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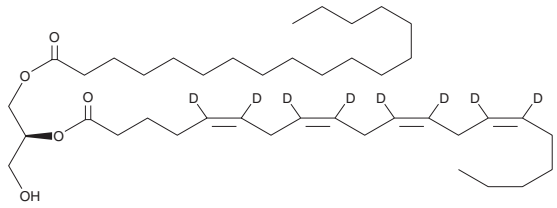
PRODUCT INFORMATION

1-Stearoyl-2-Arachidonoyl-d_8-*sn*-Glycerol

Item No. 10009872

Formal Name:	1-octadecanoyl-2-(5Z,8Z,11Z,14Z)-eicosatetraenoyl-5,6,8,9,11,12,14,15-d_8-*sn*-glycerol
Synonym:	SAG-d_8
MF:	$C_{41}H_{64}D_8O_5$
FW:	653.1
Chemical Purity:	≥95% (1-Stearoyl-2-Arachidonoyl-*sn*-Glycerol)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_8); ≤1% d_0
Supplied as:	A solution in acetonitrile
Storage:	-80°C
Stability:	≥1 years



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

Laboratory Procedures

1-Stearoyl-2-arachidonoyl-d_8-*sn*-glycerol (SAG-d_8) is intended for use as an internal standard for the quantification of SAG (Item No. 10008650) 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).

SAG-d_8 is supplied as a solution in acetonitrile. To change the solvent, simply evaporate the acetonitrile under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol purged with an inert gas can be used. The solubility of SAG-d_8 in ethanol is approximately 30 mg/ml.

SAG-d_8 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the ethanolic solution of SAG-d_8 should be diluted with the aqueous buffer of choice. SAG-d_8 has a solubility of approximately 0.3 mg/ml in a 1:2 solution of ethanol:PBS (pH 7.2) using this method.

Description

Many protein kinase C (PKC) isoforms require activation *via* second messengers including Ca^{2+}, diacylglycerol (DAG), and/or a phospholipid in order to phosphorylate target proteins, initiating a variety of important signaling cascades.[1] 1-Stearoyl-2-arachidonoyl-*sn*-glycerol (SAG) is a DAG that contains the ω-6 polyunsaturated fatty acid arachidonic acid in the *sn*-2 position and stearic acid in the *sn*-1 position of the glycerol backbone. It can potently activate PKCα, ε, and δ at nM concentrations.[2] Independent of PKC signaling, SAG competitively binds to the Ras activator RasGRP with a Ki value of 4.49 µM in Jurkat T cells.[3]

References

1. Bell, R.M. and Burns, D.J. Lipid activation of protein kinase C. *J. Biol. Chem.* **266**, 4661-4664 (1991).
2. Madani, S., Hichami, A., Charkaoui-Malki, M., *et al.* Diacylglycerols containing w-3 and w-6 fatty acids bind to RasGRP and modulate MAP kinase activation. *J. Biol. Chem.* **279(2),** 1176-1183 (2004).
3. Madani, S., Hichami, A., Legrand, A., *et al.* Implication of acyl chain diacylglycerols in activation of different isoforms of protein kinase C. *FASEB J.* **15**, 2595-2601 (2001).

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