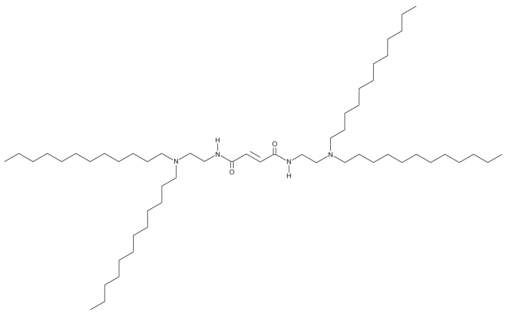
Product Data Sheet

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	CCCCCCCCCCCCN(CCNC(/C=C/C(NCCN(CCCCCCCCCCCC)CCCCCCCCCCCC)=O)=O)CCCCCCCCCCCC		
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 (p K_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.

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 modelACS Nano18(3)2261-2278(2024).