

DC60564 | Lipid GVS-18-B6

Instructions for Use

GVS-18-B6 is a biodegradable silicon-ether ionizable lipid reported for liver-directed mRNA delivery. The literature-verified structure contains a dimethylamino headgroup connected through a four-carbon linker to a silicon center bearing three cis-4-decenyl ether chains. In the cited study, GVS-18-B6 LNPs showed high mRNA encapsulation, an apparent LNP pKa of 6.15, preferential hepatic expression after intravenous administration, rapid tissue clearance, and favorable tolerability in the reported mouse and nonhuman-primate experiments. All formulation and performance values shown below are literature-reported study results, not specifications or guaranteed performance of the supplied lipid.

Product information

CAS No.	Not available
Chemical Name	Lipid GVS-18-B6
Formula	C36H71NO3Si
M.Wt	594.05
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.

Component	mol%	Role
GVS-18-B6	54.6	Ionizable lipid
DSPC	10.9	Helper phospholipid
Cholesterol	32.8	Sterol
PEG-conjugated lipid (identity not specified in article)	1.6	PEG lipid
Reported total	99.9	Source values retained
N/P ratio	Not reported in the cited article	
Buffer & pH	Nucleic acid in acetate buffer, pH 5; final LNP in Tris-sucrose buffer, pH 8.0	
Cargo	EGFP mRNA	

Administration route	Intravenous injection (IV)
Dose	0.5 mg mRNA/kg, single dose
Animal model	Female BALB/c mice, 7-8 weeks old
Formulation process	Controlled mixing of the aqueous nucleic-acid phase with an ethanolic four-lipid solution, followed by tangential-flow ultrafiltration, buffer exchange, concentration and 0.2 µm sterile filtration

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: 594.05 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	16.834 mL	3.367 mL	1.683 mL
25 mg	42.084 mL	8.417 mL	4.208 mL
50 mg	84.168 mL	16.834 mL	8.417 mL
100 mg	168.336 mL	33.667 mL	16.834 mL
250 mg	420.840 mL	84.168 mL	42.084 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

Cited literature for this formulation and performance dataset Holland R, Lam K, Jeng S, et al. Silicon Ether Ionizable Lipids Enable Potent mRNA Lipid Nanoparticles with Rapid Tissue Clearance. ACS Nano. 2024;18:10374-10387. DOI: 10.1021/acsnano.3c09028 Formulation: p. 10375 and Materials & Methods; performance: Table 1 and Figures 2-6.