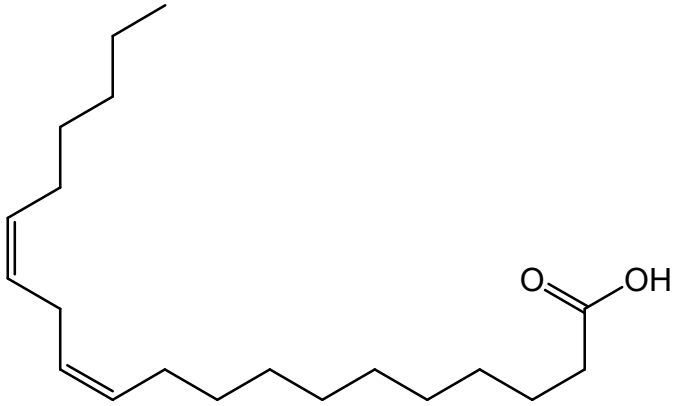
PRODUCT DATA SHEET

Eicosadienoic acid (all *cis*-11,14)

Catalog number: 1192
Synonyms: C20:2 (all *cis*-11, 14) Fatty acid
Source: synthetic
Solubility: chloroform, hexane, ethyl ether
CAS number: 2091-39-6
Molecular Formula: $C_{20}H_{36}O_2$

Molecular Weight: 309
Storage: -20˚C
Purity: TLC: 99% GC >99%
TLC System: hexane/ethyl ether/acetic acid (80:20:1)
Appearance: liquid



Application Notes:

This high purity eicosadienoic acid is ideal as a standard and for biological studies. Eicosadienoic acid is an *omega*-6 fatty acid that is found mainly in small amounts in animal tissues. *cis*-11,14-Eicosadienoic acid 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] *cis*-11,14-Eicosadienoic acid 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 *cis*-11,14-eicosadienoic acid 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 *cis*-11,14-eicosadienoic acid 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*

2178 High Tech Road, State College, PA 16803
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