



Nanoparticles for Cytoplasmic Drug Delivery to Cancer Cells

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Patent Status:

Utility Patent Issued

Description of Technology

This invention consists of layered nanoparticles for delivering high levels of anticancer drugs to cancer cells. The nanoparticles include an outer shell, an inner core and an intermediate layer. The core is comprised of the anticancer drug or drugs and polymer chains that are soluble at the lysosomal pH of the cancer cell. The intermediate layer is comprised of polymer chains that are insoluble at the pH of the cancer interstitium. The outer shell is comprised of water-soluble polymer chains to shield the nanoparticle from recognition by the reticuloendothelial systems so as to provide the nanoparticle with a long circulation time in the bloodstream of a subject.

Applications

Applications for this technology include providing a device for the delivery of anticancer drugs preferentially to cancer cells, as well as to provide nanoparticles for the rapid release of anticancer drugs to cancer cells.

Features & Benefits

A benefit of this technology is that cancer cells will be specifically targeted, while not targeting healthy tissue. This technology will also provide a rapid release of anticancer drugs to the cancer cells, improving treatment for cancer patients.

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