

제 110회

ORGAN ON A CHIP

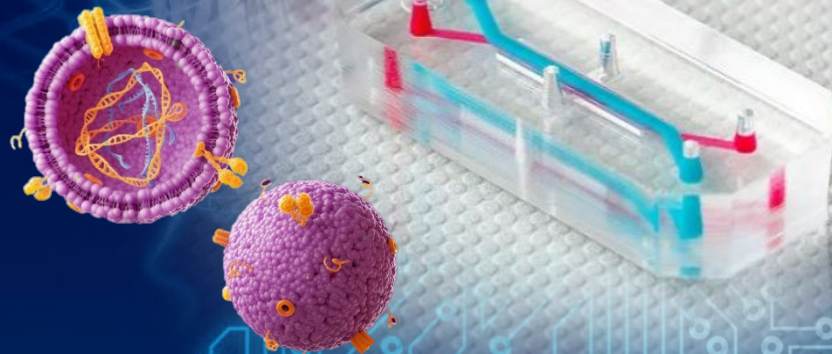
기술교류회

10

한림대학교
융합신소재공학
2014 - 2024
10th ANNIVERSARY

2024.10.17 **목** 오후 4시 30분

한림대학교 의료·바이오융합연구원 포스터홀



박우람 교수

성균관대학교

1. Education

박사: 가톨릭대학교, 생명공학과 (2015)

학사: 가톨릭대학교, 생명공학과 (2008)

2. Experience

2022 ~ 현재 성균관대학교 융합생명공학과, 부교수 (2024~)

2020 ~ 2022 가톨릭대학교 바이오메디컬화학공학과, 조교수

2017 ~ 2020 차의과학대학교 의생명과학과, 조교수

2015 ~ 2017 Dept. of Radiology, Northwestern Univ. Feinberg School of Medicine, Post-doc

염증 및 암 치료 혁신을 위한 면역세포 표적 유전자 전달 시스템

Innovative Gene Delivery Systems Targeting Immune Cells:
Advancing Inflammatory and Cancer Therapies

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.

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