

DC66221 | E12CA1A3

Instructions for Use

E12CA1A3 is an ionizable cationic lipid ($pK_a = 6.4$) that has been used in the generation of lipid nanoparticles (LNPs) for the delivery of mRNA in vitro and in vivo.¹ LNPs containing E12CA1A3 and encapsulating an mRNA reporter induce luciferase reporter expression in mouse bone marrow-derived dendritic cells (BMDCs) and mice. LNPs containing E12CA1A3 are cleared more rapidly from the liver than LNPs containing DLin-MC3-DMA (Item No. 34364) in mice.

Product information

CAS No.	Not available
Chemical Name	E12CA1A3
Formula	C ₃₄ H ₆₇ NO ₄
M.Wt	553.9
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: 553.9 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	18.054 mL	3.611 mL	1.805 mL

Mass	1 mM	5 mM	10 mM
25 mg	45.135 mL	9.027 mL	4.513 mL
50 mg	90.269 mL	18.054 mL	9.027 mL
100 mg	180.538 mL	36.108 mL	18.054 mL
250 mg	451.345 mL	90.269 mL	45.135 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