

MEMBRANE TRANSFER OF PHARMACEUTICAL NANOCARRIERS

TECHNICAL FIELD
Drug Delivery



DESCRIPTION

Colloidal nanocarriers such as nanoparticles and liposomes have revolutionized drug delivery of potent pharmacological agents. Encapsulation of proteins, DNA, and siRNA into nanocarriers protects those therapeutic agents from rapid degradation and effectively limits toxic side effects. Despite being significantly smaller than conventional dosage forms, permeation of colloidal nanocarriers across biological membranes is negligible. Consequently, administration of these nanocarriers requires the use of a needle that may result in various complications, including life-threatening infections.

Drs. Pauletti and Menon at the University of Cincinnati have discovered a novel technology to augment transport of pharmaceutical nanocarriers across biological membranes.

ADVANTAGES

- Facilitates transcellular transport of intact, drug-loaded nanocarriers across epithelial cell barriers
- Allows non-invasive oral vaccination
- Limits need for fetal injection *in utero* during therapeutic intervention

INVENTOR

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STATUS

US Patent Application

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