Therapeutics & Vaccines

MINERAL-COATED SUBSTRATES FOR STABILIZATION OF RNA-BASED THERAPEUTIC COMPOSITIONS

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Inventors: William Murphy, Joshua Choe

The Invention

UW-Madison researchers successfully developed and demonstrated improved mRNA stabilization techniques that leverage mineral coatings. In short, the inventors stabilized mRNA complexes on mineral coated surfaces alone and in combination with other stabilizers (e.g., lyoprotectant) and techniques (e.g., freeze-drying). Building on their earlier work, the inventors used mineral coated microparticles (MCMs) to bind the mRNA complexes. After binding, the MCM-mRNAs were combined with a lyoprotectant (disaccharide) and lyophilized. The result is a powder that can be stored at room temperature, but that can be reconstituted and used to transfect cells. In addition, the inventors were able to coat borosilicate glass vials, which are representative of the current storage for mRNA vaccines. Finally, the inventors used two different lipid and lipid/polymer complexing agents to demonstrate the versatility of their approach.

Additional Information

For More Information About the Inventors

- William Murphy

Publications

- View a news story about this technology.

Tech Fields

- Drug Delivery : Other drug delivery technologies
- Therapeutics & Vaccines : Vaccines

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