bio-techne
TOCRIS

Print Date: Apr 9th 2025

Certificate of Analysis

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Product Name: **DMG-PEG 2000** **Catalog No.: 7944** **Batch No.: 2**

CAS Number: 160743-62-4

IUPAC Name: 1,2-Dimyristoyl-*rac*-glycero-3-methoxypolyethylene glycol-2000

1. PHYSICAL AND CHEMICAL PROPERTIES

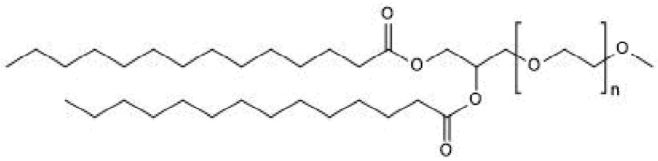
Batch Molecular Formula: $(C_2H_4O)_nC_{32}H_{62}O_5$

Physical Appearance: White solid

Solubility: ethanol to 10 mg/ml
chloroform to 10 mg/ml

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 96.9% purity

Average Molecular Weight : 2490 Da

Polydispersity (Mw/Mn): 1.03

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IUPAC Name: 1,2-Dimyristoyl-*rac*-glycero-3-methoxypolyethylene glycol-2000

Description:

DMG-PEG 2000 is a PEGylated myristoyl diglyceride consisting of one unbranched PEG 2000 chain and two saturated fatty acid chains (C14:0) covalently attached to a glycerol. DMG-PEG 2000 is commonly used in the formation of lipid nanoparticles (LNPs) and liposomes to prevent serum protein adsorption, nanoparticle aggregation and increase in vivo circulation time. DMG-PEG 2000 is a component of LNPs which can be used for delivery of RNA-based vaccines or mRNA therapeutics. For more information on how to prepare MC3 lipid nanoparticles for RNA delivery, please see our protocol. For a fully formulate LNP containing DLin-MC3-DMA and a lucifera... Please see product specific page on www.tocris.com for full description.

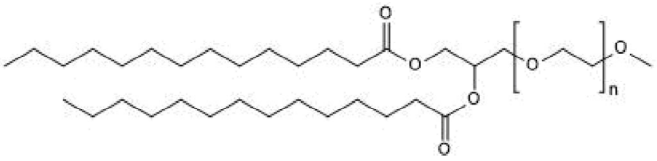
Physical and Chemical Properties:

Batch Molecular Formula: $(C_2H_4O)_nC_{32}H_{62}O_5$

Physical Appearance: White solid

Minimum Purity: ≥90%

Batch Molecular Structure:



Storage: Store at -20°C. This product is packaged under an inert atmosphere.

Solubility & Usage Info:

ethanol to 10 mg/ml
chloroform to 10 mg/ml

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Zhang *et al* (2020) Functionalized lipid-like nanoparticles for in vivo mRNA delivery and base editing. Sci.Adv. ***6*** eabc2315. PMID: 32937374.

Cheng *et al* (2018) Dendrimer-based lipid nanoparticles deliver therapeutic FAH mRNA to normalize liver function and extend survival in a mouse model of hepatorenal tyrosinemia type I. Adv.Mater. ***30*** e1805308. PMID: 30368954.