

DC82101 | AA3-DLin

Instructions for Use

AA3-DLin is an ionizable cationic amino lipid ($pK_a = 5.8$) that has been used in combination with other lipids in the formation of lipid nanoparticles (LNPs) for the delivery of mRNA. LNPs containing AA3-DLin and encapsulating mRNA for the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) spike glycoprotein induce immunogenicity in mice.

Product information

CAS No.	Not available
Chemical Name	AA3-DLin
Formula	C ₄₄ H ₇₈ N ₂ O ₄
M.Wt	699.1
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: 699.1 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	14.304 mL	2.861 mL	1.430 mL
25 mg	35.760 mL	7.152 mL	3.576 mL

Mass	1 mM	5 mM	10 mM
50 mg	71.521 mL	14.304 mL	7.152 mL
100 mg	143.041 mL	28.608 mL	14.304 mL
250 mg	357.603 mL	71.521 mL	35.760 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

1. Li, Z., Zhang, X.-Q., Ho, W., et al. Enzyme-catalyzed one-step synthesis of ionizable cationic lipids for lipid nanoparticle-based mRNA COVID-19 vaccines. ACS Nano 16(11), 18936–18950 (2022).