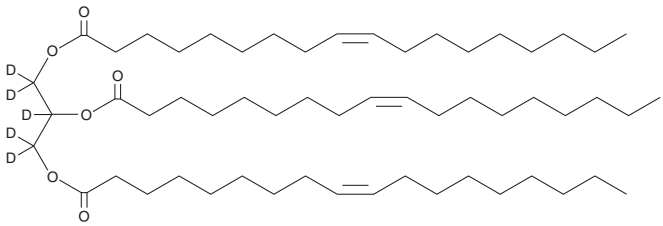
PRODUCT INFORMATION

1,2,3-Trioleoyl Glycerol-d_5

Item No. 41987

CAS Registry No.:	60892-83-3
Formal Name:	9Z-octadecenoic acid, 1,2,3-propanetriyl-1,1,2,3,3-d_5 ester
Synonyms:	Glyceryl Trioleate-d_5, TG(18:1/18:1/18:1)-d_5, Triolein-d_5
MF:	$C_{57}H_{99}D_5O_6$
FW:	890.5
Chemical Purity:	≥95% (1,2,3-Trioleoyl Glycerol)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_5); ≤1% d_0
Supplied as:	A solution in ethanol
Storage:	-20°C
Stability:	≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

1,2,3-Trioleoyl glycerol-d_5 is intended for use as an internal standard for the quantification of 1,2,3-trioleoyl glycerol (Item No. 26871) 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).

1,2,3-Trioleoyl glycerol-d_5 is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. 1,2,3-Trioleoyl glycerol-d_5 is slightly soluble (0.1-1 mg/ml) in chloroform and methanol.

Description

1,2,3-Trioleoyl glycerol is a triacylglycerol that contains oleic acid (Item Nos. 90260 | 24659) at the *sn*-1, *sn*-2, and *sn*-3 positions. It inhibits oxidized LDL-induced decreases in cell viability and superoxide dismutase (SOD) and glutathione peroxidase (GPX) activities and increases in apoptosis in endothelial cells when used at a concentration of 10 µM.[1] 1,2,3-Trioleoyl glycerol has been found in sunflower, corn, and extra virgin olive oils.[2,3] It has been used as a standard for the quantification of triacylglycerols in extra virgin olive oil by high-temperature gas chromatography-(ionic trap)mass spectrometry (HTGC-(IT)MS).[3] 1,2,3-Trioleoyl glycerol is a major component of Lorenzo's oil.[4]

References

1. Luo, T., Deng, Z.Y., Li, X.P., *et al.* Triolein and trilinolein ameliorate oxidized low-density lipoprotein-induced oxidative stress in endothelial cells. *Lipids* **49(5)**, 495-504 (2014).
2. Gao, B., Luo, Y., Lu, W., *et al.* Triacylglycerol compositions of sunflower, corn and soybean oils examined with supercritical CO_2 ultra-performance convergence chromatography combined with quadrupole time-of-flight mass spectrometry. *Food Chem.* **218**, 569-574 (2017).
3. Ruiz-Samblás, C., Rodríguez-Cuadros, L., González-Casado, A., *et al.* A straightforward quantification of triacylglycerols (and fatty acids) in monovarietal extra virgin olive oils by high-temperature GC. *Anal. Methods* **4(3)**, 753-758 (2012).
4. Moser, H.W., Moser, A.B., Hollandsworth, K., *et al.* "Lorenzo's oil" therapy for X-linked adrenoleukodystrophy: Rationale and current assessment of efficacy. *J. Mol. Neurosci.* **33(1)**, 105-113 (2007).

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