

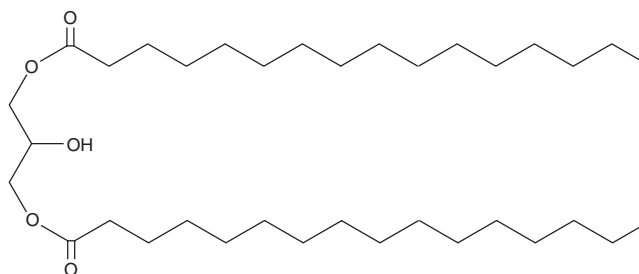
# PRODUCT INFORMATION



## 1,3-Dipalmitoyl Glycerol

Item No. 26974

**CAS Registry No.:** 502-52-3  
**Formal Name:** hexadecanoic acid, 1,1'-(2-hydroxy-1,3-propanediyl) ester  
**Synonyms:** DG(16:0/0:0/16:0), 1,3-Dipalmitin  
**MF:** C<sub>35</sub>H<sub>68</sub>O<sub>5</sub>  
**FW:** 568.9  
**Purity:** ≥98%  
**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

1,3-Dipalmitoyl glycerol is supplied as a solid. A stock solution may be made by dissolving the 1,3-dipalmitoyl glycerol in the solvent of choice, which should be purged with an inert gas. 1,3-Dipalmitoyl glycerol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 1,3-dipalmitoyl glycerol in these solvents is approximately 0.25, 30, and 20 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of 1,3-dipalmitoyl glycerol can be prepared by directly dissolving the solid in aqueous buffers. The solubility of 1,3-dipalmitoyl glycerol in PBS, pH 7.2, is approximately 0.7 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

1,3-Dipalmitoyl glycerol is a diacylglycerol that contains palmitic acid (Item No. 10006627) at the *sn*-1 and *sn*-3 positions. It activates protein kinase C  $\alpha$  (PKC $\alpha$ ) *in vitro* ( $K_a = 3.8 \mu\text{M}$ ).<sup>1</sup> 1,3-Dipalmitoyl glycerol (0.25-2  $\mu\text{M}$ ) inhibits apoptosis and production of reactive oxygen species (ROS) and pro-inflammatory mediators induced by oxygen-glucose deprivation and reperfusion (OGD/R) in SH-SY5Y neuroblastoma cells.<sup>2</sup>

### References

1. Sánchez-Piñera, P., Micol, V., Corbalán-García, S., *et al.* A comparative study of the activation of protein kinase C  $\alpha$  by different diacylglycerol isomers. *Biochem. J.* **337**(3), 387-395 (1999).
2. Cheng, M.-C. and Pan, T.-M. Glyceryl 1,3-dipalmitate produced from *Lactobacillus paracasei* subspecies. *paracasei* NTU 101 inhibits oxygen-glucose deprivation and reperfusion-induced oxidative stress via upregulation of peroxisome proliferator-activated receptor  $\gamma$  in neuronal SH-SY5Y cells. *J. Agric. Food Chem.* **65**(36), 7926-7933 (2017).

#### 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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