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Synthesis of peptide for cell penetration and drug delivery

Laboratoř Metalomiky a Nanotechnologií



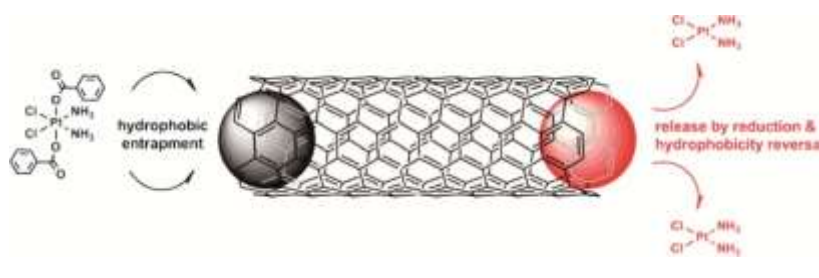
Vás zve na seminář k projektu ID 131 (Synthesis of peptide for cell penetration and drug delivery):

Peptide modified carbon nanotubes for drug delivery

Vedran Milosavljevic

Abstract

Multi-walled-carbon nanotubes (MWCNTs) are widely explored as carriers for drug delivery, due to their facile transport through cellular membranes, and are reportedly found to be effective against cancer. In the present study, we have designed a MWCNT nanocarrier for doxorubicine delivery to cancer tissue. The cell penetrating peptide (R9C) modified MWCNT, provide better penetration of nanocarrier into cancer cells. Using fluorescence measurement, the doxorubicine encapsulation efficiency was estimated to 80 %. MALDI analysis confirms the presence of doxorubicine and R9C peptide on the MWCNT structure. The stability behavior of the colloid suspension indicates the positive charge of carbon nanocarrier and due to the fact, the cancer cells membranes carry negative charge, the MWCNT is established as suitable drug delivery system for doxorubicine.



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