

PRODUCT INFORMATION



Si5-N14

Item No. 42520

CAS Registry No.: 3006860-57-4
Formal Name: 3,3',3'',3'''-(((1,1,3,3-tetramethyldisiloxane-1,3-diyl))bis(propane-3,1-diyl))bis(azanetriyl))tetrakis(N-tetradecylpropanamide)

MF: $C_{78}H_{160}N_6O_5Si_2$

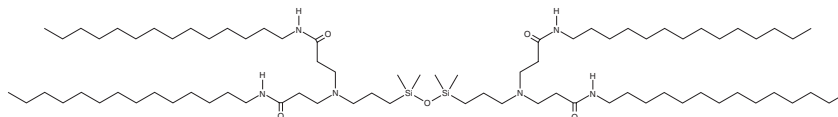
FW: 1,318.3

Purity: $\geq 95\%$

Supplied as: A solution in ethanol

Storage: $-20^{\circ}C$

Stability: ≥ 4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Description

Si5-N14 is a siloxane-incorporated ionizable cationic lipidoid that has been used in the generation of lipid nanoparticles (LNPs) for the delivery of mRNA and single-guide RNA (sgRNA) *in vitro* and *in vivo*.¹ LNPs containing Si5-N14 and encapsulating a luciferase mRNA reporter exhibit increased cellular uptake via micropinocytosis and lipid raft-mediated endocytosis pathways and endosomal escape compared with LNPs containing non-siloxane-incorporated lipids in immortalized human lung microvascular endothelial cells (iMVECs). *In vivo*, LNPs containing Si5-N14 and encapsulating a luciferase mRNA reporter selectively accumulate in the lungs in mice. Si5-N14 LNPs encapsulating Cas9 mRNA and GFP sgRNA reduce GFP levels in lung MVECs without increasing bronchoalveolar lavage fluid (BALF) cytokine levels in a transgenic GFP mouse model.

Reference

1. Xue, L., Zhao, G., Gong, N., *et al.* Combinatorial design of siloxane-incorporated lipid nanoparticles augments intracellular processing for tissue-specific mRNA therapeutic delivery. *Nat. Nanotechnol.* **20(1)**, 132-143 (2025).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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