

PRODUCT INFORMATION



2-Arachidonoyl Glycerol-d₅

Item No. 362162

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

Synonym: 2-AG-d₅

MF: C₂₃H₃₃D₅O₄

FW: 383.6

Chemical Purity: ≥95% (2-Arachidonoyl Glycerol; as a
9:1 mixture of 2-AG and 1-AG)

Deuterium

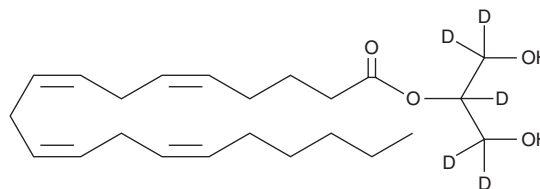
Incorporation: ≥99% deuterated forms (d₁-d₅); ≤1% d₀

Supplied as: A solution in acetonitrile

Storage: -80°C

Stability: ≥6 months

Special Conditions: Light sensitive



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

Laboratory Procedures

2-Arachidonoyl glycerol-d₅ (2-AG-d₅) is intended for use as an internal standard for the quantification of 2-AG (Item No. 62160) 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).

2-AG-d₅ 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 DMSO purged with an inert gas can be used at a concentration of approximately 10 mg/ml. 2-AG-d₅ is also miscible in ethanol.

Description

2-AG is an endogenous agonist of the CB₁ receptor.^{1,2} Unlike anandamide, 2-AG is present at relatively high levels in the central nervous system; it is the most abundant molecular species of monoacylglycerol found in rat brain.^{1,3} Formation of 2-AG is calcium-dependent and is mediated by the activities of PLC and DAG lipase.¹ 2-AG acts as a full agonist at the CB₁ receptor. At a concentration of 0.3 nM, 2-AG induces a rapid, transient increase in intracellular free calcium in NG108-15 neuroblastoma X glioma cells through a CB₁ receptor-dependent mechanism.² 2-AG is metabolized *in vitro* by MAG lipase and fatty acid amide hydrolase, with MAG lipase likely being the principle metabolizing enzyme *in vivo*.⁴

References

1. Stella, N., Schweitzer, P., and Piomelli, D. *Nature* **388(6644)**, 773-778 (1997).
2. Sugiura, T., Kodaka, T., Nakane, S., et al. *J. Biol. Chem.* **274(5)**, 2794-2801 (1999).
3. Kondo, S., Kondo, H., Nakane, S., et al. *FEBS Lett.* **429(2)**, 152-156 (1998).
4. Dinh, T.P., Carpenter, D., Leslie, F.M., et al. *Proc. Natl. Acad. Sci. USA* **99(16)**, 10819-10824 (2002).

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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