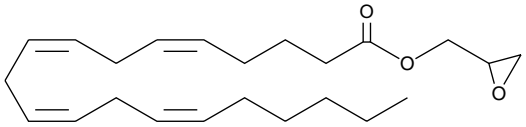
Product Information

O-Arachidonoyl Glycidol

Item No. 10010547

CAS Registry No.: 439146-24-4
Formal Name: 5Z,8Z,11Z,14Z-eicosatetraenoic acid, oxiranylmethyl ester
MF: $C_{23}H_{36}O_3$
FW: 360.5
Purity: ≥98%
Stability: ≥1 year at -20°C
Supplied as: A solution in methyl acetate



Laboratory Procedures

For long term storage, we suggest that O-arachidonoyl glycidol be stored as supplied at -20°C. It should be stable for at least one year.

O-Arachidonoyl glycidol is supplied as a solution in methyl acetate. To change the solvent, simply evaporate the methyl acetate under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide (DMF) purged with an inert gas can be used. The solubility of O-arachidonoyl glycidol in ethanol is approximately 20 mg/ml and approximately 50 mg/ml in DMSO and DMF.

If aqueous stock solutions are required for biological experiments, they can best be prepared by diluting the organic solvent into aqueous buffers or isotonic saline. Ensure that 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.

2-Arachidonoyl glycerol (2-AG) is an endogenous ligand that binds to both central cannabinoid (CB_1) and peripheral cannabinoid (CB_2) receptors and is involved in the regulation of a broad range of neurotransmitter signalling functions with implications in neurodegenerative diseases, pain, cancer, and obesity.[1] Levels of this endocannabinoid are regulated by hydrolysis to glycerol and arachidonic acid by the enzyme monoacylglycerol lipase. O-Arachidonoyl glycidol is a 2-AG analog that blocks 2-oleoyl glycerol hydrolysis in the cytosolic and membrane fractions of rat cerebella with IC_{50} values of 4.5 and 19 µM, respectively.[1] O-Arachidonoyl glycidol inhibits fatty acid amide hydrolase-catalyzed hydrolysis of arachidonoyl ethanolamide (AEA) in the membrane fraction of rat cerebella with an IC_{50} value of 12 µM.[1]

Reference

1. Cisneros, J.A., Vandevoorde, S., Ortega-Gutiérrez, S., *et al.* Structure-activity relationship of a series of inhibitiors of monoacylglycerol hydrolysis-comparison with effects upon fatty acid amide hydrolase. *J. Med. Chem.* **50**, 5012-5023 (2007).

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Mailing address
1180 E. Ellsworth Road
Ann Arbor, MI
48108 USA

Phone
(800) 364-9897
(734) 971-3335

Fax
(734) 971-3640

E-Mail
custserv@caymanchem.com

Web
www.caymanchem.com