

DC67616 | GVS-18-B34

Instructions for Use

GVS-18-B34 is a highly potent, silicon ether-based ionizable lipid that enables efficient mRNA delivery via lipid nanoparticles (LNPs). Its key advantage lies in a biodegradable silyl ether linkage, which undergoes rapid, non-enzymatic hydrolysis, leading to near-complete clearance from the liver within 24 hours in both mice and non-human primates (NHPs). This degradation mechanism is species-agnostic, overcoming the variability associated with esterase-dependent lipids. In vivo, GVS-18-B34 LNPs demonstrated superior liver-specific protein expression and a high liver-to-spleen signal ratio, indicating minimal off-target accumulation and reduced immune stimulation compared to benchmarks like MC3 and SM-102. The LNPs exhibited excellent stability when stored frozen at -80°C, maintaining integrity over multiple freeze-thaw cycles. With its optimal pKa (~6.3) and efficient endosomal escape profile, GVS-18-B34 represents a promising candidate for therapeutic applications requiring frequent dosing, combining high potency with a favorable safety profile derived from its rapid clearance.

Product information

CAS No.	Not available
Chemical Name	GVS-18-B34
Formula	C37H73O3NSi
M.Wt	608.08
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: 608.08 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	16.445 mL	3.289 mL	1.645 mL
25 mg	41.113 mL	8.223 mL	4.111 mL
50 mg	82.226 mL	16.445 mL	8.223 mL
100 mg	164.452 mL	32.890 mL	16.445 mL
250 mg	411.130 mL	82.226 mL	41.113 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