

# PRODUCT DATA SHEET

## Methyl eicosatrienoate (all *cis*-5,8,11)

**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:** C<sub>21</sub>H<sub>36</sub>O<sub>2</sub>

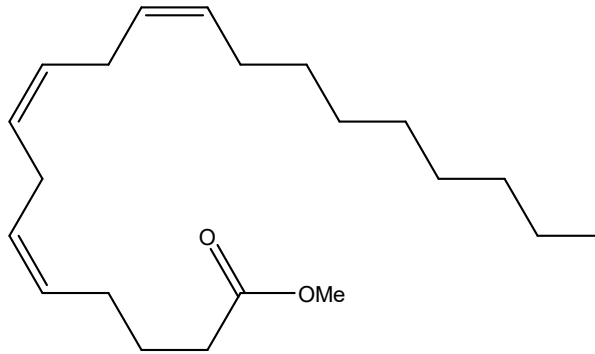
**Molecular Weight:** 321

**Storage:** -20°C

**Purity:** TLC > 90%, GC > 90%

**TLC System:** hexane/ethyl ether (80:20)

**Appearance:** liquid



### Application Notes:

Eicosatrienoic acid (all *cis*-5,8,11) is a product of oleic acid through D5 and D6 desaturation and elongation<sup>1</sup> 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.<sup>2</sup> Eicosatrienoic acid (all *cis*-5,8,11) also has anti-inflammatory effects by inhibiting leukotrienes and is an inhibitor of platelet aggregation.<sup>3</sup>

### 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

This product is to be used for research only. It is not intended for drug or diagnostic use, human consumption or to be used in food or food additives. Matreya assumes no liability for any use of this product by the end user. We believe the information, offered in good faith, is accurate.