

DC60502 | GalNAc Lipid GL6(GalNAc Lipid 1004)

Instructions for Use

GL6 is a trivalent GalNAc-lipid conjugate designed for ASGPR-mediated hepatic delivery. It features a lysine-based scaffold covalently linked to three GalNAc moieties via a 36-unit PEG spacer, anchored by a 1,2-O-diocetadecyl-sn-glycerol (DSG) lipid tail. This structure balances ligand accessibility (via optimized PEG length) and nanoparticle stability (via hydrophobic DSG anchoring). Compared to GL3 (TRIS scaffold, same PEG length), GL6's simplified lysine scaffold improves manufacturability. In LDLR-deficient models, GL6 enabled 61% liver editing (vs. 5% with standard LNPs) at 2 mg/kg, demonstrating superior ASGPR targeting. Its design minimizes ligand crowding (0.05 mol% surface density) while maximizing endosomal escape and durable gene editing.

Product information

CAS No.	Not available
Chemical Name	GalNAc Lipid GL6(GalNAc Lipid 1004)
Formula	C166H319O63N9
M.Wt	3,449.38
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: 3449.38 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	2.899 mL	0.580 mL	0.290 mL
25 mg	7.248 mL	1.450 mL	0.725 mL
50 mg	14.495 mL	2.899 mL	1.450 mL
100 mg	28.991 mL	5.798 mL	2.899 mL
250 mg	72.477 mL	14.495 mL	7.248 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

GaINAc-Lipid nanoparticles enable non-LDLR dependent hepatic delivery of a CRISPR base editing therapy-Lisa N Kasiewicz□Andrew M Bellinger 1,Nat Commun. 2023 May 15;14:2776.