

[New protein vectors based on an alpha-fetoprotein fragment for targeted DNA delivery into cancer cells].

[Article in Russian]

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Abstract

A human alpha-fetoprotein fragment (AFP) modified with oligocationic homologs of nuclear localization signal was used to construct new target cell-selective DNA-carrier proteins. The new recombinant vectors containing C- or N-terminal polynucleotide-binding domains are able to form stable complexes with single- or double-stranded oligonucleotides and plasmid DNA. Using flow cytometry and fluorescent microscopy, it was shown that such nucleoprotein complexes can be selectively internalized in target cells receptors superepressing AFP receptors. The results obtained are important both for understanding mechanisms of formation of DNA-protein complexes and for studying their interaction with intracellular molecular targets. The new proteins can be used as a tool for the development of highly selective and efficacious gene-selective antitumour drugs.

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