

DC60506 | IR-117-17

Instructions for Use

IR-117-17 (A10-LIN) is an ionizable and biodegradable lipid specifically designed for nebulized mRNA delivery. When formulated into lipid nanoparticles (LNPs), IR-117-17 demonstrates remarkable efficacy, achieving a 300-fold enhancement in lung mRNA delivery compared to the best-performing LNP previously reported. Additionally, it shows a two-fold improvement over the leading PBAE-based delivery system, with up to a 45-fold increase in mRNA delivery efficiency to the large airways.

Product information

CAS No.	Not available
Chemical Name	IR-117-17
Formula	C59H110N2O5
M.Wt	927.52
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: 927.52 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	10.781 mL	2.156 mL	1.078 mL

Mass	1 mM	5 mM	10 mM
25 mg	26.954 mL	5.391 mL	2.695 mL
50 mg	53.907 mL	10.781 mL	5.391 mL
100 mg	107.814 mL	21.563 mL	10.781 mL
250 mg	269.536 mL	53.907 mL	26.954 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