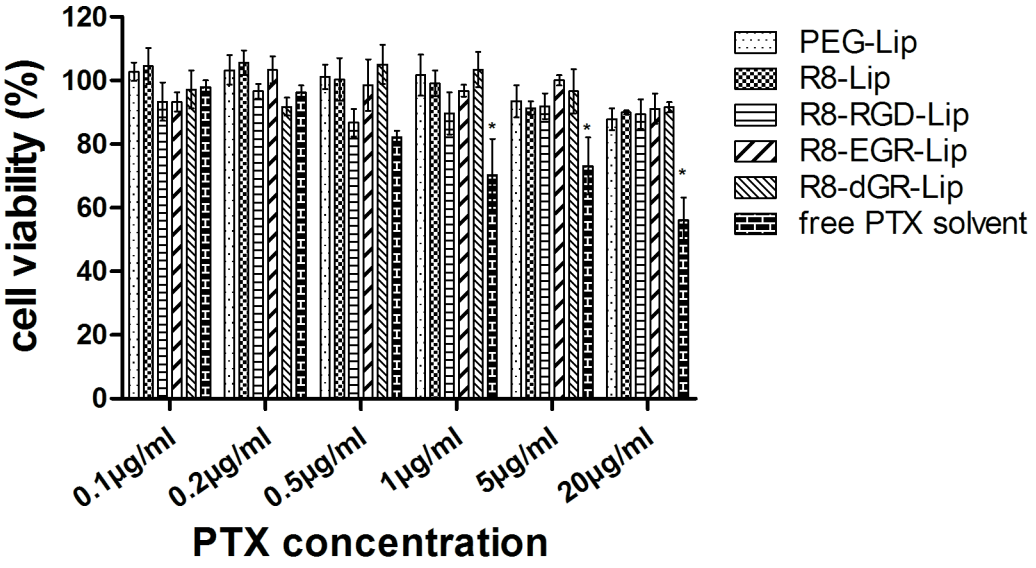

Fig. S8. The cytotoxicity study of different and blank vehicles or PTX solvent on C6 cells (n= 3, mean ± SD). * represents $p < 0.05$ versus other blank liposomal group. Horizontal coordinate represents corresponding PTX concentrations of blank liposomes.

