

세미나 초록

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발표 주제	Innovative Immune Cell-Targeted Gene Delivery Systems for Advancing Inflammatory and Cancer Therapies
발표 내용	<p>This seminar presents two cutting-edge immune cell-targeted gene delivery systems that show significant potential in advancing inflammatory disease and cancer therapies. The first innovation involves macrophage-targeting liposomes (miR/MT-Lip) designed to encapsulate and deliver miRNA, facilitating the phenotypic switch of macrophages from pro-inflammatory M1 to anti-inflammatory M2 states. This targeted approach offers a novel strategy for reducing inflammation and restoring tissue homeostasis in inflammatory diseases. The second system introduces dual-functional lipid nanoparticles (DLNPs) containing DOTAP, engineered to enhance the antitumor efficacy of natural killer (NK) cells. These DLNPs effectively stabilize mRNA, overcome the inherent resistance of NK cells to genetic manipulation, and augment their cytotoxicity against cancer cells. By improving mRNA delivery and boosting NK cell function, DLNPs represent a promising advancement in cancer immunotherapy. Together, these innovative gene delivery systems demonstrate the potential of targeting specific immune cell populations to develop more effective treatments for inflammatory disorders and cancer, marking a significant step forward in the field of immune cell-targeted therapies.</p>