Unimolecular Nanoparticles For Efficient Delivery Of Therapeutic Rna

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WARF: P170119US02

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The Invention

A unimolecular nanoparticle, a composition thereof, and methods of use thereof that includes 1) a dendritic polymer having a molecular weight of about 500-120,000 Da and terminating in hydroxyl, amino or carboxylic acid groups; 2) cationic polymers attached to at least a majority of the terminating groups of the dendritic polymer via a pH-sensitive linker, wherein each cationic polymer comprises a polymeric backbone attached to cationic functional groups and to weakly basic groups by disulfide bonds, wherein the molar ratio of cationic functional groups to weakly basic groups ranges from 1:1-5:1, and has a molecular weight from about 1,000-5,000 Da; and 3) poly(ethylene glycol) attached to a plurality of cationic polymers and having a terminal group selected from a targeting ligand, OH, O-alkyl, NH2, biotin, or a dye, wherein the terminal group of at least one poly(ethylene glycol) is having a molecular weight of about 1,000-15,000 Da.

Additional Information

For More Information About the Inventors

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Tech Fields

- Drug Delivery : Other drug delivery technologies

For current licensing status, please contact Rafael Diaz at rdiaz@warf.org or 608-960-9847