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Procedural Methods in Cancer Therapy

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Abstract

Different kinds of small peptides and proteins are also effective in active targeting. Angiopep-2 is a peptide that has raised great interest in the treatment of brain cancer, because it binds to low-density lipoprotein receptor-related protein-1 of endothelial cells in the BBB, and it is also overexpressed in glioblastoma cancer cells.

Keywords: Docetaxel; Epithelial Cells; Nanoparticles; Nanocarriers; Growth factor; Antibodies

Introduction

Bombesin peptide conjugated to poly-nanoparticles loaded with docetaxel was used to target the gastrin-releasing peptide receptor, overexpressed on cell surface of prostate, breast, ovarian, pancreatic and colorectal cancer cells. Transferrin is a serum glycoprotein overexpressed on many solid tumours, especially on glioblastoma multi-form cells, and on epithelial cells of the BBB. Transferrin-conjugated chitosan-PEG nanoparticles delivering paclitaxel exhibited a higher cytotoxicity towards transferrin-overexpressing human non-small cell lung cancer cells. Aptamers are small synthetic single-stranded RNA or DNA oligonucleotides folded into specific shapes that make them capable of binding specific targets. Farokhzad reported that the use of A10 RNA aptamer conjugated to docetaxel-loaded nanoparticles significantly enhances in vitro cytotoxicity [1]. The same aptam48 464.11 Tm[(u)-8(n)s6(g)76(0)825(m)18(15 Tm[(76(o)-19()o6(e)4(io)( )200(u)-6(e)616(s)176(49

Conflict of Interest

None

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