1,2-Dilauroyl-sn-glycerol

Item No. 15076

CAS Registry No.: 60562-15-4
Formal Name: 1,1’-(1S)-1-(hydroxymethyl)-1,2-ethanediyl]ester-dodecanoic acid
Synonym: 1,2-DLG
MF: C27H52O5
FW: 456.7
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid

Laboratory Procedures

For long term storage, we suggest that 1,2-dilauroyl-sn-glycerol (1,2-DLG) be stored as supplied at -20°C. It should be stable for at least two years.

1,2-DLG is supplied as a crystalline solid. A stock solution may be made by dissolving the 1,2-DLG in the solvent of choice. 1,2-DLG is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of 1,2-DLG in these solvents is approximately 30, 7, 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 1,2-DLG can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 1,2-DLG in PBS, pH 7.2, is approximately 0.25 mg/ml. We do not recommend storing the aqueous solution for more than one day.

1,2-DLG is a saturated diacylglycerol (DAG) with lauric acid (12:0) side-chains attached at both the sn-1 and sn-2 positions. Long-chain DAGs incorporated into model lipid bilayers have been shown to induce lateral phase separation of the lipids into regions of different fluidities, which may play a role in second messenger signal transduction.1

Reference

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