

DC66219 | Lipid 88

Instructions for Use

Lipid88 is a high-performance, novel ionizable lipid component engineered for advanced mRNA-LNP vaccine delivery. LNP88 formulation demonstrates superior biodistribution, achieving >10-fold higher transfection efficiency in spleen and lymph nodes compared to benchmark lipids like ALC-0315 via intramuscular delivery. When encapsulating antigen-encoding mRNA (e.g., optimized mCSA construct), Lipid-88 based LNPs drive robust humoral and cellular immunity, enabling complete protection against challenging SARS-CoV-2 variants (WA1/2020, Omicron BA.1, BQ.1) in preclinical models. Its design prioritizes potent immunogenicity with favorable safety profiles.

Product information

CAS No.	Not available
Chemical Name	Lipid 88
Formula	C79H147N3O20
M.Wt	1,459.0
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.

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: 1459.0 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	6.854 mL	1.371 mL	0.685 mL
25 mg	17.135 mL	3.427 mL	1.714 mL
50 mg	34.270 mL	6.854 mL	3.427 mL
100 mg	68.540 mL	13.708 mL	6.854 mL
250 mg	171.350 mL	34.270 mL	17.135 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

Ye, Z., Bonam, S.R., McKay, L.G.A., et al. Monovalent SARS-COV-2 mRNA vaccine using optimal UTRs and LNPs is highly immunogenic and broadly protective against Omicron variants. Proc. Natl. Acad. Sci. USA 120(52), e2311752120 (2023).