



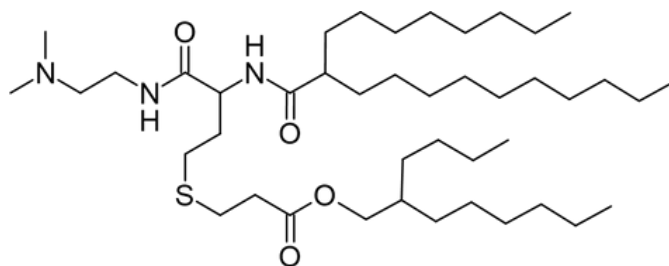
CP-LC-1401

Product number 860808

CP-LC-1401 is manufactured and distributed under license from Certest Biotech S.L. CP-LC-1401 is an ionizable lipid that successfully encapsulates mRNA and CRISPR/Cas9. In vivo studies carried out in mice show that lipid nanoparticle (LNP) formulations using ionizable lipid CP-LC-1401 exhibit increased mRNA expression and improved delivery of CRISPR/Cas9 compared to industry leading formulations. LNP formulations using CP-LC-1401 also show favorable safety profiles and improved biodegradability compared to industry leading formulations. LNPs formulated with CP-LC-1401 have shown a primary biodistribution in the liver and exhibit high endosomal escape.

Key product features include:

- Increased mRNA expression compared to Industry Leading formulations
- Improved CRISPR/Cas9 delivery compared to industry leading LNP formulations
- β -thioester bond enables higher biodegradability compared to industry leading ionizable lipids
- Hepatic delivery of nucleic acid payloads
- Improved safety profiles and biodegradability compared to other industry leading formulations



Product information

Physical and chemical properties

CAS number ¹

N/A

Molecular weight

740.23

Purity and material grade

>99%, Research-Use-Only, not intended for use in humans

Storage temperature

-20 °C

Application

Hepatic delivery of mRNA and CRISPR/Cas9 via lipid nanoparticle formulations (LNPs)

pKa (measured by TNS fluorescence titration)

~6.8

¹CAS is a registered trademark of the American Chemical Society

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Figure 1

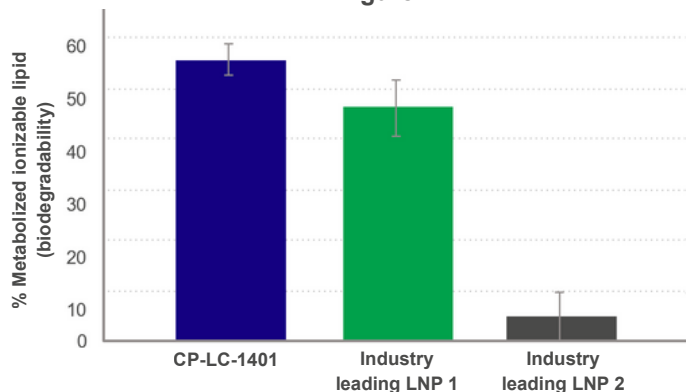


Figure 2

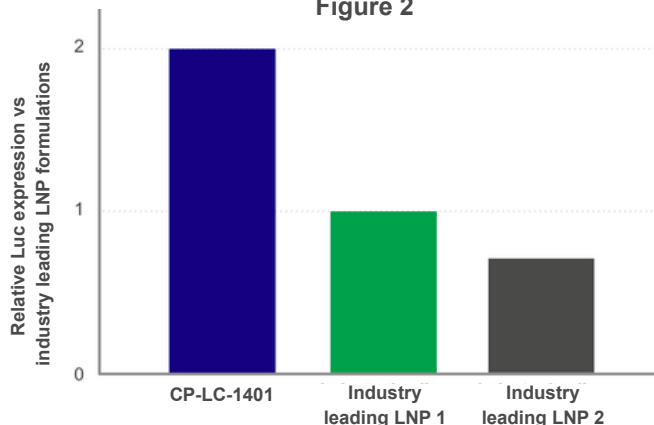


Figure 3

Serum factor 7 quantification

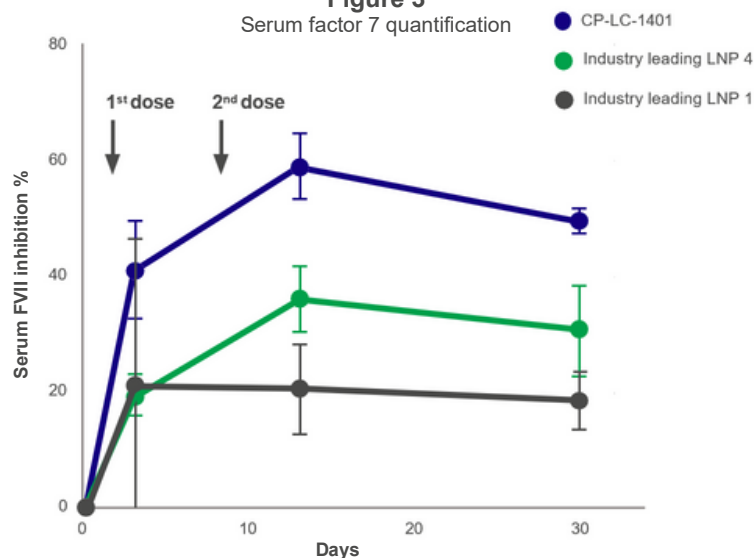


Table 1

Lipid nanoparticles formulated with 50 mol% CP-LC-1401, 10 mol% DOPE, 38.5 mol% cholesterol, and 1.5 mol% DMG-PEG2000 with an N/P 6 exhibit the following physicochemical attributes.

Physicochemical attributes	
Size	75-110 ¹ nm
Polydispersity	< 0.2
Zeta potential	~ -7
Encapsulation efficiency	> 90%

¹ dependent on payload size and fluid flow processing parameters

Did you know that Avanti Research™ offers formulations services?

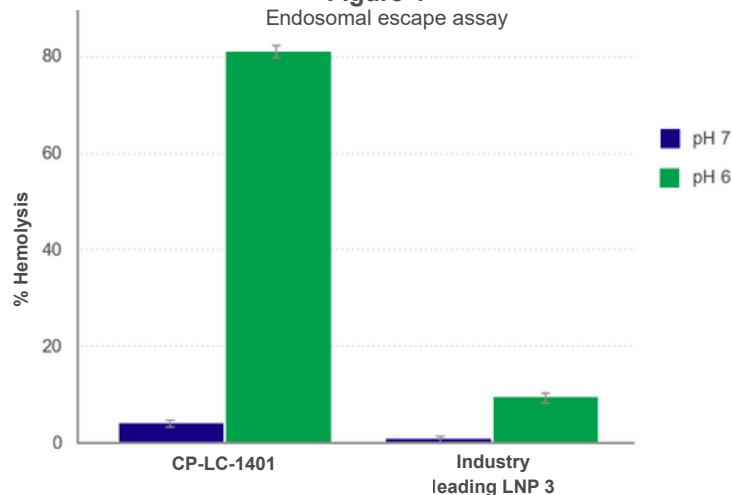
Not sure how to formulate with CP-LC-1401?

Want to perform feasibility studies without equipment investment?

Avanti Research formulations experts are ready to help you turn your product ideas into reality. We provide support and guidance from initial concept through to full-scale production!

Figure 4

Endosomal escape assay



Non-warranty

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