

(54) Title of the invention : “NANOPARTICLE-BASED DRUG DELIVERY SYSTEMS FOR TARGETED THERAPY”

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(57) Abstract :
 “NANOPARTICLE-BASED DRUG DELIVERY SYSTEM FOR TARGETED THERAPY” The present invention provides a nanoparticle-based drug delivery system for targeted therapy that utilizes nanoscale particles to encapsulate and deliver therapeutic agents to specific target sites in the body, enabling targeted and controlled drug release for improved medical treatments. The system includes a nanoparticle having a hydrodynamic diameter; a coating of polyethylene glycol; an antibody that specifically binds to the cell surface of a tumor cell; and a therapeutic agent. The target tumor cell is selected from the group consisting of a bladder, brain, breast, cervical, colorectal, esophageal, liver, lung, skin, ovarian, pancreatic, prostate, renal, testicular, bone, liver, and lymph node cell. The nanoparticle is formed from a biodegradable polymer. The therapeutic agent is selected from the group consisting of cisplatin, doxorubicin, etoposide, and paclitaxel. The nanoparticle releases an effective amount of the biologically active agent.

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