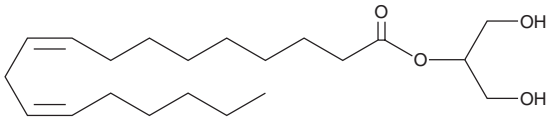
PRODUCT INFORMATION

2-Linoleoyl Glycerol

Item No. 62260

CAS Registry No.:	3443-82-1
Formal Name:	9Z,12Z-octadecadienoic acid, 2-glyceryl ester
Synonym:	2-LG
MF:	$C_{21}H_{38}O_4$
FW:	354.5
Purity:	≥95% (as a 9:1 mixture of the 2-LG and 1-LG)
Supplied as:	A solution in acetonitrile
Storage:	-80°C
Stability:	≥6 months



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

Laboratory Procedures

2-Linoleoyl glycerol (2-LG) 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, DMSO, and dimethyl formamide purged with an inert gas can be used. The solubility of 2-LG in these solvents is approximately 25 mg/ml. 2-LG is stable for at least three months in these solvents if stored at -80°C.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. If an organic solvent-free solution of 2-LG is needed, it can be prepared by evaporating the acetonitrile and directly dissolving the neat oil in aqueous buffers. The solubility of 2-LG in PBS (pH 7.2) is approximately 140 µg/ml. Store aqueous solutions of 2-LG on ice and use within 12 hours of preparation. Although the aqueous solutions of 2-LG may be stable for more than 12 hours, we strongly recommend using a fresh preparation each day.

Description

2-Arachidonoyl glycerol (2-AG) has been isolated from porcine brain, and has been characterized as the natural endocannabnoid ligand for the CB_1 receptor.[1,2] The congener of 2-AG in which a linoleoyl group replaces the arachidonoyl group is 2-LG, and this compound also appears *in vivo* in conjunction with 2-AG.[3] Although the intrinsic activity of 2-LG is low, it potentiates the activity of other endocannabinoids, including 2-AG. This "entourage" effect has been attributed to blockade of the breakdown and reuptake pathways that normally function to reduce endocannabinoid levels rapidly upon release.

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).
3. Ben-Shabat, S., Fride, E., Sheskin, T., *et al.* An entourage effect: inactive endogenous fatty acid glycerol esters enhance 2-arachidonoyl-glycerol cannabinoid activity. *Eur. J. Pharmacol.* **353**, 23-31 (1998).

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