

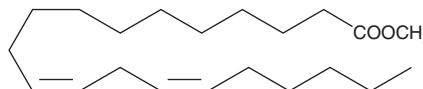
PRODUCT INFORMATION



11(Z),14(Z)-Eicosadienoic Acid methyl ester

Item No. 20750

CAS Registry No.: 61012-46-2
Formal Name: 11Z,14Z-eicosadienoic acid, methyl ester
Synonym: SFE 21:2
MF: C₂₁H₃₈O₂
FW: 322.5
Purity: ≥98%
UV/Vis.: λ_{max}: 267, 280, 362 nm
Supplied as: A solution in ethanol
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

11(Z),14(Z)-Eicosadienoic acid methyl ester is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol 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 11(Z),14(Z)-eicosadienoic acid methyl ester in these solvents is approximately 10 mg/ml.

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 11(Z),14(Z)-eicosadienoic acid methyl ester is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of 11(Z),14(Z)-eicosadienoic acid methyl ester in PBS, pH 7.2, is approximately 0.5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

11(Z),14(Z)-Eicosadienoic acid methyl ester is a more lipid soluble form of the ω-6 C20-2 fatty acid 11(Z),14(Z)-eicosadienoic acid (Item No. 90330), a naturally occurring PUFA. 11(Z),14(Z)-Eicosadienoic acid competitively inhibits inosine 5'-monophosphate dehydrogenase (K_i = 3.1 μM) and inhibits the binding of LTB₄ to its receptor on neutrophils (K_i = 3.0 μM).^{1,2} Also, serum levels of eicosadienoic acids negatively correlate with degree of sleep disturbance.³ Eicosadienoic acids are converted by desaturases, *in vivo*, to eicosatrienoic acids, which are potent vasodilators.

References

1. Mizushima, Y., Dairaku, I., Yanaka, N., *et al.* Inhibitory action of polyunsaturated fatty acids on IMP dehydrogenase. *Biochimie* **89(5)**, 581-590 (2007).
2. Yagaloff, K.A., Franco, L., Simko, B., *et al.* Essential fatty acids are antagonists of the leukotriene B₄ receptor. *Prostaglandins, Leukot. Essent. Fatty Acids* **52(5)**, 293-297 (1995).
3. Irmisch, G., Schläfke, D., Gierow, W., *et al.* Fatty acids and sleep in depressed inpatients. *Prostaglandins, Leukot. Essent. Fatty Acids* **76(1)**, 1-7 (2007).

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