

DC60636 | Acid-degradable Cationic Lipid (ADC)

Instructions for Use

Acid-degradable Cationic Lipid (ADC) composed of cationic lipid is synthesized with the azido-acetal linker and used to generate RD-LNPs, which significantly improves the performance of LNP-mRNA complexes in vitro and in vivo.

Product information

CAS No.	Not available
Chemical Name	Acid-degradable Cationic Lipid (ADC)
Formula	C ₄₂ H ₆₈ N ₅ O ₄ .C ₇ H ₇ O ₃ S
M.Wt	878.23
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: 878.23 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	11.387 mL	2.277 mL	1.139 mL

Mass	1 mM	5 mM	10 mM
25 mg	28.466 mL	5.693 mL	2.847 mL
50 mg	56.933 mL	11.387 mL	5.693 mL
100 mg	113.865 mL	22.773 mL	11.387 mL
250 mg	284.663 mL	56.933 mL	28.466 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

Acid-degradable lipid nanoparticles enhance the delivery of mRNA-Sheng Zhao, Aijun Wang, Niren Murthy, Nat Nanotechnol 2024 Aug 23. - Lung and liver editing by lipid nanoparticle delivery of a stable CRISPR-Cas9 ribonucleoprotein Kai Chen, Hesong Han, Sheng Zhao, Bryant Xu, Boyan Yin, Atip Lawanprasert, Marena Trinidad, Benjamin W. Burgstone, Niren Murthy & Jennifer A. Doudna ---Nature Biotechnology (2024)