

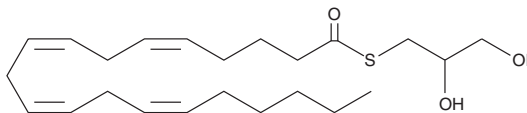
PRODUCT INFORMATION



Arachidonoyl-1-thio-Glycerol

Item No. 10007904

CAS Registry No.: 1309664-54-7
Formal Name: 5Z,8Z,11Z,14Z-eicosatetraenyl, 1-thio glycerol
Synonym: 1-S-Arachidonoyl-1-mercapto-2,3-propanediol
MF: C₂₃H₃₈O₃S
FW: 394.6
Purity: ≥95%
UV/Vis.: λ_{max}: 233 nm
Supplied as: A solution in acetonitrile
Storage: -80°C
Stability: As supplied, 6 months from the QC date provided on the Certificate of Analysis, when stored properly



Laboratory Procedures

Arachidonoyl-1-thio-glycerol 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 (DMF) purged with an inert gas can be used. The solubility of arachidonoyl-1-thio-glycerol in ethanol is approximately 30 mg/ml, 10 mg/ml in DMSO, and 20 mg/ml in DMF.

Arachidonoyl-1-thio-glycerol is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the acetonitrile solution of arachidonoyl-1-thio-glycerol should be diluted with the aqueous buffer of choice. Arachidonoyl-1-thio-glycerol has a solubility of 0.25 mg/ml in a 1:2 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

2-Arachidonoyl glycerol (2-AG) is an endogenous agonist of the central cannabinoid receptor (CB₁) receptor.^{1,2} It is present at relatively high levels in the central nervous system and is the most abundant molecular species of monoacylglycerol found in rat brain.^{2,3} Monoacylglycerol lipase (MAGL) hydrolyzes 2-AG to arachidonic acid and glycerol, thereby terminating its biological actions.⁴ Arachidonoyl-1-thio-glycerol is a thioester substrate analog of 2-AG that can be utilized for the measurement of MAGL activity.⁵ Hydrolysis of the thioester bond by MAGL generates a free thiol that reacts rapidly with the chromogenic reagent DTNB (Ellman's reagent) resulting a yellow product with an absorbance maximum at 412 nm.

References

1. Sugiura, T., Kodaka, T., Nakane, S., *et al.* *J. Biol. Chem.* **274**, 2794-2801 (1999).
2. Stella, N., Schweitzer, P., and Piomelli, D. *Nature* **388**, 773-778 (1997).
3. Kondo, S., Kondo, H., Nakane, S., *et al.* *FEBS Lett.* **429**, 152-156 (1998).
4. Dinh, T.P., Carpenter, D., Leslie, F.M., *et al.* *Proc. Natl. Acad. Sci. USA* **99**(16), 10819-10824 (2002).
5. Cox, J.W. and Horrocks, L.A. *J. Lipid Res.* **22**, 496-505 (1981).

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.

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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM