

# PRODUCT INFORMATION



## 1-Stearoyl-*rac*-glycerol-d<sub>40</sub>

Item No. 28919

**CAS Registry No.:** 2692624-09-0  
**Formal Name:** octadecanoic-2,2,3,3,4,4,5,5,6,6,7,7,8,8,9,9,10,10,11,11,12,12,13,13,14,14,15,15,16,16,17,17,18,18,18-d<sub>35</sub> acid, 2,3-dihydroxypropyl-1,1,2,3,3-d<sub>5</sub> ester  
**Synonyms:** 18:0-d<sub>40</sub>-MG, 1-Monostearin-d<sub>40</sub>, MG(18:0-d<sub>40</sub>/0:0/0:0)

**MF:** C<sub>21</sub>H<sub>2</sub>D<sub>40</sub>O<sub>4</sub>

**FW:** 398.8

**Chemical Purity:** ≥95% (1-Stearoyl-*rac*-glycerol)

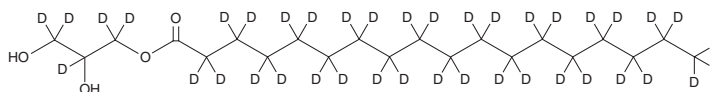
**Deuterium**

**Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>40</sub>); ≤1% d<sub>0</sub>

**Supplied as:** A crystalline 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-Stearoyl-*rac*-glycerol-d<sub>40</sub> is intended for use as an internal standard for the quantification of 1-stearoyl-*rac*-glycerol (Item No. 26827) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

1-Stearoyl-*rac*-glycerol-d<sub>40</sub> is supplied as a crystalline solid. A stock solution may be made by dissolving the 1-stearoyl-*rac*-glycerol-d<sub>40</sub> in the solvent of choice, which should be purged with an inert gas. 1-Stearoyl-*rac*-glycerol-d<sub>40</sub> is soluble in the organic solvent chloroform at a concentration of approximately 50 mg/ml.

### Description

1-Stearoyl-*rac*-glycerol is a monoacylglycerol that contains stearic acid (Item No. 10011298) at the *sn*-1 position. 1-Stearoyl-*rac*-glycerol levels are decreased in tumor tissue in a mouse model of azoxymethane-induced colorectal carcinogenesis.<sup>1</sup> Levels of 1-stearoyl-*rac*-glycerol are decreased in lung tissue from patients with adenocarcinoma, but are increased in the serum of patients with Buruli ulcer and in the cerebrospinal fluid of patients with the inflammatory demyelinating diseases multiple sclerosis (MS), neuromyelitis optica spectrum disorder (NMOSD), and idiopathic transverse myelitis (ITM).<sup>2-4</sup> 1-Stearoyl-*rac*-glycerol has been used in the composition of transfersomes for transdermal delivery of doxorubicin (Item No. 15007) in rats, leading to doxorubicin accumulation in lymph nodes, spleen, and heart.<sup>5</sup>

### References

1. Montrose, D.C., Zhou, X.K., Kopelovich, L., *et al.* *Cancer Prev. Res. (Phila)*. **5**(12), 1358-1367 (2012).
2. Wikoff, W.R., Grapov, D., Fahrman, J.F., *et al.* *Cancer Prev. Res. (Phila)*. **8**(5), 410-418 (2015).
3. Niang, F., Sarfo, F.S., Frimpong, M., *et al.* *Sci. Rep.* **5**:17693, (2015).
4. Park, S.J., Jeong, I.H., Kong, B.S., *et al.* *PLoS One* **11**(11), e0166277 (2016).
5. Kong, M., Hou, L., Wang, J., *et al.* *Chem. Commun. (Camb)* **51**(8), 1453-1456 (2015).

#### 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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