

Product Name: DMG-PEG 2000

Catalog No.: 7944

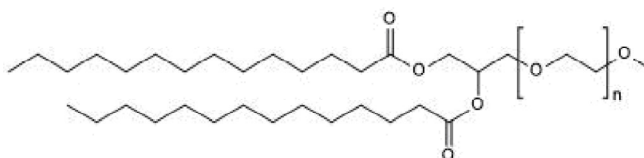
Batch No.: 1

CAS Number: 160743-62-4

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

## 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:**  $(C_2H_4O)_n C_{32}H_{62}O_5$   
**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 98.1% purity  
**Average Molecular Weight :** 2490 Da(Mp)  
**Polydispersity (Mw/Mn):** 1.03

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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**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. Please see product specific page on www.tocris.com for full description.

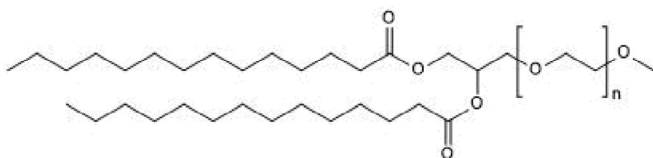
**Physical and Chemical Properties:**

Batch Molecular Formula: (C<sub>2</sub>H<sub>4</sub>O)<sub>n</sub>C<sub>32</sub>H<sub>62</sub>O<sub>5</sub>

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.

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