

## عنوان مقاله:

Nanodrug delivery in reversing multidrug resistance in breast cancer cells

## محل انتشار:

یازدهمین کنگره بین المللی سرطان پستان (سال: 1394)

تعداد صفحات اصل مقاله: 2

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## خلاصه مقاله:

Introduction: different mechanisms in cancer cells to become resistant to one or more chemotherapeutics that is known as multidrug resistance (MDR) which hinders chemotherapy efficacy. Potential factors for MDR includes enhanced drug detoxification, decreased drug uptake, increased intracellular nucleophiles levels, enhanced repair of drug induced DNA damage, overexpression of drug transporter such as P-glycoprotein(P-gp), multidrug resistance-associated proteins (MRP1, MRP2), and breast cancer resistance protein (BCRP). Currently nanoassemblies such as polymeric/solid lipid/inorganic/metal nanoparticles, quantum dots, dendrimers, liposomes, micelles has emerged as an innovative, effective, and promising platforms for treatment of drug resistant cancer cells. Literature review: there are various nanodrug delivery systems to overcome mechanism of MDR by neutralizing, evading, or exploiting the drug efflux pumps and those independent of drug efflux pump mechanism by silencing Bcl-2 and HIF1 $\alpha$  gene expressions by siRNA and miRNA, modulating ceramide levels and targeting NF- $\kappa$ B. Conclusion: Nanocarriers have potential to improve drug therapeutic index, ability for multifunctionality, divert ABC-transporter mediated drug efflux mechanism and selective targeting to tumor cells, cancer stem cells, tumor initiating cells, or cancer microenvironment. Selective nanocarrier targeting to tumor overcomes dose-limiting side effects, lack of selectivity, tissue toxicity, limited drug access to tumor tissues, high drug doses, and emergence of multiple drug resistance with conventional or combination chemotherapy.

## کلمات کلیدی:

drug efflux pumps, multidrug resistance, nanodrug delivery systems

## لینک ثابت مقاله در پایگاه سیویلیکا:

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