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(57) Abstract :
The present invention discloses a novel liposomal formulation encapsulating Epigallocatechin Gallate (EGCG) and Baicalin, aimed at enhancing their therapeutic potential. The liposomal formulation includes a composition comprising phosphatidylcholine, cholesterol, and PEGylated lipids, optimized for maximal encapsulation efficiency. The invention further comprises a method for preparing the liposomes using thin film hydration followed by sonication. The characterized liposomes exhibit a particle size distribution ranging from 50 to 200 nm with a zeta potential between -10 to -30 mV. In vitro studies demonstrate a sustained release profile of EGCG and Baicalin under various pH conditions, showcasing enhanced stability and bioavailability. The therapeutic efficacy of the liposomal formulation is evaluated through in vitro cytotoxicity assays, antioxidant activity tests, and cellular uptake studies. In vivo studies in animal models reveal improved pharmacokinetic parameters and therapeutic effects, including anti-inflammatory and anticancer activities. The disclosed liposomal formulation presents a promising delivery system for EGCG and Baicalin, offering potential applications in pharmaceutical and therapeutic fields. Accompanied Drawing [FIGS. 1-2]

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