

DC67541 | Yoltech lipid 4

Instructions for Use

Yoltech lipid 4, a highly efficient ionizable lipid disclosed in patent PCT/CN2023/116607, features a central tertiary amine group flanked by hydrophobic tails—specifically, a bis(2-ethylhexyl) core and a linoleyl (C18:2) chain linked via ester bonds. This structure enables pH-responsive behavior critical for mRNA/LNP delivery: neutral in circulation (reducing toxicity) but protonated in endosomes to facilitate membrane disruption and payload release. In murine studies targeting liver PCSK9, Compound 4 achieved ~90% gene-editing efficiency. Its optimized formulation yields LNPs of 70–150 nm with >90% encapsulation, ideal for hepatocyte-specific delivery.

Product information

CAS No.	Not available
Chemical Name	Yoltech lipid 4
Formula	C61H115O8N3
M.Wt	1,018.60
Purity	>98%
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: 1018.6 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	9.817 mL	1.963 mL	0.982 mL
25 mg	24.543 mL	4.909 mL	2.454 mL
50 mg	49.087 mL	9.817 mL	4.909 mL
100 mg	98.174 mL	19.635 mL	9.817 mL
250 mg	245.435 mL	49.087 mL	24.543 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