

DC60575 | U-101

Instructions for Use

U-101 is an ionizable lipid for mRNA delivery. U101-LNP/IL-2F mRNA formulation demonstrates effective antitumor activity and safety. LNPs containing lipid U 101 and encapsulating mRNA encoding a fusion protein composed of IL-2, a linker, and CD25 inhibit tumor growth in an MC-38 mouse xenograft model.

Product information

CAS No.	Not available
Chemical Name	U-101
Formula	C51H102N2O6
M.Wt	839.4
Purity	>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: 839.4 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	11.913 mL	2.383 mL	1.191 mL
25 mg	29.783 mL	5.957 mL	2.978 mL
50 mg	59.566 mL	11.913 mL	5.957 mL

Mass	1 mM	5 mM	10 mM
100 mg	119.133 mL	23.827 mL	11.913 mL
250 mg	297.832 mL	59.566 mL	29.783 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

Jiang, Y., Zhang, Y., Liu, C., et al. Tumor-activated IL-2 mRNA delivered by lipid nanoparticles for cancer immunotherapy. J. Control. Release 368, 663-675 (2024).