

DC66220 | Ionizable Lipid 4

Instructions for Use

Ionizable lipid 4 is an ionizable cationic lipid ($pK_a = 6.1$) and a hydrogen peroxide-induced rearrangement product of the cationic lipid CA-lipid 5.1 Charge-altering lipid nanoparticles (CALNPs) containing CA-lipid 5 and encapsulating siRNA against EGFP undergo hydrogen peroxide-induced removal of the phenylboronic acid groups from CA-lipid 5 in MCF-7 cells in vitro, generating ionizable lipid 4-containing LNPs with reduced positive charges at physiological pH, facilitating intracellular siRNA release and gene silencing. LNPs containing ionizable lipid 4 and encapsulating siRNA against PLK1 reduce tumor volume in an MCF-7 mouse xenograft model less effectively than CALNPs containing CA-lipid 5.

Product information

CAS No.	Not available
Chemical Name	Ionizable Lipid 4
Formula	C48H85NO7
M.Wt	788.2
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: 788.2 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	12.687 mL	2.537 mL	1.269 mL
25 mg	31.718 mL	6.344 mL	3.172 mL
50 mg	63.436 mL	12.687 mL	6.344 mL
100 mg	126.871 mL	25.374 mL	12.687 mL
250 mg	317.178 mL	63.436 mL	31.718 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