

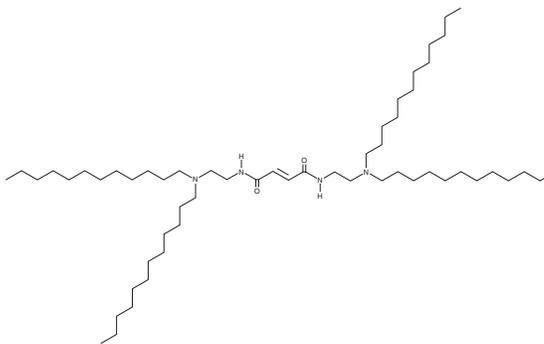
# PRODUCT INFORMATION



## YHS-12

Item No. 40510

**CAS Registry No.:** 2959463-68-2  
**Formal Name:** (2E)-N<sup>1</sup>,N<sup>4</sup>-bis[2-(didodecylamino)ethyl]-2-butenediamide  
**MF:** C<sub>56</sub>H<sub>112</sub>N<sub>4</sub>O<sub>2</sub>  
**FW:** 873.5  
**Purity:** ≥95%  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

YHS-12 is supplied as a solid. A stock solution may be made by dissolving the YHS-12 in the solvent of choice, which should be purged with an inert gas. YHS-12 is slightly soluble (0.1-1 mg/ml) in methanol and sparingly soluble (1-10 mg/ml) in chloroform.

### Description

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*.<sup>1</sup> 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.

### Reference

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).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

#### WARRANTY AND LIMITATION OF REMEDY

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