

PRODUCT DATA SHEET

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

Catalog No: 1245

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

Source: synthetic

Solubility: chloroform, ethanol, hexane,
methanol, DMSO

CAS No: 2540-56-9

Molecular Formula: C₁₈H₃₂O₂

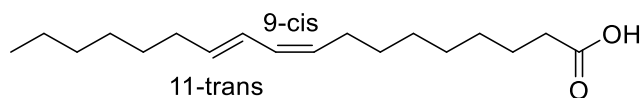
Molecular Weight: 280

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: liquid



Application notes:

9(Z),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(Z),11(E)-Octadecadienoic acid is the major natural isomer of CLA constituting 73% to 93% of the total CLA in dairy products² and it appears to be the most biologically active isomer. It appears to enhance animal growth and inhibit osteoclast formation and activity from human cells,³ as well as decrease LDL:HDL and total HDL:cholesterol levels in humans.⁴

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. M. Belury, "DIETARY CONJUGATED LINOLEIC ACID IN HEALTH: Physiological Effects and Mechanisms of Action" *Annual Review of Nutrition*, July Vol. 22: 505, 2002
3. Ilana Platt, Ahmed El-Soheby "Effects of 9*cis*,11-*trans* and 10-*trans*,12-*cis* CLA on osteoclast formation and activity from human CD14+ monocytes" *Lipids in Health and Disease*, 8:15, 2009
4. S. Tricon, et al., "Opposing effects of *cis*-9,*trans*-11 and *trans*-10,*cis*-12 conjugated linoleic acid on blood lipids in healthy humans" *The American Journal of Clinical Nutrition*, 80:614, 2004

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