

Product Name: 1-Stearoyl-rac-glycerol-d40
Cat. No.: GC46499

Cas. No. 2692624-09-0

SMILES	<chem>O=C(C([2H])([2H])C([2H])([2H])C([2H])([2H])C([2H])([2H])C([2H])([2H])C([2H])([2H])C([2H])([2H])C([2H])([2H])C([2H])([2H])C([2H])([2H])C([2H])([2H])C([2H])([2H])C([2H])([2H])C([2H])([2H])C([2H])([2H])OC([2H])([2H])C(O)([2H])C([2H])([2H])O</chem>
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Formula	C ₂₁ H ₂ D ₄₀ O ₄	M.Wt	398.8
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Solubility	Chloroform: 50 mg/ml	Storage	Store at -20°C
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General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.
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Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.
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Structure

Chemical structure of 1,1,1,3,3,3-hexadeuterio-2-octadecanol, showing a long hydrocarbon chain with multiple deuterium (D) and hydroxyl (OH) groups.

1-Stearoyl-*rac*-glycerol-d₄₀ is intended for use as an internal standard for the quantification of 1-stearoyl-*rac*-glycerol by GC- or LC-MS. 1-Stearoyl-*rac*-glycerol is a monoacylglycerol that contains stearic acid at the *sn*-1 position. 1-Stearoyl-*rac*-glycerol levels are decreased in tumor tissue in a mouse model of azoxymethane-induced colorectal carcinogenesis.¹ 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).^{2,3,4} 1-Stearoyl-*rac*-glycerol has been used in the composition of transfersomes for transdermal delivery of doxorubicin in rats, leading to doxorubicin accumulation in lymph nodes, spleen, and heart.⁵

1.Montrose, D.C., Zhou, X.K., Kopelovich, L., et al.Metabolic profiling, a noninvasive approach for the

Caution: Product has not been fully validated for medical applications. For research use only.

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Product Data Sheet

detection of experimental colorectal neoplasia *Cancer Prev. Res. (Phila.)* 5(12)1358-1367(2012)
2. Wikoff, W.R., Grapov, D., Fahrman, J.F., et al. Metabolomic markers of altered nucleotide metabolism in early stage adenocarcinoma *Cancer Prev. Res. (Phila.)* 8(5)410-418(2015)
3. Niang, F., Sarfo, F.S., Frimpong, M., et al. Metabolomic profiles delineate mycolactone signature in Buruli ulcer disease *Sci. Rep.* 5:17693(2015)
4. Park, S.J., Jeong, I.H., Kong, B.S., et al. Disease type- and status-specific alteration of CSF metabolome coordinated with clinical parameters in inflammatory demyelinating diseases of CNS *PLoS One* 11(11)e0166277(2016)
5. Kong, M., Hou, L., Wang, J., et al. Enhanced transdermal lymphatic drug delivery of hyaluronic acid modified transfersomes for tumor metastasis therapy *Chem. Commun. (Camb.)* 51(8)1453-1456(2015)

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