

DC66655 | YHS-12

Instructions for Use

YHS-12 is an ionizable cationic lipid ($pK_a = 6.506$) that has been used in the generation of lipid nanoparticles (LNPs) for the delivery of siRNA and mRNA in vitro and in vivo.¹ LNPs containing YHS-12 and the macrophage targeting peptide CRVLRSGSC and encapsulating mRNA encoding chimeric antigen receptor targeting methicillin-resistant *S. aureus* (MRSA) and siRNA targeting caspase-11 increase the phagocytosis rate of MRSA in RAW 264.7 macrophages and primary mouse bone marrow-derived macrophages (BMDMs). Intravenous administration of these LNPs decreases blood bacterial burden and increases survival in a model of sepsis using cyclophosphamide-induced immunosuppressed mice.

Product information

CAS No.	Not available
Chemical Name	YHS-12
Formula	C ₅₆ H ₁₁₂ N ₄ O ₂
M.Wt	873.5
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: 873.5 g/mol. Volumes are final solution volumes.

Mass	1 mM	5 mM	10 mM
10 mg	11.448 mL	2.290 mL	1.145 mL
25 mg	28.620 mL	5.724 mL	2.862 mL
50 mg	57.241 mL	11.448 mL	5.724 mL
100 mg	114.482 mL	22.896 mL	11.448 mL
250 mg	286.205 mL	57.241 mL	28.620 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