Supporting Information

Cholesterol-Conjugated Polyion Complex Nanoparticles for Combination Delivery of Hydrophobic Paclitaxel and Hydrophilic miR-34a for Colon Cancer Therapy

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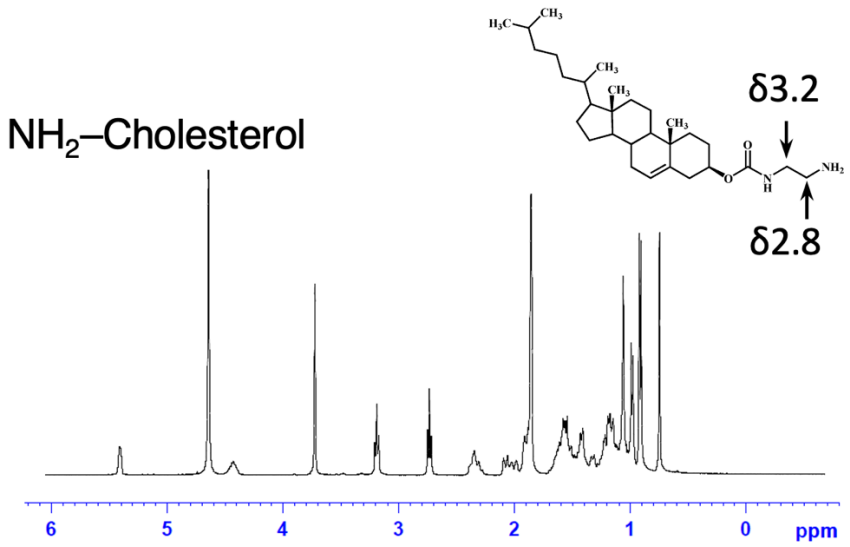

Figure S1. ^{1}H-NMR spectrum of amine–cholesterol.

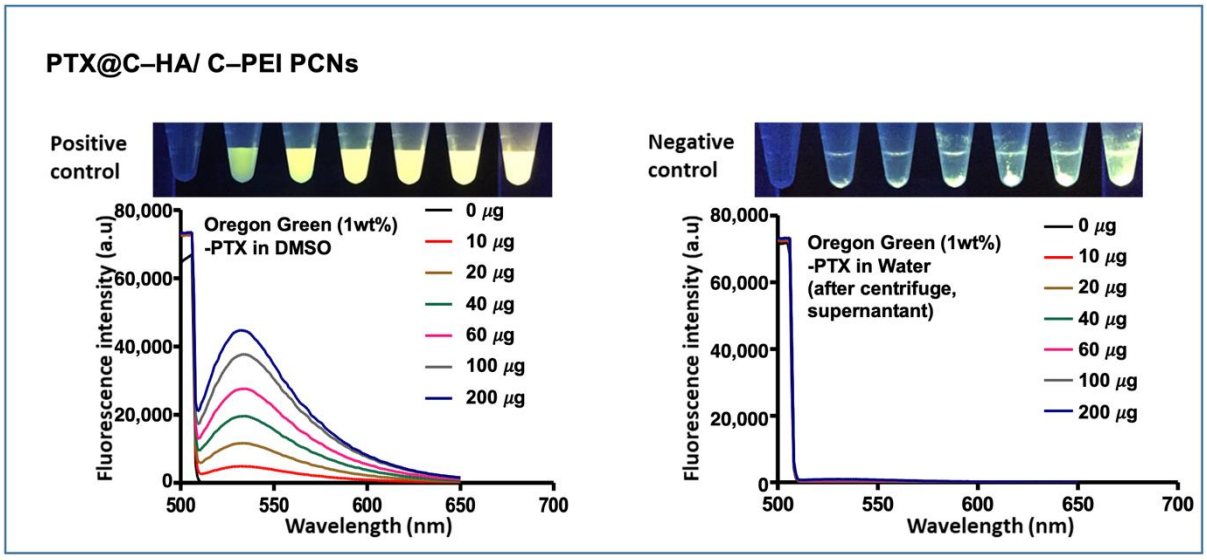

Figure S2. Fluorescence spectra and images of Oregon Green-labeled (1 wt%) paclitaxel (PTX) in DMSO (positive control) and in water containing cholesterol-conjugated polyion complex nanoparticles (C–HA/C–PEI PCNs) after centrifugation (negative control) at various PTX concentrations (0–200 μg).

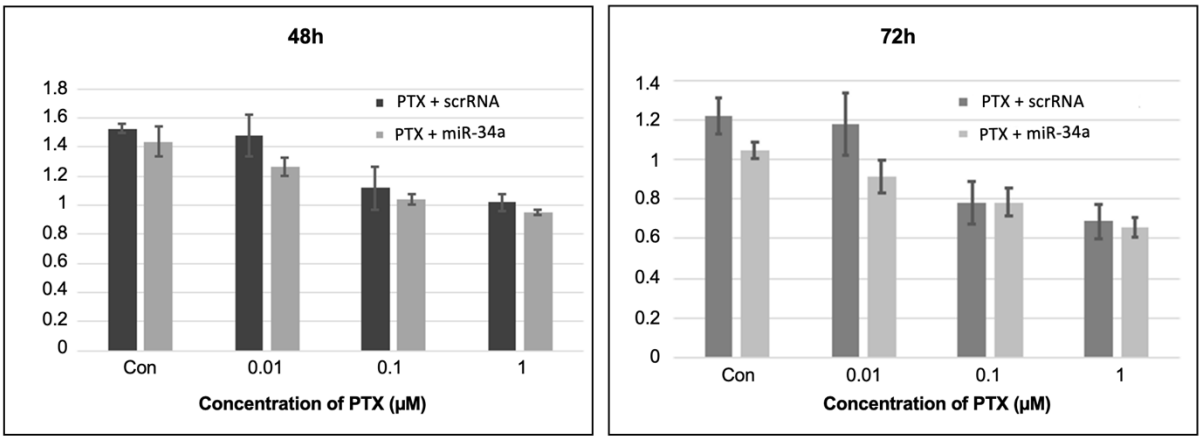

Figure S3. In vitro cell viability studies of dual-drug treatment.

