

PRODUCT DATA SHEET

9(E),11(E)-Octadecadienoic acid

Catalog No: 1181

Common Name: 9-*trans*,11-*trans* CLA

Source: synthetic

Solubility: chloroform, methanol, ethanol,
hexane

CAS No: 544-71-8

Molecular Formula: C₁₈H₃₂O₂

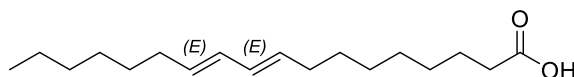
Molecular Weight: 280

Storage: -20°C

Purity: TLC: >98%, GC: >98%; identity
confirmed by MS

TLC System: hexane/ethyl ether/acetic
acid (80:20:1 by vol.)

Appearance: solid



Application notes:

9(E),11(E)-Octadecadienoic acid is a conjugated linoleic acid (CLA), an isomer of linoleic acid. CLA is found mostly in lipids originating in ruminant animals including dairy products. It has several biological properties including anti-carcinogenic activity, suppressing *in vitro* growth of human melanoma, colorectal, and breast cancer cells, and exhibiting anti-atherogenic activity.¹ It is thought that CLA itself may not have anti-oxidant capabilities but may produce substances which protect cells from the detrimental effects of peroxides. 9(E),11(E)-CLA is a minor component in natural sources of CLA and is used as a marker for free radical activity. Also, due to its being a minor component it is very helpful as a comparison to the major isomers 9(Z),11(E)-CLA and 10(E),12(Z)-CLA. 9(E),11(E)-CLA can exert anti-inflammatory effects by increasing an endogenous repressor of IL-1 signaling². It can induce expression of genes involved in lipid metabolism of human macrophages and is a dietary occurring agonist of liver X receptor alpha.³

Selected References:

1. Helen B. MacDonald "Conjugated Linoleic Acid and Disease Prevention: A Review of Current Knowledge" *Journal of the American College of Nutrition*, Vol. 19, No. 90002, 111S-118S, 2000
2. Yunkyong Lee, Jerry T. Thompson and John P. Vanden Heuvel "9E,11E-Conjugated Linoleic Acid Increases Expression of the Endogenous Antiinflammatory Factor, Interleukin-1 Receptor Antagonist, in RAW 264.7 Cells" *The Journal of Nutrition*, October, Vol. 139(10) pp. 1861-1866, 2009
3. J. Ecker, G. Liebisch, W. Patsch, G. Schmitz "The conjugated linoleic acid isomer trans-9,trans-11 is a dietary occurring agonist of liver X receptor alpha" *Biochemical and biophysical research communications*, Oct., Vol. 388(4) pp. 660-666, 2009

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