Targeted Delivery Prodigiosin to Choriocarcinoma by Peptide-Guided Dendrigraft Poly-I-lysines Nanoparticles

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Running title: Targeted delivered with plCSA-BP guided DGL

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**Figure S1.** *In vitro* cell cytotoxicity evaluation of the DGL, DGL/CSA-NPs and DGL/CSA-PNPs. The cell viability measured by CCK-8 Kit performed 3 h in 293T cells after treated with DGL, DGL/CSA-NPs and DGL/CSA-PNPs at different concentrations. Data are presented as the mean  $\pm$  standard deviation (n=4). "\*" and "\*\*" indicate statistically significant difference at *P*<0.05 and *P*<0.01 (Student's *t* test), respectively.



**Figure S2.** Prodigiosin from strain HDZK-BYSB107 and prodigiosin standard induced annexin V-based apoptosis in JEG3 cells *in vitro*. Representative flow cytometry-based dosed dose response of apoptosis profiles of annexin V/PI staining for JEG3 cells. Cells were treated with 0.5 μmol/l DMSO, 0, 5, 10, and 50 μg/ml prodigiosin for 24 h.



**Figure S3.** Immunofluorescence assay of bcl-2, P53 and caspase-3 induced by the DGL/CSA-PNPs in JEG3 cells. The DGL/CSA-PNPs induces up regulation of P53 (B), caspase-3 (C) and down regulation of bcl-2 (A) in JEG3 cells. Scale bar=50 μm.



**Figure S4.** Immunofluorescence colocalization analysis of caspase-3, P53 and bcl-2 apoptosis pathway that induced by DGL/CSA-PNPs in JEG3 tumor that treated with DGL/CSA-PNPs and control group. DGL/CSA-PNPs induce up regulation of caspase-3 (A), P53 (B) and down regulation of bcl-2 (C) in JEG3 tumor. Scale bar=20 μm.