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(57) Abstract :

Nano-formulation for cancer treatment and method thereof is provided. The nano-formulation comprises nanoparticles that encapsulate a chemotherapy drug and a modulator of ABC transporter proteins. Additionally, the nanoparticles are functionalized with a folate receptor-targeting ligand for increased specificity to cancer cells. The targeted approach improves drug delivery to cancer cells, increasing drug efficacy and reducing off-target effects. The nano-formulation allows for lower doses of chemotherapy drugs to be used, reducing the risk of side effects. The nano-formulation addresses multidrug resistance (MDR) by modulating ABC transporter proteins, overcoming a major limitation of chemotherapy. The nano-formulation represents a promising advancement in cancer treatment, with the potential to improve patient outcomes and quality of life.

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