

DC67537 | DM3-BTA-14

Instructions for Use

DM3-BTA-14 is a cationic lipid compound engineered for high-efficiency mRNA delivery developed by Hefei AlphaNA Biotechnology. Its structure features a rigid benzene-1,3,5-tricarboxamide core linked to a protonatable dimethylamino headgroup (-N(CH₃)₂) via a propylene spacer (-CH₂CH₂CH₂-) and two saturated C14 alkyl chains. This design enables ≈90% endosomal escape efficiency, superior lymph node targeting for vaccines, and effective tumor-specific mRNA delivery. It outperforms benchmark lipids while maintaining low cytotoxicity, forming stable nanoparticles with cholesterol/DSPC/DSPE-PEG (50:39:10:1 ratio) for therapeutic applications.

Product information

CAS No.	Not available
Chemical Name	DM3-BTA-14
Formula	C41H72O5N2
M.Wt	672.54
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: 672.54 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	14.869 mL	2.974 mL	1.487 mL
25 mg	37.173 mL	7.435 mL	3.717 mL
50 mg	74.345 mL	14.869 mL	7.435 mL
100 mg	148.690 mL	29.738 mL	14.869 mL
250 mg	371.725 mL	74.345 mL	37.173 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