

## Antitumor drug of hydrophobically modified glycol chitosan nanoparticles as carrier for camptothecin

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A water-insoluble antitumor agent, camptothecin (CPT) was successfully incorporated into hydrophobically modified glycol chitosan (HGC) nanoparticles formed by chemically linking 5 $\beta$ -cholanolic acid to glycol chitosan chains using 1-ethyl-3-(3-dimethylaminopropyl)-carbodiimide chemistry. CPT-loaded HGC (CPT\_HGC) nanoparticles were prepared by a dialysis method. Physicochemical characteristics of CPT-HGC nanoparticles were evaluated by measurement of size, encapsulation efficiency, encapsulation amount and morphology. CPT releases from HGC nanoparticles, in vitro by cellulose membrane dialysis method. And CPT concentrations were determined by HPLC. Cytotoxicity test of CPT-HGC nanoparticles were evaluated in MCF-7 breast cancer cells, in vitro. In, vivo, the antitumor effects of CPT-HGC nanoparticles was evaluated in tumor-bearing mice by measurement of tumor volume and body weight. In addition, the apoptosis of tumor was conformed by TUNEL assay. According for the result, CPT-HGC nanoparticles have potential for cancer chemotherapy.