

DC85555 | YK-009

Instructions for Use

YK-009 is an advanced, biodegradable ionizable lipid designed for efficient mRNA delivery. Via intramuscular injection, it demonstrates superior targeting to draining lymph nodes, boosting immune cell transfection for vaccines. When administered intravenously, it distributes to the liver but leverages a highly degradable chemical backbone to ensure rapid clearance post-endosomal escape. This effectively eliminates the risk of long-term tissue accumulation and liver toxicity seen in traditional lipids. Delivering a balance of high transfection efficiency and exceptional biocompatibility, YK-009 is an ideal component for safe and potent lipid nanoparticle (LNP) formulations.

Product information

CAS No.	Not available
Chemical Name	YK-009
Formula	C40H79NO5
M.Wt	654.06
Purity	>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: 654.06 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	15.289 mL	3.058 mL	1.529 mL
25 mg	38.223 mL	7.645 mL	3.822 mL
50 mg	76.446 mL	15.289 mL	7.645 mL
100 mg	152.891 mL	30.578 mL	15.289 mL
250 mg	382.228 mL	76.446 mL	38.223 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. Long, J., Yu, C., Zhang, H., et al. Novel ionizable lipid nanoparticles for SARS-CoV-2 omicron mRNA delivery. Adv. Healthc. Mater. 12(13), 2202590 (2023).