

DC67283 | C14-490

Instructions for Use

C14-490 is an ionizable cationic lipid ($pK_a = 5.94$).¹ It has been used in the generation of lipid nanoparticles (LNPs) for the delivery of mRNA in vivo. C14-490-containing LNPs accumulate primarily in the fetal mouse liver and, to a lesser extent, in the lungs, intestine, and brain after vitelline vein injection on gestational day 16 (E16).¹ CD45-functionalized LNPs containing C14-490 and encapsulating mRNA encoding GFP transfect Jurkat cells, which constitutively express the CD45 receptor (CD45R). C14-490-containing CD45-functionalized LNPs encapsulating Cre mRNA mediate genome modulation in bone marrow hematopoietic stem cells (HSCs) for at least four months after in utero injection in R26mT/mG mice at E13.5.

Product information

CAS No.	Not available
Chemical Name	C14-490
Formula	C ₈₆ H ₁₇₇ N ₅ O ₇
M.Wt	1,393.4
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: 1393.4 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	7.177 mL	1.435 mL	0.718 mL
25 mg	17.942 mL	3.588 mL	1.794 mL
50 mg	35.883 mL	7.177 mL	3.588 mL
100 mg	71.767 mL	14.353 mL	7.177 mL
250 mg	179.417 mL	35.883 mL	17.942 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