

PRODUCT INFORMATION



1-Arachidonoyl-d₅-rac-glycerol

Item No. 362152

Formal Name: 5Z,8Z,11Z,14Z-eicosatetraenoic acid, 1-glycerol-1,1,2,3,3-d₅ ester

Synonym: 1-AG-d₅

MF: C₂₃H₃₃D₅O₄

FW: 383.6

Chemical Purity: ≥97% (1-AG)

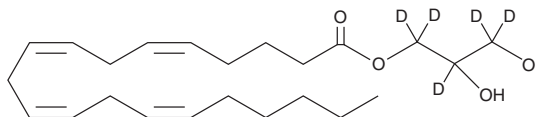
Deuterium

Incorporation: ≥99% deuterated forms (d₁-d₅);
≤1% d₀

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-Arachidonoyl-d₅-rac-glycerol (1-AG-d₅) 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-d₅ 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-d₅ 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 CB₁ 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 CB₁ 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 Ca²⁺ 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 CB₁ receptor a 2-arachidonoylglycerol receptor? Structural requirements for triggering a Ca²⁺ transient in NG108-15 cells. *J. Biochem.* **122**, 890-895 (1997).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM