

DC60537 | C18 NC-TNP

Instructions for Use

C18 NC-TNP is a novel noncationic thiourea lipid without positively charged groups. It binds nucleic acids via hydrogen bonds instead of electrostatic attraction, avoiding cation-triggered systemic inflammation. Formulated into nanoparticles, it efficiently encapsulates mRNA, siRNA and plasmids, shows excellent serum tolerance and long-term liquid/lyophilized storage stability. It enters cells mainly through macropinocytosis, escapes endosomes intact to reduce nucleic acid degradation. In vivo, it targets spleen preferentially, induces robust long-lasting Th1-type cellular and humoral immunity with minimal organ toxicity, superior to SM102 LNPs for mRNA cancer vaccine delivery.

Product information

CAS No.	Not available
Chemical Name	C18 NC-TNP
Formula	C45H88O6N2S
M.Wt	784.64
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: 784.64 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	12.745 mL	2.549 mL	1.274 mL
25 mg	31.862 mL	6.372 mL	3.186 mL
50 mg	63.723 mL	12.745 mL	6.372 mL
100 mg	127.447 mL	25.489 mL	12.745 mL
250 mg	318.617 mL	63.723 mL	31.862 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

Biomimetic noncationic lipid nanoparticles for mRNA delivery (Wang et al.)-Proc Natl Acad Sci U S A . 2023 Dec 19;120(51)