

PRODUCT INFORMATION



AO₁₂
Item No. 46148

Formal Name: heptadecan-9-yl 8-((2-((3-(4-hydroxyphenyl)propanoyl)oxy)ethyl)(6-oxo-6-(undecyloxy)hexyl)amino)octanoate

MF: C₅₃H₉₅NO₇

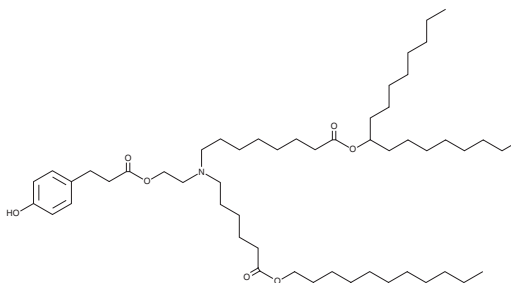
FW: 858.3

Purity: ≥98%

Supplied as: A 10 mg/ml solution in methyl acetate

Storage: -20°C

Stability: ≥4 years



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

Laboratory Procedures

AO₁₂ is supplied as a solution in methyl acetate. To change the solvent, simply evaporate the methyl acetate under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as chloroform purged with an inert gas can be used. AO₁₂ is sparingly soluble (1-10 mg/ml) in chloroform.

Description

AO₁₂ is an ionizable cationic lipid that has been used in the generation of lipid nanoparticles (LNPs) for the delivery of mRNA, circular RNA (circRNA), and single-guide RNA (sgRNA) *in vitro* and *in vivo*.¹ It is a phenol-containing derivative of SM-102 (Item No. 33474) that reduces oxidative degradation of cargo mRNA and circRNA. LNPs containing AO₁₂ accumulate in the liver. LNPs formulated with AO₁₂ and encapsulating hepatocyte growth factor (HGF) mRNA reduce serum levels of alanine transaminase (ALT) and aspartate aminotransferase (AST) and decrease hepatic necrosis in a mouse model of acute liver injury induced by acetaminophen (Item No. 10024) or chronic liver fibrosis induced by carbon tetrachloride (CCl₄). LNPs containing AO₁₂ and encapsulating Cas9 mRNA and *Nlrp3*-targeting sgRNA reduce skin lesions, epidermal thickening, and skin tissue levels of IL-1β, IL-6, and TNF-α in a mouse model of psoriasis induced by imiquimod (IMQ; Item No. 14956).

Reference

1. Li, B., Zhao, M., Yang, B., *et al.* Antioxidant lipid nanoparticles enhance mRNA stability for regeneration therapy and gene editing. *Nat. Commun.* **17**(1), 7166 (2026).

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.

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