pH-senstive Drug Release from Polymer-Coated Mesoporous Silica nanoparticles

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Mesoporous Silica Nanoparticles(MSNs) were encapsulated with the polyaspartamide were synthesized by grafting hydrophilic O-(2-aminoethyl)-O'-methylpoly(ethylene glycol),targeting segment Biotin, and pH-sensitive hydrazine (Hyd) segments on a Mesoporous Silica Nanoparticles backbone. The hydrazone bond was effectively cleaved to release doxorubicin (DOX) conjugated on Mesoporous Silica Nanoparticles in an acidic environment. chemical structure of MSN-HYD-DOX@PASPAM-g-MPEG-Biotin was confirmed using FTIR and ^{1}H-NMR spectroscopy. The mean size of the MSN-HYD-DOX@PASPAM-g-MPEG-Biotin was examined by dynamic light scattering (DLS) and TEM.