

Product Data Sheet

Product Name: YHS-12
Cat. No.: GC92072

Chemical Properties

Cas. No. 2959463-68-2

Chemical Name (2E)-N1,N4-bis[2-(didodecylamino)ethyl]-2-butenediamide

SMILES CCCCCCCCCCCCCN(CCNC(/C=C/C(NCCN(CCCCCCCCCCCCCC)CCCCCCCCCCCCC)=O)=O)CCCCCCCCCCCCC

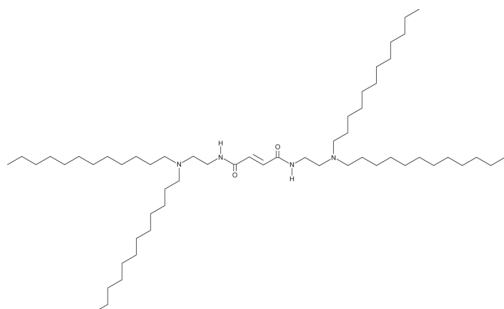
Formula $C_{56}H_{112}N_4O_2$ M.Wt 873.5

Solubility Chloroform: Sparingly soluble: 1-10 mg/ml, Methanol: Slightly soluble: 0.1-1 mg/ml Storage -20°C

General tips For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Background

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

Caution: Product has not been fully validated for medical applications. For research use only.

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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.

References:

[1]. Tang, C., Jing, W., Han, K., et al. mRNA-laden lipid-nanoparticle-enabled in situ CAR-macrophage engineering for the eradication of multidrug-resistant bacteria in a sepsis mouse model *ACS Nano* 18(3)2261-2278(2024).

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