

DC67570 | Generation Lipid 87

Instructions for Use

Lipid 87 is a proprietary ionizable lipid developed by Generation Bio. Used as a key ingredient in stealth LNPs, it greatly prolongs blood circulation time, maintains high nucleic acid encapsulation efficiency and low cytotoxicity, and enables effective liver targeting. Its relevant applications are documented in PCT patent WO2026/080826A1. As a core component (47.5–57.5 mol%) of stealth lipid nanoparticles (LNPs), it works synergistically with steric-stabilizing polymers like DSG-PEG₂₀₀₀-OMe to extend the in vivo blood half-life of LNPs to over 24 hours (compared to merely 30 minutes of conventional LNPs). It achieves an encapsulation efficiency above 95% for mRNA and closed-ended DNA (ceDNA), exhibits low cytotoxicity with an IC₅₀ value greater than 100 µM, and delivers robust liver-targeting performance, obtaining over 80% hepatocyte transfection at a dosage of 0.5 mpk. In preclinical models of hemophilia B, LNPs formulated with Lipid 87 can restore around 40% of clotting factor IX (FIX) activity for more than seven days.

Product information

CAS No.	Not available
Chemical Name	Generation Lipid 87
Formula	C ₃₉ H ₇₇ O ₄ N
M.Wt	624.05
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: 624.05 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	16.024 mL	3.205 mL	1.602 mL
25 mg	40.061 mL	8.012 mL	4.006 mL
50 mg	80.122 mL	16.024 mL	8.012 mL
100 mg	160.244 mL	32.049 mL	16.024 mL
250 mg	400.609 mL	80.122 mL	40.061 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

WO2026/080826A1