

DC82209 | Lipid 10a-26

Instructions for Use

Lipid 10a-26 is an ionizable lipid developed by Orna Therapeutics for lipid nanoparticle (LNP) formulations. Lipid 10a-26 is a key ionizable lipid in the LNP-6 formulation. Through structural modification, it exhibits reduced binding to ApoE proteins and lowered liver affinity compared to traditional ionizable lipids. Instead, Lipid 10a-26 demonstrates strong splenic tropism—in non-human primate studies, it effectively delivers payloads to the spleen and immune cells in peripheral blood, such as T cells, NK cells, and macrophages, enabling the possibility of "in vivo CAR-T" therapy. Its pKa is tuned to approximately 6.0–6.5, allowing rapid protonation in the acidic endosomal environment, which promotes endosomal membrane disruption and efficient cytosolic release of circular RNA.

Product information

CAS No.	Not available
Chemical Name	Lipid 10a-26
Formula	C50H95N3O4
M.Wt	802.31
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: 802.31 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	12.464 mL	2.493 mL	1.246 mL
25 mg	31.160 mL	6.232 mL	3.116 mL
50 mg	62.320 mL	12.464 mL	6.232 mL
100 mg	124.640 mL	24.928 mL	12.464 mL
250 mg	311.600 mL	62.320 mL	31.160 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

Circular RNA compositions for targeted and efficient therapeutic protein expression in immune cells for treating cancer or autoimmune disease

By: Wesselhoeft, Alex; Goodman, Brian-WO2021189059 A2 2021-09-23