

DC67519 | Lipid SL01

Instructions for Use

SL01 is an ionizable cationic lipid compound pKa 6.31 developed by Seqirus, characterized by a biodegradable ester backbone and tertiary amine headgroup, enabling pH-dependent charge modulation. Its structure incorporates twin hydrophobic tails with unsaturated carbon chains, enhancing membrane fluidity and promoting endosomal escape. The lipid's pKa (~6.5–7.0) optimizes nucleic acid complexation at physiological pH while minimizing cytotoxicity. SL01 demonstrates robust mRNA encapsulation efficiency (~90%) in lipid nanoparticles (LNPs) and facilitates intracellular delivery via endocytosis. Preclinical studies highlight its efficacy in inducing potent humoral and cellular immune responses, particularly in influenza mRNA vaccines. Its ester linkages ensure gradual metabolic clearance, reducing long-term toxicity. SL01-based LNPs exhibit stability in serum and compatibility with scalable manufacturing processes, making it a versatile candidate for therapeutic mRNA delivery.

Product information

CAS No.	Not available
Chemical Name	Lipid SL01
Formula	C38H73O4N
M.Wt	608.00
Purity	>98%
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: 608.0 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	16.447 mL	3.289 mL	1.645 mL
25 mg	41.118 mL	8.224 mL	4.112 mL
50 mg	82.237 mL	16.447 mL	8.224 mL
100 mg	164.474 mL	32.895 mL	16.447 mL
250 mg	411.184 mL	82.237 mL	41.118 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