

DC58046 | C12-200

Instructions for Use

C12-200 is a well-known cationic lipid used in the formulation of lipid nanoparticles (LNPs) for the delivery of therapeutic nucleic acids, including siRNA, mRNA, and CRISPR components. It is widely recognized for its high in vivo potency at low doses and is often used as a positive control ionizable lipid in research exploring new ionizable lipids.

Product information

CAS No.	Not available
Chemical Name	C12-200
Formula	C70N5O5H145
M.Wt	1,136.931
Purity	ELSD-HPLC>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: 1136.931 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	8.796 mL	1.759 mL	0.880 mL
25 mg	21.989 mL	4.398 mL	2.199 mL

Mass	1 mM	5 mM	10 mM
50 mg	43.978 mL	8.796 mL	4.398 mL
100 mg	87.956 mL	17.591 mL	8.796 mL
250 mg	219.890 mL	43.978 mL	21.989 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. Kevin T. Love, Kerry P. Mahon, Christopher G. Levins, Kathryn A. Whitehead, William Querbes, J. Robert Dorkin, June Qin, William Cantley, Liu Liang Qin, Timothy Racie, Maria Frank-Kamenetsky, Ka Ning Yip, Rene Alvarez, Dinah W. Y. Sah, Antonin de Fougères, Kevin Fitzgerald, Victor Kotliansky, Akin Akinc, Robert Langer, Daniel G. Anderson, Proceedings of the National Academy of Sciences, Feb 2010, 107 (5) 1864-1869; DOI: 10.1073/pnas.0910603106
2. Leuschner F, Courties G, Dutta P, Mortensen LJ, Gorbato R, Sena B, Novobrantseva T, Borodovsky A, Fitzgerald K, Kotliansky V, Iwamoto Y, Bohlender M, Meyer S, Lasitschka F, Meder B, Katus HA, Lin C, Libby P, Swirski FK, Anderson DG, Weissleder R, Nahrendorf M. Eur Heart J. 2015 Jun 14;36(23):1478-88. doi: 10.1093/eurheartj/ehu225. Epub 2014 Jun 20.
3. Kauffman KJ, Dorkin JR, Yang JH, Heartlein MW1, DeRosa F1, Mir FF, Fenton OS, Anderson DG. Nano Lett. 2015 Nov 11;15(11):7300-6. doi: 10.1021/acs.nanolett.5b02497. Epub 2015 Oct 20.