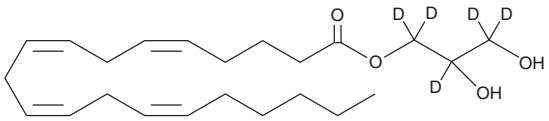
PRODUCT INFORMATION

1-Arachidonoyl-d_5-*rac*-glycerol

Item No. 362152

Formal Name: 5Z,8Z,11Z,14Z-eicosatetraenoic acid, 1-glycerol-1,1,2,3,3-d_5 ester
Synonym: 1-AG-d_5
MF: $C_{23}H_{33}D_5O_4$
FW: 383.6
Chemical Purity: ≥97% (1-AG)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_5); ≤1% d_0
Supplied as: A 1 mg/ml solution in acetonitrile
Storage: -80°C
Stability: ≥2 years



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

Laboratory Procedures

1-Arachidonyl-d_5-*rac*-glycerol (1-AG-d_5) is intended for use as an internal standard for the quantification of 1-AG (Item No. 62150) 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-AG-d_5 is supplied as a solution in acetonitrile. Solvents such as ethanol, DMSO, and dimethyl formamide purged with an inert gas can be used. The solubility of 1-AG-d_5 in these solvents is approximately 2 mg/ml.

Description

The glyceryl esters of arachidonic acid have been proposed as endogenous cannabinoid ligands.[1] 2-AG is 10 to 100 times more potent than 1-AG in ligand binding affinity and agonist activity at the CB_1 receptor,[2] and is thus considered to be the natural ligand. However, 2-AG is chemically unstable and undergoes rapid isomerization to 1-AG (synonymous with 1(3)-AG) both *in vitro* and *in vivo*. 1-AG is a frequent contaminant in synthetic 2-AG preparations, and can markedly reduce their cannabinergic potency. 1-AG is a weak CB_1 receptor agonist and may have other pharmacologic properties.

References

1. Sugiura, T., Kodaka, T., Kondo, S., *et al.* 2-Arachidonoylglycerol, a putative endogenous cannabinoid receptor ligand, induces rapid, transient elevation of intracellular free Ca^{2+} in neuroblastoma X glioma hybrid NG108-15 cells. *Biochem. Biophys. Res. Commun.* **229**, 58-64 (1996).
2. Sugiura, T., Kodaka, T., Kondo, S., *et al.* Is the cannabinoid CB_1 receptor a 2-arachidonoylglycerol receptor? Structural requirements for triggering a Ca^{2+} transient in NG108-15 cells. *J. Biochem.* **122**, 890-895 (1997).

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