

LNP Breakthrough: The Role of Ultra-Pure Lipids

U. Albrecht¹, P. Gass¹, R. Kastl¹, A. Klaiber¹, M. Juza¹, Z. Handlová¹, M. Baumann¹
N. Spinner¹, F. Kirner¹, M. Vogel¹, T. Wedel¹

¹ CordenPharma Switzerland LLC, Eichenweg 1, 4410 Liestal, Switzerland

Lipids are important entities in biological systems and therefore of high interest in numerous cosmetic and medical applications. Among this broad variety of applications lipids received even stronger attention over the past years -triggered predominantly by the Covid pandemic- as substrates in the formulation of Lipid Nanoparticles (LNPs) (Figure 1).^[1-3]

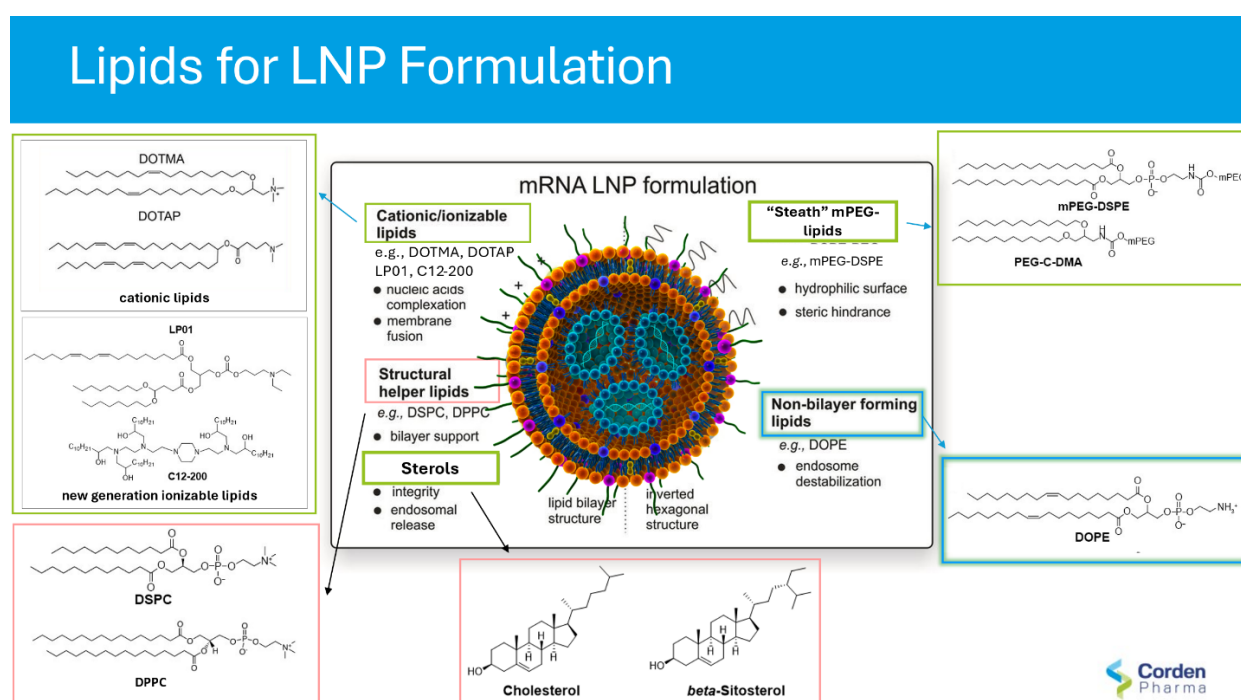


Figure 1: Overview of different types of lipids used as LNP building blocks

The purity of lipids has a significant impact on quality and consistency in LNP formulation. Batch-to-batch variations in by-product profile of lipids as well as differences between suppliers will lead to inconsistency in formulation and can even lead to deactivation of the payload like mRNA [4, 5]. Using highly pure lipids from the first small scale trials to clinical applications will circumvent these issues and is therefore mandatory. At CordenPharma we achieve this high quality of our lipids by having full control of our manufacturing processes. Next to high quality starting materials and highly efficient synthetic approaches our years-long experience in lipid purification and analysis combined with state-of-the-art technology are the cornerstones in delivering high quality lipids to support our customers.

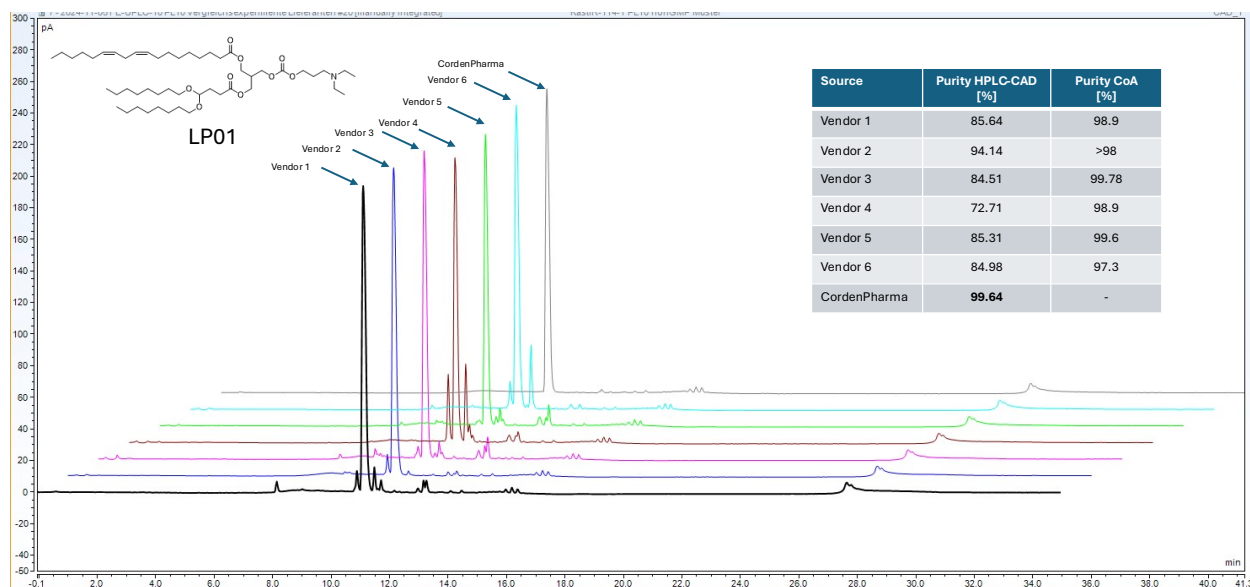


Figure 2: Comparison of LP01 quality from different vendors

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