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PRINT® particle simultaneous delivery of adjuvants with antigens

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Abstract

Liquidia Technologies is developing highly precise particle-based vaccines and therapeutics for the prevention and treatment of human disease. Using a novel fabrication method known as PRINT (Particle Replication in Non-Wetting Templates), Liquidia is able to independently optimize the shape, size, chemical composition, surface functionality, and flexibility of carriers, all which may significantly influence the biodistribution, bioavailability, and therapeutic efficacy of large and small molecule drugs.

Today's presentation will focus on the use of the PRINT technology to develop enhanced cellular responses after a single vaccination. Because the PRINT technology allows for the simultaneous delivery of both antigen and adjuvant to antigen presenting cells, enhanced antigenic priming is observed. Data from two independent antigens will be presented both showing robust cellular responses after a single dose as compared to soluble controls. Given the data from these studies PRINT particles could reduce cost and allow for fewer doses to achieve protective immune responses. This would be most impactful in the developing world, where compliance is crucial to observed efficacy outcomes.

Biography:

Ashley Galloway graduated from Emory University in 2006 with a PhD in organic chemistry focused on the synthesis and self-assembly of novel surfactants and phospholipids. Upon graduation, she accepted a Ruth L. Kirschstein National Research Service Award from the NIH to complete postdoctoral studies at the University of North Carolina at Chapel Hill in Professor Joseph M. DeSimone's laboratory. Dr. Galloway joined Liquidia Technologies in 2007 to explore life science applications of PRINT® particles. Since 2008, her work has focused on the design, manufacture, and formulation of PRINT particles as vaccine candidates for the prevention of pneumonia, influenza, malaria, and other disease.