

DC60942 | 113-AA-C8C14

Instructions for Use

113-AA-C8C14 is a β -hydroxy thioether-derived ionizable lipid identified through a two-stage lipid-library screen. In the cited study, its optimized LNP formulation preferentially delivered mRNA to the spleen after intravenous administration and was evaluated for transient in vivo generation of CD19-targeting CAR T cells. All formulation and performance data below are literature-reported and remain specific to the stated cargo, preparation process, dose, animal model and administration route.

Product information

CAS No.	Not assigned
Chemical Name	113-AA-C8C14
Formula	C 61 H 117 N 5 O 8 S 2
M.Wt	1112.768 g/mol
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	Pure lipid, shipped from Shanghai with ice packs.

Formulation & study context

Literature values apply to the cited study only. Administration routes describe research, not clinical instructions.

Component	Molar ratio	Role
113-AA-C8C14	35	Ionizable lipid
DOPE	16	Helper phospholipid
Cholesterol	46.5	Sterol lipid
DMG-PEG2000	0.5	PEG lipid
N/P ratio	Not reported in the cited study	
Cargo	Luciferase mRNA / CD19-CAR mRNA	
Administration route	Intravenous, tail vein	
Screening model	Female C57BL/6 mice	
Luciferase study	0.1 mg/kg · 6 h readout	
CAR-T efficacy model	CD19-Panc02 subcutaneous tumor	
CAR mRNA regimen	0.5 mg/kg (10 μ g), 4 i.v. doses	

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: 1112.768 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	8.987 mL	1.797 mL	0.899 mL
25 mg	22.466 mL	4.493 mL	2.247 mL
50 mg	44.933 mL	8.987 mL	4.493 mL
100 mg	89.866 mL	17.973 mL	8.987 mL
250 mg	224.665 mL	44.933 mL	22.466 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

Cited literature for this formulation and performance dataset Guo Q, Zhang Y, Yang X, et al. β -Hydroxy Thioether-Derived Ionizable Lipids for Spleen-Tropic mRNA Delivery and In Vivo Chimeric Antigen Receptor T Cell Engineering. ACS Nano . 2026;20:14602-14614. DOI: 10.1021/acsnano.6c00706
Formulation: main text, Experimental Section and Supporting Figs. S11-S12. Physicochemical data: Supporting Fig. S14. In vivo performance: main Fig. 4 and Supporting Figs. S13 and S23-S36.