

PRODUCT INFORMATION



6,6'-Trehalose Dioleate

Item No. 42212

CAS Registry No.: 338733-40-7

Formal Name: (9Z)-9-octadecenoate,
6-O-[(9Z)-1-oxo-9-octadecen-
1-yl]-α-D-glucopyranosyl, α-D-
glucopyranoside

Synonym: 6,6'-TDO

MF: C₄₈H₈₆O₁₃

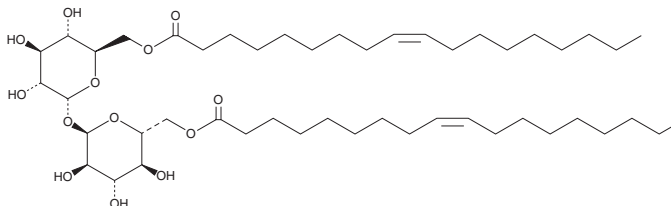
FW: 871.2

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

6,6'-Trehalose dioleate (6,6'-TDO) is supplied as a solid. A stock solution may be made by dissolving the 6,6'-TDO in the solvent of choice, which should be purged with an inert gas. 6,6'-TDO is slightly soluble (0.1-1 mg/ml) in chloroform and methanol.

Description

6,6'-TDO is a glycolipid that has been used in the generation of lipid nanoparticles (LNPs) for the delivery of mRNA *in vitro* and *in vivo*.¹ LNPs containing 6,6'-TDO and encapsulating mRNA encoding influenza A hemagglutinin A (HA) increase Ifn-γ, Il-2, and Tnf-α secretion by isolated mouse splenocytes. LNPs containing 6,6'-TDO accumulate in the liver and spleen after intramuscular administration in mice. Unlike LNP formulations that do not contain 6,6'-TDO, LNPs containing 6,6'-TDO do not decrease serum levels of blood urea nitrogen (BUN) or increase serum levels of lactate dehydrogenase (LDH), troponin I, alanine transaminase (ALT), and aspartate aminotransferase (AST) in mice. LNPs containing 6,6'-TDO and encapsulating mRNA encoding influenza A HA increase serum IgG1 and IgG2a titers in mice.

Reference

1. Bae, S.-H., Yoo, S., Lee, J., *et al.* A lipid nanoparticle platform incorporating trehalose glycolipid for exceptional mRNA vaccine safety. *Bioact. Mater.* **38**, 486-498 (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.

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