

DC67995 | Lipid 22

Instructions for Use

Compound 22, as detailed in United States Patent US 2026/0014089 A1, is a bifunctional ionizable lipid engineered for precision drug delivery. Its structure integrates a monosaccharide targeting headgroup, designed to bind specifically to DC-SIGN receptors on dendritic cells, via a sophisticated linker connected to a biodegradable lipid anchor. This design enables it to serve as a key component of lipid nanoparticles (LNPs), forming a targeted delivery system. By leveraging the specific carbohydrate-receptor interaction, these LNPs are preferentially internalized by dendritic cells, critical for initiating adaptive immune responses. In vivo studies from the patent, such as the biodistribution data shown in Figure 5, confirm effective accumulation in lymphoid tissues like the spleen and lymph nodes. Consequently, this targeted delivery enhances the potency of encapsulated payloads (e.g., mRNA vaccines) by ensuring professional antigen presentation, eliciting a stronger and more specific immune response—evidenced by higher neutralizing antibody titers—making it a powerful tool for next-generation vaccines and therapeutics.

Product information

CAS No.	Not available
Chemical Name	Lipid 22
Formula	C62H116O16N2P-
M.Wt	1,176.58
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: 1176.58 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	8.499 mL	1.700 mL	0.850 mL
25 mg	21.248 mL	4.250 mL	2.125 mL
50 mg	42.496 mL	8.499 mL	4.250 mL
100 mg	84.992 mL	16.998 mL	8.499 mL
250 mg	212.480 mL	42.496 mL	21.248 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

Not available