

CHOLESTEROL HMPA BLOCK COPOLYMER STABILIZE LIPID NANOPARTICLES (LNPS)

Tech ID: 33496 / UC Case 2024-103-0

PATENT STATUS

Patent Pending

BRIEF DESCRIPTION

Antibodies against poly(ethylene glycol) (PEG) have the potential to cripple the development of lipid nanoparticle (LNP) based therapeutics and new polymers that can stabilize LNPs are greatly needed. Developing alternatives to the PEG-lipid has been challenging partially because of the synthetic challenges associated with making PEG-lipids.

UC Berkeley researcher have created methods for synthesizing PEG replacement polymers based on RAFT block copolymerization and have shown that the block co-polymers synthesized via RAFT polymerization can replace the PEG on LNPs and can generate LNPs that are more efficient at delivering mRNA than PEG-LNPs and are less immunogenic. Block copolymers synthesized via RAFT have great potential for improving the performance of LNPs given their ability to be rapidly synthesized, the commercial availability of numerous methacrylate monomers and the large functional group tolerance of RAFT.

SUGGESTED USES

- » Stabilization of liquid nanoparticles

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- ▶ [Small Molecule Endosomal Disruptor for Biotherapeutic Delivery](#)
- ▶ [Treatment Of Obesity With Lipid Nanoparticles That Induce Browning In White Fat](#)

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OTHER INFORMATION

CATEGORIZED AS

- » [Medical](#)
- » [Delivery Systems](#)

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