VACCINE ADJUVANTS, TRANSFECTION REAGENTS, AND METHODS OF USING THE SAME

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Inventors: Adel Talaat, Bubacarr Touray

The Invention

UW-Madison researchers have developed a new combination adjuvant composition (dubbed QTAP) that combines two safe adjuvants (Quil-A and DOTAP) using a nanoparticle preparation protocol developed by the inventors at UW-Madison. Among several formulas and preparation protocols, the inventors found a novel adjuvant composition that can incorporate both RNA and DNA antigens (with an incorporation rate of 99%) and which provides sustained release of the antigen payload over long periods of time (tested up to 30 days so far). Particle sizes of the developed nanoadjuvant with the antigen payload (e.g., RNA) were less than 100 nanometers (nm). When RNA encoding reporter genes such as GFP and Luciferase are entrapped in QTAP nanoadjuvant and used to transfect cells, the inventors could quantitatively detect the encoded proteins using techniques such as flow cytometry, Western blot, and fluorescence microscopy. Most importantly, QTAP by itself can induce an immune response in murine macrophages and this response was further amplified when mRNA encoding mycobacterial proteins was used.

Additional Information

For More Information About the Inventors

- Adel Talaat

Tech Fields

- Drug Delivery : Biologics
- Research Tools : DNA & RNA tools
- Research Tools : Reagents
- Therapeutics & Vaccines : Vaccines

For current licensing status, please contact Jennifer Gottwald at jennifer@warf.org or 608-960-9854

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