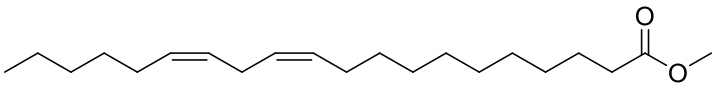
PRODUCT DATA SHEET

Methyl eicosadienoate (all *cis*-11,14)

Catalog number: 1193
Common Name: Methyl eicosadienoate; C20:2 (all *cis*-11,14) Methyl ester
Source: synthetic
Solubility: chloroform, hexane, ethyl ether
CAS number: 61012-46-2

Molecular Formula: $C_{21}H_{38}O_2$
Molecular Weight: 322
Storage: -20°C
Purity: TLC: 99%, GC: 99%
TLC System: hexane/ethyl ether (80:20 by vol.)
Appearance: liquid



Application Notes:

This product is the methyl ester of a naturally occurring *omega*-6 fatty acid that is found mainly in small amounts in animal tissues. Eicosadienoic acid (all *cis*-11,14) is produced by a *delta* 9 elongase enzyme from linoleic acid and can be converted into dihomo-gamma-linolenic acid, arachidonic acid, sciadonic acid and other polyunsaturated fatty acids.[1] Eicosadienoic acid (all *cis*-11,14) has been found to be able to modulate the metabolism of polyunsaturated fatty acids and alter the responsiveness of macrophages to inflammatory stimulations.[2] Along with other mono and polyunsaturated fatty acids eicosadienoic acid (all *cis*-11,14) can inhibit the binding of leukotriene B_4 to pig neutrophil membranes, which may account in part for it's anti-inflammatory activities.[3] The X-ray powder diffraction pattern of the sodium soap of eicosadienoic acid (all *cis*-11,14) is typical of the crystalline lamellar phase.[4]

Selected References:

1. Y-S. Huang et al. "Expression of fungal desaturase genes in cultured mammalian cells" *Molecular and Cellular Biochemistry*, vol. 219 pp. 7-11, *2001*
2. Y. Huang, W. Huang, C. Li, and L. Chuang "Eicosadienoic acid differentially modulates production of pro-inflammatory modulators in murine macrophages" *Molecular and Cellular Biochemistry*, DOI: 10.1007/s11010-011-0924-0, *2011*
3. K. Yagaloff et al. "Essential fatty acids are antagonists of the leukotriene B_4 receptor" *Prostaglandins, Leukotrienes and Essential Fatty Acids*, vol. 52 pp. 293-297, *1995*
4. R. Jandacek, and W. Broering "X-ray diffraction study of sodium soaps of monounsaturated and polyunsaturated fatty acids" *Lipids*, vol. 24 pp. 1008-1013, *1989*

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