

DC77017 | 9(10)-Nitrooleate

Instructions for Use

9(10)-Nitrooleate (NOA) is an endogenous nitrated fatty acid that functions as a highly efficient bioactive molecule. Its primary role is the specific inhibition of the STING protein, a key inflammatory signaling sensor within cells. When STING is aberrantly activated, it can trigger a severe inflammatory response, leading to cellular damage. Mechanistically, NOA acts as an electrophile, capable of covalently modifying specific cysteine residues on the STING protein, thereby effectively blocking its ability to activate downstream signaling pathways. This inhibitory action establishes NOA as a potent endogenous anti-inflammatory agent.

In practical application, loading NOA into delivery systems, such as lipid nanoparticles, equips them with an intrinsic "molecular fire extinguisher." It significantly mitigates the acute inflammatory response triggered by delivered cargo, effectively transforming otherwise toxic delivery vehicles into safe platforms. The core value of NOA lies in its ability to provide exceptional safety without compromising the functional expression of therapeutic payloads, offering a crucial safeguard for achieving long-term treatments.

Product information

CAS No.	Not available
Chemical Name	9(10)-Nitrooleate
Formula	C18H33NO4
M.Wt	327.46
Purity	Not available
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: 327.46 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	30.538 mL	6.108 mL	3.054 mL
25 mg	76.345 mL	15.269 mL	7.635 mL
50 mg	152.690 mL	30.538 mL	15.269 mL
100 mg	305.381 mL	61.076 mL	30.538 mL
250 mg	763.452 mL	152.690 mL	76.345 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