Supporting information

Self-responsive Co-delivery System for Remodeling Tumor Intracellular Microenvironment to Promotes PTEN-mediated Antitumor Therapy

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Figure S1. Representative TEM image of A) LP, B) LEP, Scale bar: 200 nm.

Figure S2. The effect of pH on release of EGCG form cationic liposome (n=3)

Figure S3. Flow cytometry detect of intracellular DNA-FAM after treatment with LP in PC-3.

Figure S4. Western bot assay analysis of PTEN protein expression in PC-3 cells with LP and Lipo2000.
**Figure S5.** Mitochondria membrane potential images (scale bar: 20µm) and Western blotting assays showing the expression level of cytochrome after different treatments.

**Figure S6.** Cell viability of HL-7702 cells and PC-3 cells after incubated with LEPP for 24h (n=6).

**Figure S7.** Representative fluorescence image *in vivo* optical images.
Figure S8. Hemolysis quantification analysis of red blood cells at various concentrations of LEPP (n=3).

Figure S9. Histology analysis of major organs from mice separated with different group treatment.