

DC60503 | C12-A1

Instructions for Use

Lipid C12-A1 is an ionizable lipid. C12-A1-LPN is a potent and safe LNP platform to deliver Foxp3 mRNA to CD4+ T cells to engineer immunosuppressive FP3T cells. C12-A1 has a slightly lower average cell viability than C14-A1.

Product information

CAS No.	Not available
Chemical Name	C12-A1
Formula	C76H157N5O5
M.Wt	1,220.22
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: 1220.22 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	8.195 mL	1.639 mL	0.820 mL
25 mg	20.488 mL	4.098 mL	2.049 mL
50 mg	40.976 mL	8.195 mL	4.098 mL

Mass	1 mM	5 mM	10 mM
100 mg	81.952 mL	16.390 mL	8.195 mL
250 mg	204.881 mL	40.976 mL	20.488 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

mRNA Lipid Nanoparticles for Ex Vivo Engineering of Immunosuppressive T Cells for Autoimmunity Therapies
 Ajay S. Thatte, Alex G. Hamilton, Benjamin E. Nachod, Alvin J. Mukalel, Margaret M. Billingsley, Rohan Palanki, Kelsey L. Swingle, and Michael J. Mitchell*-Nano Letters-2023,Oct-30