

PRODUCT INFORMATION



N-Sterol

Item No. 42924

Formal Name: (3S,8S,9S,10R,13R,14S,17R)-10,13-dimethyl-17-((R)-6-methylheptan-2-yl)-2,3,4,7,8,9,10,11,12,13,14,15,16,17-tetradecahydro-1H-cyclopenta[a]phenanthren-3-yl (E)-3-((2-methoxyethyl)(methyl)amino)acrylate

MF: C₃₄H₅₇NO₃

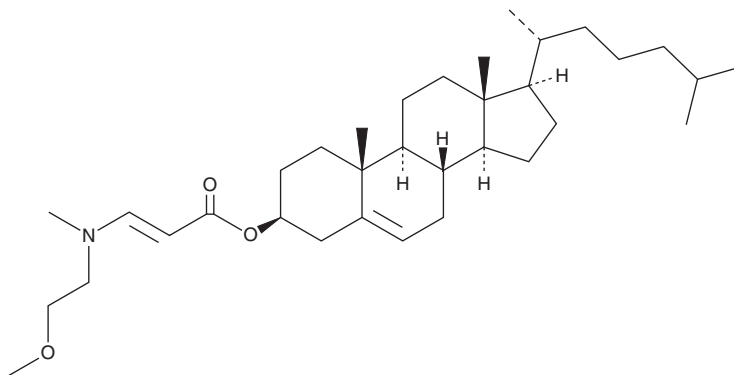
FW: 527.8

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

N-Sterol is supplied as a solid. A stock solution may be made by dissolving the N-sterol in the solvent of choice, which should be purged with an inert gas. N-Sterol is slightly soluble (0.1-1 mg/ml) in ethanol.

Description

N-Sterol is a sterol lipid that has been used in the generation of lipid nanoparticles (LNPs) for the delivery of mRNA *in vitro* and *in vivo*.¹ LNPs containing N-sterol and encapsulating mRNA encoding a reporter are uptaken *via* clathrin-coated pits, caveolin-mediated endocytosis, micropinocytosis, or phagocytosis with different frequencies in a lipid composition-dependent manner in J774A.1 macrophages. The same LNPs demonstrate improved endosomal escape in J774A.1 macrophages over LNPs containing SM-102 (Item No. 33474). *In vivo*, N-sterol LNPs encapsulating an mRNA reporter selectively accumulate in mouse spleens.

Reference

1. Narasipura, E.A., Ma, Y., Tiwade, P.B., *et al.* A chemoinformatic-guided synthesis of a spleen-expressing mRNA lipid nanoparticle platform. *Bioconjug. Chem.* **36**(1), 54-65 (2025).

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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