Supporting Information

Echogenic glycol chitosan nanoparticles for ultrasound-triggered cancer theranostics

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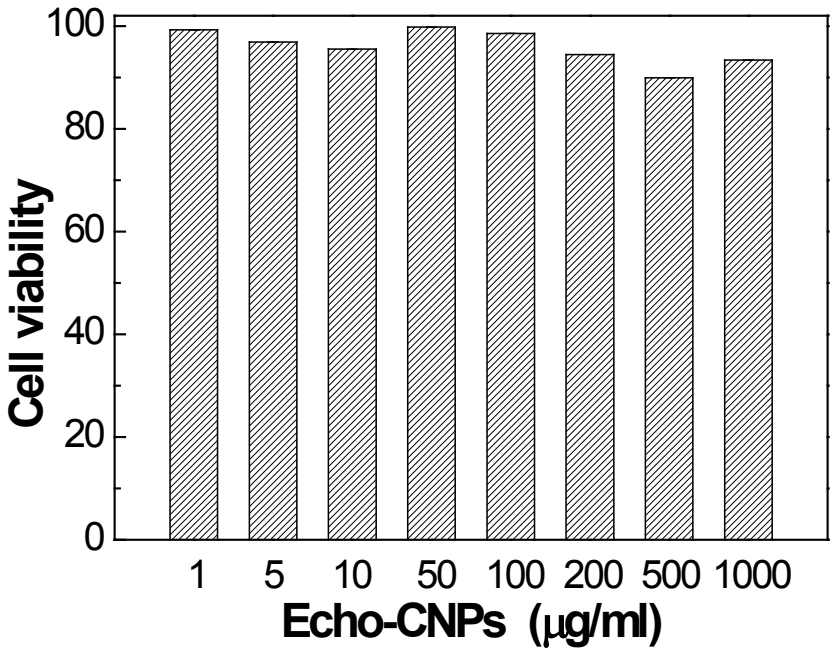
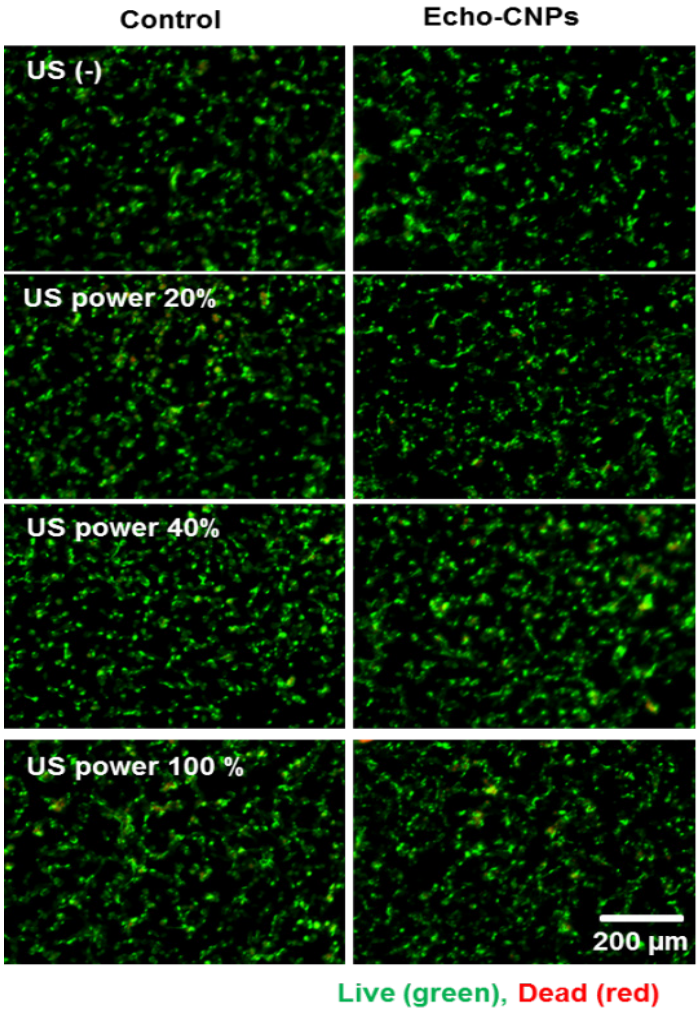
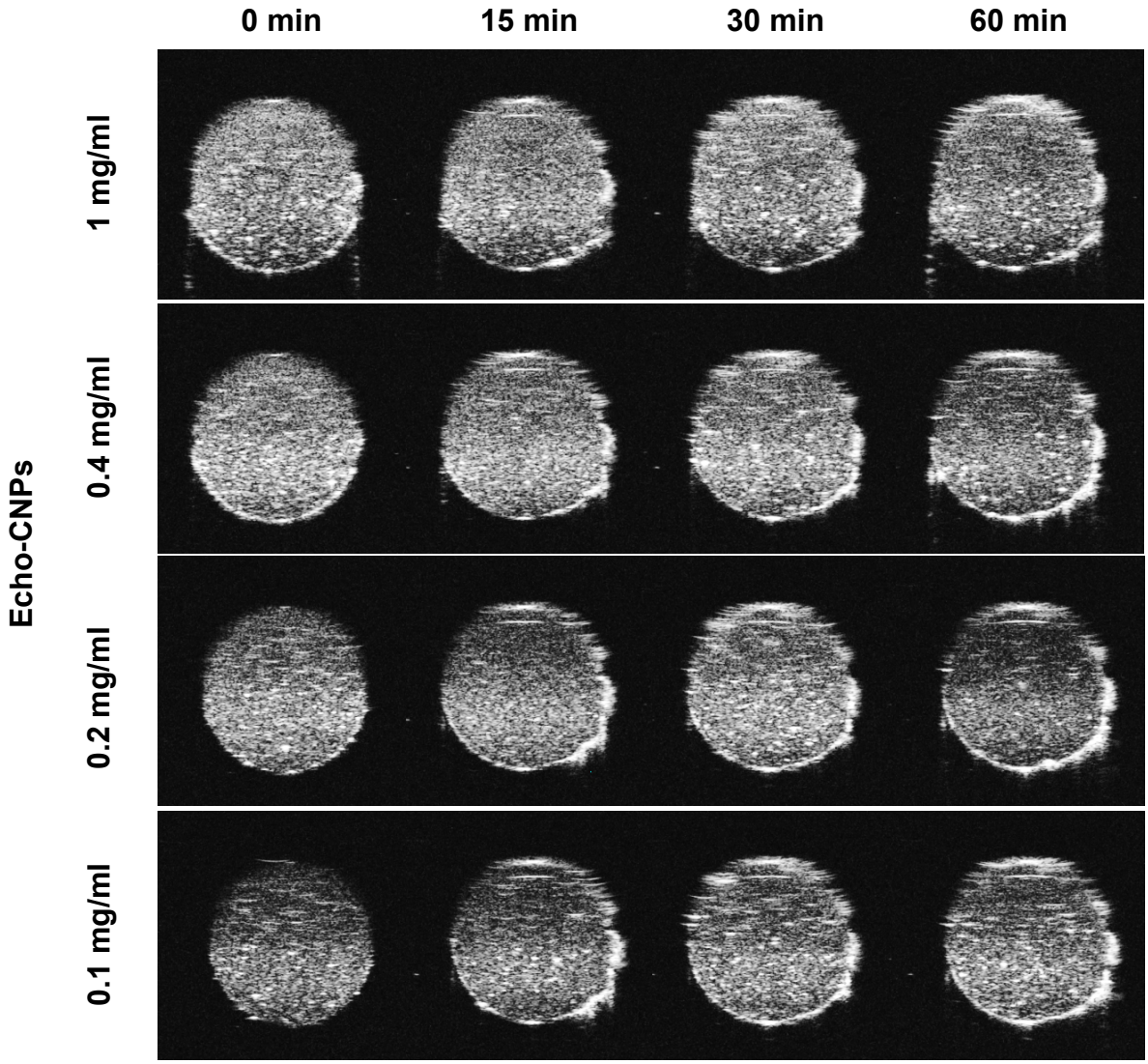