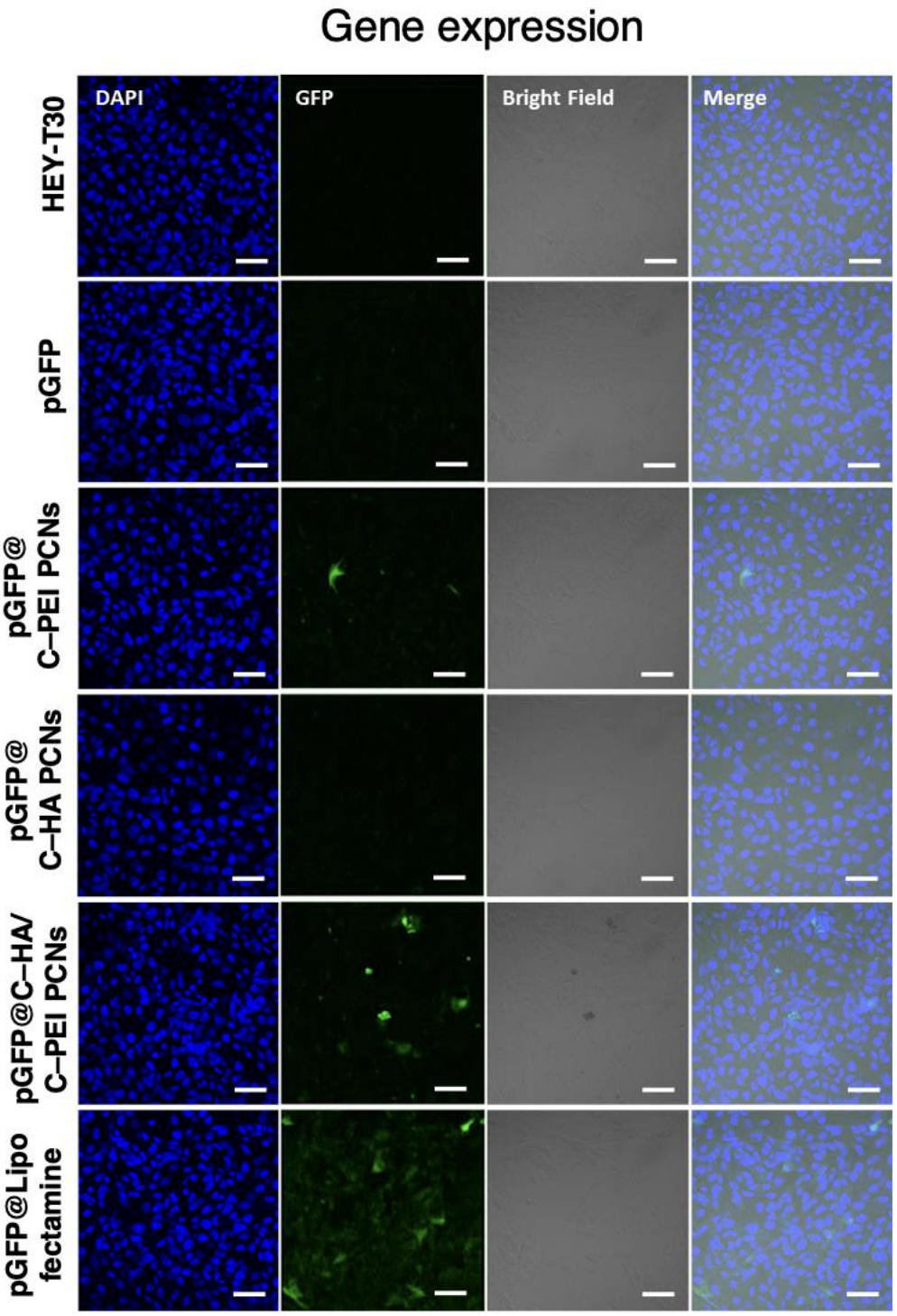

Figure S4. *In vitro* gene expression of PTX@C–HA/C–PEI PCNs. Scale bars, 50 μm.

Table S1 Hydrodynamic diameters and zeta potential of nanoparticles prepared with various concentrations of C–PEI and C–HA.

Entry	C–PEI (5ug/ml, ul)	pGFP (12.4 ug/ml, ul)	C–HA (5ug/ml, ul)	Hydrodynamic dimeter (nm)	Zeta potential (mV)
1	100	-	-	81 ± 4	15 ± 3.1
2	100	10	10	360 ± 8	6 ± 0.5
3	100	10	20	378 ± 141	6 ± 0.1
4	100	10	30	320 ± 123	-1 ± 0.3
5	-	10	10	150 ± 6	-24 ± 0.5
6	-	10	20	130 ± 12	-22 ± 1.5
7	-	10	30	81 ± 13	-21 ± 0.7
8	-	10	-		-12 ± 2.2
9	-	-	30		-11 ± 3.5