

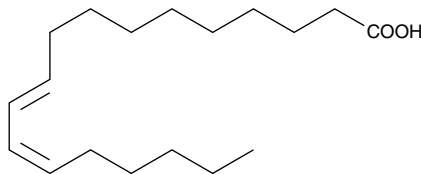
Product Information



10(E),12(Z)-Conjugated Linoleic Acid

Item No. 90145

CAS Registry No.: 2420-56-6
Formal Name: 10E,12Z-octadecadienoic acid
Synonym: 10E,12Z-CLA
MF: C₁₈H₃₂O₂
FW: 280.5
Purity: ≥98%
Stability: ≥1 year at -20°C
Supplied as: A solution in ethanol
UV/Vis.: λ_{max}: 233 nm



Laboratory Procedures

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

CLA 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 DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of CLA 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 CLA is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of CLA in PBS (pH 7.2) is approximately 100 µg/ml. Store aqueous solutions of CLA on ice and use within 12 hours of preparation. Although the aqueous solutions of CLA may be stable for more than 12 hours, we strongly recommend using a fresh preparation each day.

Conjugated linoleic acid (CLA) refers to a family of 8 geometric isomers of linoleic acid in which the two double bonds are contiguous. (The predominant form of linoleic acid in nature, 18:2ω6, has double bonds at 9 and 12, interrupted by a methylene carbon.) CLA is found in both meat and dairy products, but not to any significant degree in plants. The predominant isomer of CLA in animal tissue is 9Z,11E; smaller amounts of 10E,12Z also occur. Various antioxidant and antitumor activities have been attributed to CLA or its downstream metabolites.¹ Reported health benefits of dietary supplementation with CLA has been attributed variously to competitive inhibition of Δ⁶-desaturase and/or PPARγ activation.²

References

1. Shultz, T.D., Chew, B.P., Seaman, W.R., *et al* Inhibitory effect of conjugated dienoic derivatives of linoleic acid and β-carotene on the *in vitro* growth of human cancer cells. *Cancer Lett.* **63**, 125-133 (1992).
2. Houseknecht, K.L., Vanden Heuvel, J.P., Moya-Camarena, S.Y. *et al.* Dietary conjugated linoleic acid normalizes impaired glucose tolerance in the Zucker diabetic fatty *fafa* rat. *BBRC* **244**, 678-682 (1998).

Related Products

Conjugated Linoleic Acid (9Z,11E) - Item No. 90140 • Linoleic Acid - Item No. 90150 • Linoleic Acid (peroxide free) - Item No. 90150.1 • Conjugated Linoleic Acid (9E,11E) - Item No. 90370

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY. NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman **warrants only** to the original customer that the material will **meet our specifications at the time of delivery.**

Cayman will carry out its delivery obligations with due care and skill. Thus, in no event will Cayman have **any obligation or liability**, whether in tort (including negligence) or in contract, for any direct, indirect, incidental or consequential damages, even if Cayman is informed about their possible existence.

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