

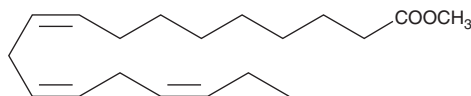
PRODUCT INFORMATION



α -Linolenic Acid methyl ester

Item No. 9000290

CAS Registry No.: 301-00-8
Formal Name: 9Z,12Z,15Z-octadecatrienoic acid, methyl ester
Synonyms: Linolenic Acid methyl ester, Methyl ALA, Methyl Linolenate, Methyl α -Linolenate
MF: C₁₉H₃₂O₂
FW: 292.5
Purity: \geq 98%
Supplied as: A solution in ethanol
Storage: -20°C
Stability: \geq 2 years



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

Laboratory Procedures

Linolenic acid methyl ester is supplied as a solution in ethanol. To change the solvent, simply evaporate the linolenic acid methyl ester under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of linolenic acid methyl ester in these solvents is approximately 100 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 linolenic 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 linolenic acid methyl ester in PBS, pH 7.2, is approximately 0.15 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

α -Linolenic acid methyl ester is a natural methylated form of α -linolenic acid (Item No. 90210).^{1,2} Unlike α -linolenic acid, linolenic acid methyl ester is a poor agonist of GPR120, does not inhibit voltage-dependent calcium channels in β -cells, and only weakly inhibits melanogenesis in mouse B16 melanoma cells.³⁻⁵

References

1. Go, J. V., Rezanka, T., Srebnik, M., *et al.* Variability of fatty acid components of murine and freshwater gastropod species from the littoral zone of the Red Sea, Mediterranean Sea, and Sea of Galilee. *Biochem. Syst. Ecol.* **30**, 819-835 (2002).
2. Mohadjerani, M., Hosseinzadeh R., and Hosseini, M. Chemical composition and antibacterial properties of essential oil and fatty acids of different parts of *Ligularia persica* Boiss Avicenna. *J. Phytomed.* **6(3)**, 357-365 (2016).
3. Sun, Q., Hirasawa, A., Hara, T., *et al.* Structure-activity relationships of GPR120 agonists based on a docking simulation. *Mol. Pharma.* **78**, 804-810 (2010).
4. Feng, D. D., Zhao, Y. F., Luo, Z. Q., *et al.* Linoleic acid induces Ca²⁺-induced inactivation of voltage-dependent Ca²⁺ currents in rat pancreatic β -cells. *J. Endocrinol.* **196(2)**, 377-384 (2008).
5. Huh, S., Kim, Y. S., Jung, E., *et al.* Melanogenesis inhibitory effect of fatty acid alkyl esters isolated from *Oxalis triangularis*. *Biol. Pharm. Bull.* **33(7)**, 1242-1245 (2010).

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