DC67601 | Sanofi Lipid 15

Instructions for Use

Lipid 15 is the lead ionizable cationic lipid (ICL) for CD8-targeted mRNA-LNPs. As the core LNP component, Lipid 15 yields ~100 nm uniform particles with near-neutral surface charge at physiological pH, while becoming strongly cationic in acidic endosomes—reducing hepatic off-target uptake and enabling efficient endosomal escape to release mRNA. Versus other ICL candidates, Lipid 15 achieves far higher mRNA transfection efficiency in primary human $CD8^+$ T cells, supports robust transient CAR expression, and triggers minimal cytokine release in immunogenicity assays. It retains structural and functional stability after freeze storage. When formulated into anti-CD8 VHH-conjugated LNPs carrying CD22 CAR mRNA, Lipid 15 drives specific in vivo reprogramming of circulating $CD8^+$ T cells into functional CAR-T cells, delivering potent tumor suppression in humanized hematological malignancy models without overt toxicity.

Product information

CAS No.	Not available
Chemical Name	Sanofi Lipid 15
Formula	C58H108O7N2
M.Wt	945.51
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: 945.51 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	10.576 mL	2.115 mL	1.058 mL
25 mg	26.441 mL	5.288 mL	2.644 mL
50 mg	52.882 mL	10.576 mL	5.288 mL
100 mg	105.763 mL	21.153 mL	10.576 mL
250 mg	264.408 mL	52.882 mL	26.441 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

Reprogramming CD22 CAR-T cells in vivo Using CD8-Targeted mRNA-LNPs to Treat Hematological Malignancies. Mol Ther. 2026 Feb 13:S1525-0016(26)00106-1. doi: 10.1016/j.ymthe.2026.02.020. Epub ahead of print. PMID: 41691371.