



## Preparation and Evaluation of Decitabine loaded liposomes for Effective Chemotherapy

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**Abstract:**Decitabine, an epigenetic drug, is a potent hypomethylating agent. However, its effect is transient due to its instability in acidic environment and enzymatic degradation. Therefore, the present study was designed to incorporate decitabine in liposomal formulation, which offers a dynamic and flexible technology for enhancing drug solubility due to their biphasic characteristic and variety in design, composition and assembly. DEC liposomes were prepared by modified thin film hydration method and characterized by particle size distribution, zeta potential, scanning electron microscopy (SEM), and entrapment efficiency. We tested the efficacy of decitabine liposomes in various cell lines, MCF-7, MDA-MB-231, LN-CaP. Decitabine liposomes significantly enhanced ( $p < 0.05$ ) the antiproliferative effect when compared to the plain drug.

**Keywords:**Decitabine liposomes, Antiproliferative activity, MCF-7, MDA-MB-231 and LN-CaP.