

DC66650 | CP-LC-0729

Instructions for Use

Lipid CP-LC-0729, an ionizable cationic amino lipid synthesized from homocysteine—a naturally occurring amino acid—has been shown to exhibit superior efficacy in the delivery and subsequent protein expression of various RNA modalities, including messenger RNA (mRNA), circular RNA (cRNA), and self-amplifying RNA (saRNA) in vivo. Importantly, CP-LC-0729 demonstrates an exemplary safety profile, with no observable toxicological effects in preclinical studies.

Comparative analyses reveal that CP-LC-0729 significantly surpasses MC3, a widely utilized benchmark lipid nanoparticle formulation, in terms of protein expression efficiency. Specifically, CP-LC-0729 achieves a striking 32-fold enhancement in protein expression within lung tissue relative to MC3, underscoring its pronounced tissue selectivity and targeting efficacy for pulmonary applications. These findings suggest that CP-LC-0729 represents a highly promising candidate for the development of RNA-based therapeutics, particularly in the context of lung-targeted delivery systems, where its combination of high efficiency and low toxicity offers significant translational potential.

Product information

CAS No.	Not available
Chemical Name	CP-LC-0729
Formula	C43H85N3O4S
M.Wt	740.2
Purity	Not available
Storage	Original product: up to 1 year under the storage conditions stated on the vial, kept tightly sealed. Stock solutions: aliquots at -20°C, generally up to one month.
Shipping condition	Ships from Shanghai. Pure lipid is stable during ice-pack transport.

Formulation & study context

Literature values apply to the cited study only. Administration routes describe research, not clinical instructions.

A complete product-specific formulation has not been verified. No standard ratio is substituted.

N/P ratio	Not reported in the verified record
Cargo	Not available in the verified record
Administration route	Not available in the verified record
Animal model	Not available in the verified record
Formulation process	Not available in the verified record

N/P is a nitrogen-to-phosphate molar ratio. Lipid:cargo mass ratio is a different quantity and must not be used as N/P.

Stock-solution preparation table

Calculated using product-page MW: 740.2 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	13.510 mL	2.702 mL	1.351 mL
25 mg	33.775 mL	6.755 mL	3.377 mL
50 mg	67.549 mL	13.510 mL	6.755 mL
100 mg	135.099 mL	27.020 mL	13.510 mL
250 mg	337.747 mL	67.549 mL	33.775 mL

Volume (mL) = mass (mg) × 1000 / [MW (g/mol) × concentration (mM)]. Mathematical conversions only; not measured solubility. Confirm solvent compatibility and the exact material before preparation.

Handling & storage

Provided that storage conditions are as stated on the product vial and the vial is kept tightly sealed, the product can be stored for up to 1 year.

Wherever possible, prepare and use solutions on the same day. If stock solutions must be prepared in advance, store them as aliquots in tightly sealed vials at -20°C. Generally, these will be usable for up to one month.

Before use, and prior to opening the vial, allow the product to equilibrate to room temperature for at least 1 hour.

References

Not available