

Polysuccinimide graft copolymer encapsulated magnetites conjugated with Cytotoxic T-Lymphocyte

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In this research, a series of polysuccinimide(PSI) graft copolymer was prepared by grafting O-(2-aminoethyl)-O'-methylpoly(ethylene glycol) 5000(MPEG). The synthesized polysuccinimide derivatives were coated on iron oxide magnetic nanoparticle for magnetic resonance(MR) imaging materials. Maleimide was grafted on polymer coated iron oxide nanoparticle for chemical bonding between T-cell and PSI, respectively. The chemical structure and degree of substitution(DS) of prepared polymer were analyzed by FT-IR and ¹H-NMR spectroscopy. And size of polymer and iron oxide nanoparticle was confirmed using transmission electron microscopy(TEM) and dynamic light scattering(DLS). This polyaspartamide derivatives encapsulating magnetites is applicable for cancer diagnosis and treatment.