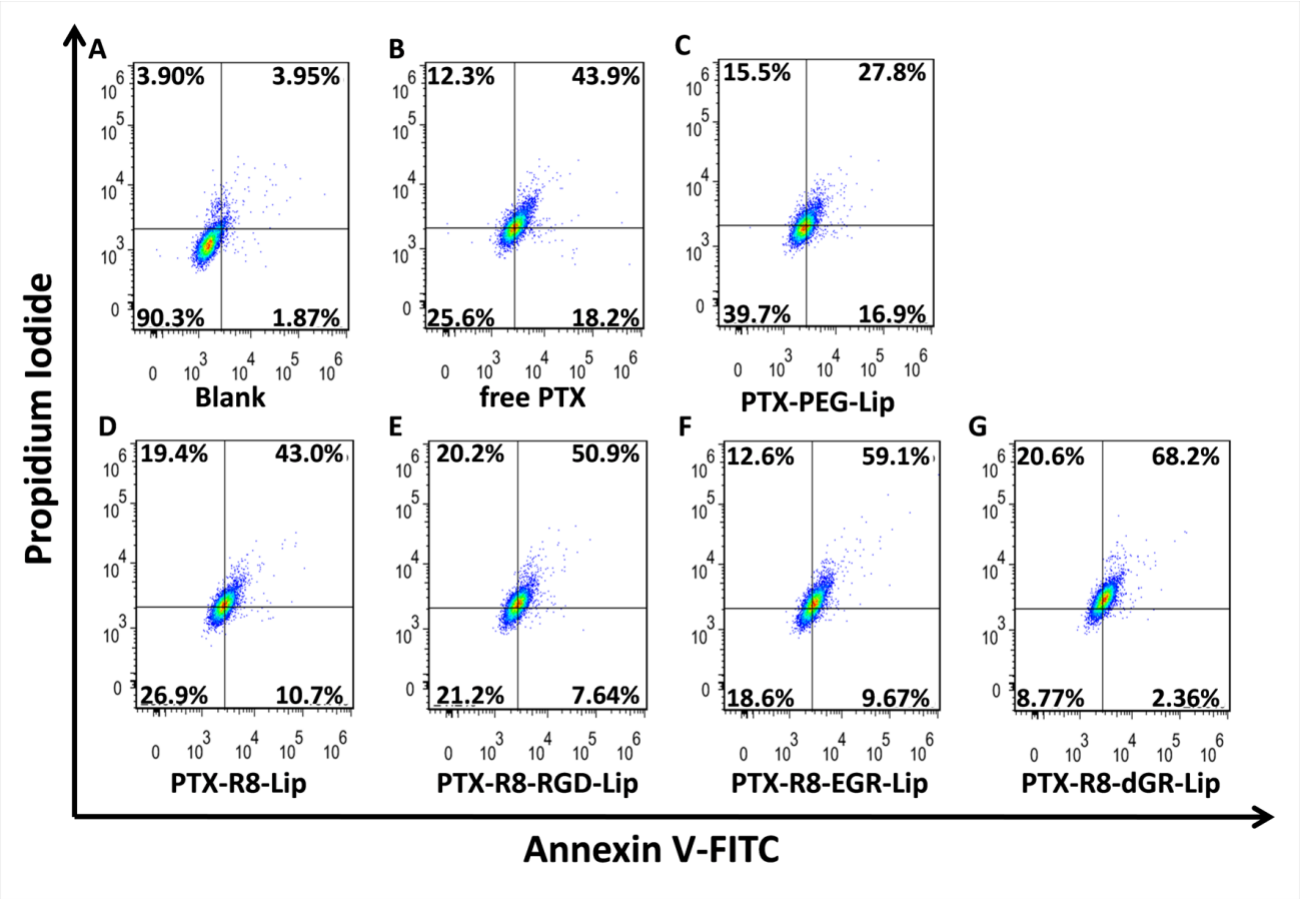

Fig. S9. The apoptosis study of C6 cells incubated with free PTX (B), PTX-PEG-Lip (C), PTX-R8- Lip (D), PTX-R8-RGD-Lip (E), PTX-R8-EGR-Lip (F) and PTX-R8-dGR-Lip (G) for 24 h, untreated blank group (A) was used as negative control.

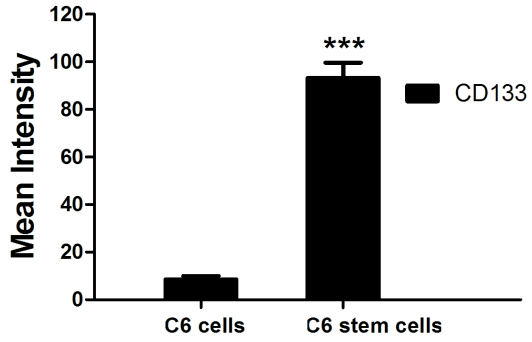

Fig. S10. The semi-quantitative results of western blot study of CD133 expression level on C6 cells and C6 stem cells. *** indicates $p < 0.001$ versus C6 cells group.

