

DC60663 | Si5-N14

Instructions for Use

Si5-N14 is a lipid-based molecule engineered with siloxane groups, designed specifically for efficient mRNA delivery to the lungs. The incorporation of siloxane units boosts the cellular uptake of mRNA-loaded lipid nanoparticles (LNPs) and enhances their ability to escape from endosomes. These properties significantly increase the overall effectiveness of mRNA delivery, making Si5-N14 a promising tool for targeted therapeutic applications.

Product information

CAS No.	Not available
Chemical Name	Si5-N14
Formula	C ₇₈ H ₁₆₀ N ₆ O ₅ Si ₂
M.Wt	1,318.3
Purity	ELSD-HPLC>95%
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: 1318.3 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	7.586 mL	1.517 mL	0.759 mL

Mass	1 mM	5 mM	10 mM
25 mg	18.964 mL	3.793 mL	1.896 mL
50 mg	37.928 mL	7.586 mL	3.793 mL
100 mg	75.855 mL	15.171 mL	7.586 mL
250 mg	189.638 mL	37.928 mL	18.964 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

Combinatorial design of siloxane-incorporated lipid nanoparticles augments intracellular processing for tissue-specific mRNA therapeutic delivery-Michael J. Mitchell -Nature Nanotechnology (2024)