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October, 2022

NOF EXHIBITS AND PRESENTS A POSTER AT 10th International mRNA Health Conference 2022 (November 8-10)

NOF CORPORATION is exhibiting and presenting a poster at 10th International mRNA Health Conference, held at Boston Park Plaza Hotel & Tower, Boston, MA from November 8 to 10.

Conference website: <https://www.mrna-conference.com/>

Poster #38 Presentation Title:

COATSOME® SS Series: Biodegradable Lipid Nanoparticles for Gene Therapy and Vaccines with Room Temperature Stability

Date and Time:

November 9, 2022 at 5:30pm – 7:00pm (Poster Session)

Abstract:

Lipid nanoparticles (LNP) are utilized to delivery nucleic acid therapeutics have proven distinct advantages to viral vectors. However, many ionizable lipids in use today have the drawback of flu-like symptoms linked to broad inflammatory responses and there is a need to devise LNPs with reduced immunogenicity for in vivo therapeutic applications such as gene editing. At the same time, there is perceived benefit in improving the immunostimulatory profile for vaccines leading ultimately to single-dose mRNA vaccines. While much of the inflammatory response has been linked to characteristics of mRNA, there is now emerging evidence that there is an immunogenic component of ionizable lipids that modulates the overall inflammatory response of a LNP-mRNA product.

Here, we describe a novel ionizable lipid series, COATSOME® SS Series, whose immune responses can be modulated by altering the lipid chemistry and the LNP composition. The tolerability and gene delivery efficiency was improved by engineering the lipids for greater intracellular hydrolysis and clearance. We also investigated the *in vivo* mechanisms responsible for cytokine induction and developed novel lipids for better targeted immune responses that resulted in improved antibody production and cytotoxic T-cell activity. Leveraging these insights, we developed mRNA vaccines for infectious diseases and tumor immunotherapy. The presentation will also cover the development of distinct lipids for cell therapy, gene editing, and vaccines as well the results of a room temperature lyophilized mRNA drug product.

Visit our booth during the conference, or contact our regional offices below:

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