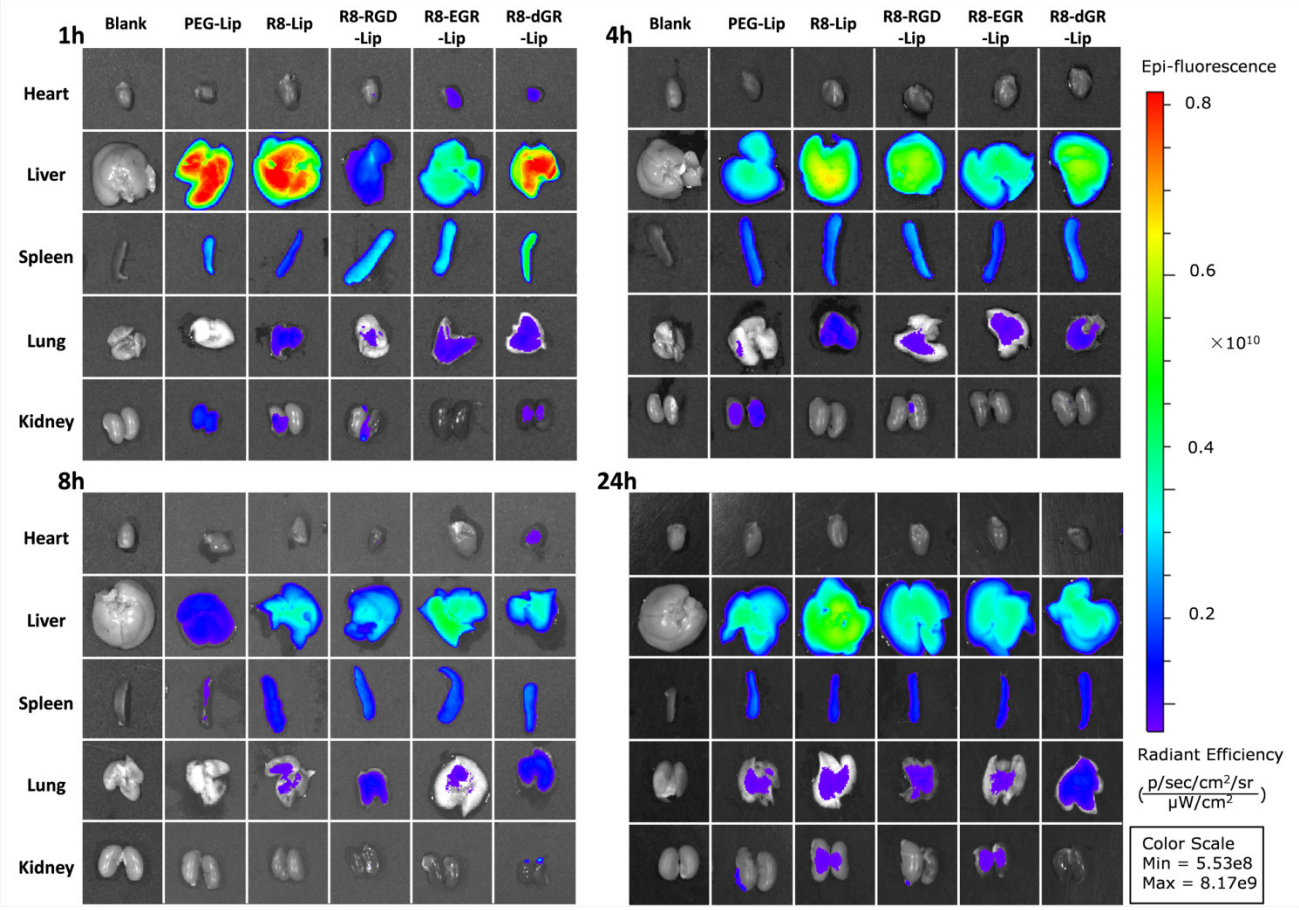

Fig. S11. *Ex vivo* images of organs of intracranial C6 glioma bearing mice different time points after systemic administration of DiD-loaded liposomes.

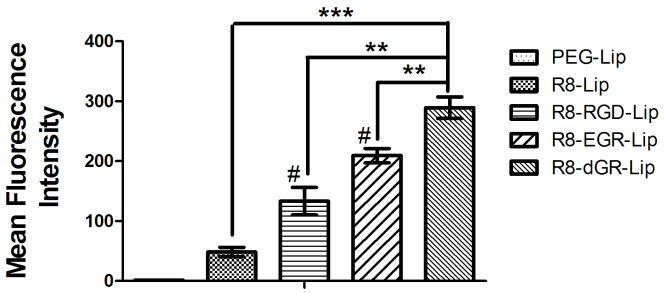

Fig. S12. The semi-quantitative results of the confocal images of glioma sections of C6 bearing mice 24 h after systemic administration of DiD-loaded liposomes (n = 3, mean ± SD), ** and *** indicate $p < 0.01$ and $p < 0.001$ respectively, # indicates $p < 0.05$ versus R8-Lip group.

Table S1

The particle sizes and zeta potentials of different liposomes and the entrapment efficiency of different PTX-Lip (n = 3, mean ± SD).

	Size (nm)	PDI	Zeta potential (mV)	Entrapment efficiency (%)
PEG-Lip	104.8±3.32	0.222±0.007	-7.35±0.25	--
R8-Lip	106.4±5.94	0.237±0.025	-5.10±0.78	--
R8-RGD-Lip	103.1±3.82	0.223±0.006	-5.28±0.25	--
R8-EGR-Lip	102.0±3.99	0.260±0.055	-3.78±0.26	--
R8-dGR-Lip	107.4±8.77	0.240±0.049	-3.26±0.86	--
PTX-PEG-Lip	104.4±2.76	0.226±0.004	-7.46±0.13	93.96±4.55
PTX-R8-Lip	112.5±2.62	0.248±0.009	-4.85±0.60	96.67±2.43
PTX-R8-RGD-Lip	108.8±4.17	0.219±0.012	-4.86±0.60	93.42±2.21
PTX-R8-EGR-Lip	109.6±6.72	0.262±0.052	-3.26±1.00	95.32±3.74
PTX-R8-dGR-Lip	111.3±3.32	0.254±0.029	-2.43±0.61	95.43±4.19

Table S2

The IC_{50} values of different PTX formulations against C6 cells and C6 stem cells.

	IC_{50} value (μg/mL) (against C6 cells)	IC_{50} value (μg/mL) (against C6 stem cells)
PTX-PEG-Lip	9.59±0.76	31.51±2.69
PTX-R8-Lip	6.62±0.53	26.69±1.71
PTX-R8-RGD-Lip	0.92±0.07	16.26±0.93
PTX-R8-EGR-Lip	0.21±0.04	9.10±0.59
PTX-R8-dGR-Lip	0.08±0.02	2.18±0.44
Free PTX	0.90±0.11	24.83±1.51