

PRODUCT INFORMATION

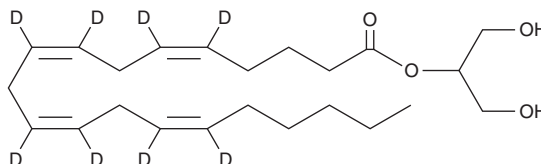


2-Arachidonoyl Glycerol-d₈

Item No. 362160

CAS Registry No.: 924894-97-3
Formal Name: 5Z,8Z,11Z,14Z-eicosatetraenoic-5,6,8,9,11,12,14,15-d₈ acid, 2-glyceryl ester
Synonym: 2-AG-d₈
MF: C₂₃H₃₀D₈O₄
FW: 386.6
Chemical Purity: ≥95% (2-Arachidonoyl Glycerol; as a 9:1 mixture of the 2-AG and 1-AG)

Deuterium Incorporation: ≥99% deuterated forms (d₁-d₈); ≤1% d₀
Supplied as: A 100 µg/ml solution in acetonitrile
Storage: -80°C
Stability: ≥2 years
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-d₈ (2-AG-d₈) 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-d₈ 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 and DMSO purged with an inert gas can be used. The solubility of 2-AG-d₈ in these solvents is approximately 10 mg/ml.

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 phospholipase C and diacylglycerol 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 receptor-dependent mechanism.⁴

References

1. Stella, N., Schweitzer, P., and Piomelli, D. A second endogenous cannabinoid that modulates long-term potentiation. *Nature* **388(6644)**, 773-778 (1997).
2. Sugiura, T., Kodaka, T., Nakane, S., *et al.* Evidence that the cannabinoid CB₁ receptor is a 2-arachidonoylglycerol receptor: structure-activity relationship of 2-arachidonoylglycerol, ether-linked analogues, and related compounds. *J. Biol. Chem.* **274(5)**, 2794-2801 (1999).
3. Kondo, S., Kondo, H., Nakane, S., *et al.* 2-Arachidonoylglycerol, an endogenous cannabinoid receptor agonist: identification as one of the major species of monoacylglycerols in various rat tissues, and evidence for its generation through Ca²⁺-dependent and -independent mechanisms. *FEBS Lett.* **429(2)**, 152-156 (1998).
4. 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(4)**, 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.

WARRANTY AND LIMITATION OF REMEDY

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