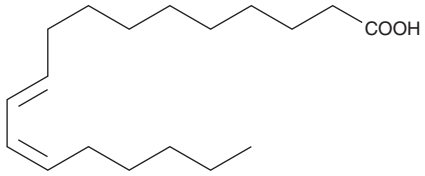
# PRODUCT INFORMATION

## 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, FA 18:2
**MF:** $C_{18}H_{32}O_2$
**FW:** 280.5
**Purity:** ≥98%
**UV/Vis.:** $\lambda_{max}$: 233 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

Conjugated linoleic acid (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.

### Description

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 $\Delta^6$-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(2)**, 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 *fa/fa* rat. *Biochem. Biophys. Res. Commun.* **244(3)**, 678-682 (1998).





**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