Supplementary Fig. 1. Cell viability of Echo-CNPs in SCC-7 tumor cell. SCC7 cells (1×10^4 cells/well) were seed onto 96-well plated and cell viability was measured by MTT assay depending on the Echo-CNPs concentration. After 24 h post-incubation, Echo-CNPs (1mg/ml) did not present any cytotoxicity in cell culture system.



Supplementary Fig. 2. Cytotoxicity of the external US irradiation (US Power 100%; 10 MHz; mechanical index: 0.235; average power: 0.0676 W/cm^2) to SCC7 tumor cells with and without Echo-CNPs treatment. The cytotoxicity in cultured SCC7 cells were confirmed using live (Calcein AM, green color) and dead (propidium iodide, red color) fluorescent assay. In brief, 1 x 10^5 SCC7 cells were seeded in a glass bottomed dish. After 1day post-incubation, 1 ml of Echo-CNPs (100 μg/ml) were added to the each dish. After 12 h post-incubation, both SCC7 tumor cells and Echo-CNPs-treated SCC7 cells were directly exposed to the external US irradiation for 5 min and twice DPBS washings were followed after 12 h further incubation. The fluorescence images were obtained using IX81-ZDC focus drift compensating microscope (Olympus, Tokyo, Japan).



Supplementary Fig. 3. The dose-dependent US intensities of Echo-CNPs containing 5wt% of PFP in agar gel phantum condition. After 1 h post-incubation inside the agar gel, the US signals were acquired with the varying concentrations of 5 wt% Echo-CNPs (0.1 mg/ml - 1 mg/ml) in PBS at 37 °C. Each US signal was visualized under agar phantum gel under 40 MHz of US