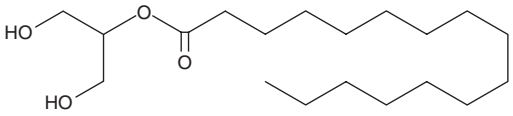
PRODUCT INFORMATION

2-Palmitoyl Glycerol

Item No. 17882

CAS Registry No.: 23470-00-0
Formal Name: 2-hydroxy-1-(hydroxymethyl)ethyl ester hexadecanoic acid
Synonyms: Glycerol-β-palmitate, 2-Hexadecanoyl Glycerol, 2-Monopalmitin, 2-PG
MF: $C_{19}H_{38}O_4$
FW: 330.5
Purity: ≥95%
Supplied as: A crystalline solid
Storage: -80°C
Stability: ≥1 year



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

Laboratory Procedures

2-Palmitoyl glycerol is supplied as a crystalline solid. A stock solution may be made by dissolving the 2-palmitoyl glycerol in the solvent of choice. 2-Palmitoyl glycerol is soluble in the organic solvent dimethyl formamide, which should be purged with an inert gas, at a concentration of approximately 50 mg/ml.

2-Palmitoyl glycerol is sparingly soluble in aqueous solutions. To enhance aqueous solubility, dilute the organic solvent solution into aqueous buffers or isotonic saline. If performing biological experiments, ensure the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. We do not recommend storing the aqueous solution for more than one day.

Description

2-Arachidonoyl glycerol (2-AG; Item No. 62160) is an endogenous agonist of the CB_1 and CB_2 cannabinoid receptors. 2-Palmitoyl glycerol is a fatty acid ester that does not bind directly to cannabinoid receptors, nor inhibit adenylyl cyclase, but rather potentiates the activity of 2-AG (and other endocannabinoids) to bind to CB_1 and CB_2 and inhibit adenylyl cyclase.[1] This "entourage" effect has been attributed to blockade of the breakdown and reuptake pathways that normally function to reduce endocannabinoid levels rapidly upon release.[1] 2-Palmitoyl glycerol and related endogenous fatty acid derivatives have been shown to interact with endocannabinoids in the modulation of pain sensitivity.[2]

References

1. 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).
2. Walker, J.M., Krey, J.F., Chu, C.J., *et al.* Endocannabinoids and related fatty acid derivatives in pain modulation. *Chem. Phys. Lipids* **121**, 159-172 (2002).

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