

pH sensitive micelles based on polyaspartamide for intracellular drug delivery

이명은, 김덕준*

성균관대학교

(djkim@skku.edu*)

Biodegradable and pH-sensitive graft copolymer polyaspartamide derivatives were synthesized by grafting of octadecylamine (C_{18}), hydrazine hydrate and O-(2-Aminoethyl) polyethylene glycol 5000 on polysuccinimide. And PEG was grafted to biotin acted as ligand. These features make higher drug delivery efficiency. Doxorubicin; anti-cancer drug was grafted to hydrazine. The drug is separated by depending on the pH. The chemical structure of the polymer and the degree of substitution of the prepared polymer was confirmed by using FT-IR, 1H NMR spectroscopy. The size of polymer micelles was confirmed to dynamic light scattering (DLS) and transmission electron microscopy (TEM). Intracellular release behaviors of micelles are followed with confocal laser scanning microscopy (CLSM). And this polymeric micelles directly go inside the cells and more effectively deliver drugs.