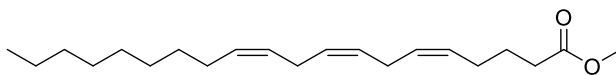


PRODUCT DATA SHEET

Catalog number: 1179
Common Name: C20:3 (all *cis*-5,8,11) Methyl ester; Mead acid methyl ester
Source: natural, plant
Solubility: chloroform, hexane, ethyl ether
CAS number: 14602-39-2

Molecular Formula: C₂₁H₃₆O₂
Molecular Weight: 321
Storage: -20°C
Purity: TLC > 90%, GC > 90%
TLC System: hexane/ethyl ether (80:20 by vol.)
Appearance: liquid



Application Notes:

Eicosatrienoic acid (all *cis*-5,8,11) is a product of oleic acid through D5 and D6 desaturation and elongation¹ and it is one of the few polyunsaturated fatty acids produced *de novo* by animals. It is found mostly in cartilage, umbilical cords, fetuses, infants, and low vascular tissues. Eicosatrienoic acid (all *cis*-5,8,11) accumulates in essential fatty acid deficient animals and this is likely what accounts for where it is found. It has been found to suppresses osteoblast, but not osteoclast, activity in some studies. This may help in preventing calcification of fetal cartilage and lead to new therapeutic treatments.² Eicosatrienoic acid (all *cis*-5,8,11) also has anti-inflammatory effects by inhibiting leukotrienes and is an inhibitor of platelet aggregation.³

Selected References:

1. H. Kawashima et al. "Production of 5,8,11-Eicosatrienoic Acid (Mead Acid) by a D6 Desaturation Activity-Enhanced Mutant Derived from a D12 Desaturase-Defective Mutant of an Arachidonic Acid-Producing Fungus, *Mortierella alpina* 1S-4" *Applied and Environmental Microbiology*, Vol. 63(5) pp. 1820-1825, 1997
2. T. Hamazaki et al. "The Depressive Effects of 5,8,11-Eicosatrienoic Acid (20:3n-9) on Osteoblasts" *Lipids*, Vol. 44 pp. 97-102, 2009
3. M. Lagarde et al. "Potentiating Effect of 5,8,11-Eicosatrienoic Acid on Human Platelet Aggregation" *Lipids*, Vol. 18(4) pp. 291-294, 1983

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