

DC67632 | Lipid GL5

Instructions for Use

GL5 is an ionizable guanidine-based lipid nanoparticle (G-LNP) designed for superior mRNA delivery. Its guanidinocarbonyl-pyrrole (GCP) headgroup enables pH-responsive behavior and strong mRNA binding via bidentate hydrogen bonds. The cholesterol-free GL5-3 formulation forms compact, stable nanoparticles (~90-120 nm) that exhibit excellent spleen-targeting capability after intravenous injection. GL5-LNPs efficiently deliver mRNA to antigen-presenting cells (APCs), enhancing antigen presentation and T cell activation. In cancer immunotherapy models, GL5-based mRNA vaccines provided complete tumor protection and induced durable immune memory. The platform also enables mRNA delivery to other organs like the pancreas via different administration routes, demonstrating remarkable versatility and therapeutic potential.

Product information

CAS No.	Not available
Chemical Name	Lipid GL5
Formula	C55H97O6N5
M.Wt	924.41
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: 924.41 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	10.818 mL	2.164 mL	1.082 mL
25 mg	27.044 mL	5.409 mL	2.704 mL
50 mg	54.089 mL	10.818 mL	5.409 mL
100 mg	108.177 mL	21.635 mL	10.818 mL
250 mg	270.443 mL	54.089 mL	27.044 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