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(57) Abstract :
[031] The present invention discloses a folate-conjugated liposomal nanocarrier system for targeted siRNA delivery in ovarian cancer therapy. The system comprises a lipid bilayer encapsulating siRNA molecules, with folate ligands covalently attached to the liposomal surface to enable selective uptake by cancer cells overexpressing folate receptors. The liposomal formulation incorporates phospholipids, cholesterol, and polyethylene glycol (PEG) conjugates to enhance stability, prolong circulation time, and prevent premature degradation. A pH-sensitive release mechanism facilitates endosomal escape, ensuring efficient intracellular delivery and gene silencing through RNA interference (RNAi). The system exhibits increased tumor accumulation, reduced off-target effects, and improved therapeutic efficacy compared to conventional siRNA delivery methods. Additionally, the platform can be adapted for delivering other nucleic acids, broadening its application in cancer therapy and gene-based treatments. Accompanied Drawing [FIGS. 1-2]

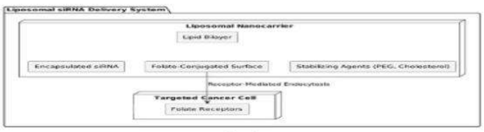

Fig. 1

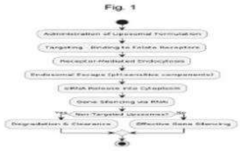
Fig. 2

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