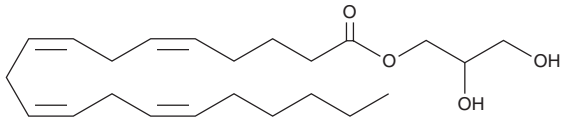
PRODUCT INFORMATION

1-Arachidonoyl Glycerol

Item No. 62150

CAS Registry No.:	35474-99-8
Formal Name:	5Z,8Z,11Z,14Z-eicosatetraenoic acid, 1-glyceryl ester
Synonym:	1-AG
MF:	$C_{23}H_{38}O_4$
FW:	378.6
Purity:	≥95% (as a 9:1 mixture of the 1-AG and 2-AG)
Supplied as:	A 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 glycerol (1-AG) 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. A solvent such as ethanol purged with an inert gas can be used. 1-AG is miscible with ethanol.

1-AG is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, evaporate the acetonitrile under a gentle stream of nitrogen and dissolve the 1-AG in ethanol and then dilute with the aqueous buffer of choice. 1-AG has a solubility of approximately 3 mg/ml in a 1:2 solution of ethanol:PBS (pH 7.2) using this method. Store aqueous solutions of 1-AG on ice and use within 12 hours of preparation. Although the aqueous solutions of 1-AG may be stable for more than 12 hours, we strongly recommend using a fresh preparation each day.

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, and is thus considered to be the natural ligand.[2] 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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