

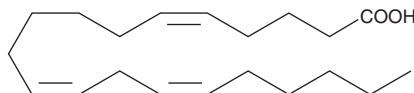
# Product Information



## 5(Z),11(Z),14(Z)-Eicosatrienoic Acid

Item No. 10009999

**CAS Registry No.:** 7019-85-4  
**Formal Name:** 5Z,11Z,14Z-eicosatrienoic acid  
**Synonyms:** 5,11,14 20:3, Sciadonic Acid  
**MF:** C<sub>20</sub>H<sub>34</sub>O<sub>2</sub>  
**FW:** 306.5  
**Purity:** ≥98%  
**Stability:** ≥1 year at -20°C  
**Supplied as:** A solution in ethanol



### Laboratory Procedures

For long term storage, we suggest that 5(Z),11(Z),14(Z)-eicosatrienoic acid be stored as supplied at -20°C. It will be stable for at least one year.

5(Z),11(Z),14(Z)-Eicosatrienoic acid is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of 5(Z),11(Z),14(Z)-eicosatrienoic acid in these solvents is approximately 100 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. If an organic solvent-free solution of the 5(Z),11(Z),14(Z)-eicosatrienoic acid is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. For greater aqueous solubility, 5(Z),11(Z),14(Z)-eicosatrienoic acid can be directly dissolved in 0.1 M Na<sub>2</sub>CO<sub>3</sub> (1.5 mg/ml) and then diluted with PBS (pH 7.2) to achieve the desired concentration or pH. We do not recommend storing the aqueous solution for more than one day.

5(Z),11(Z),14(Z)-Eicosatrienoic acid is a polyunsaturated fatty acid found in various natural sources including maritime pine (*Pinus pinaster*) seed oil (MPSO), gymnospermae leaves and seeds, and freshwater gastropods.<sup>1-3</sup> A diet containing MPSO lowered high-density lipoprotein and ApoA1 levels in transgenic mice expressing human ApoA1. MPSO was found to diminish cholesterol efflux *in vitro*.<sup>1</sup> 5(Z),11(Z),14(Z)-Eicosatrienoic acid methyl ester, when topically applied, reduces inflammatory processes, potentially by displacing arachidonic acid from phospholipid pools and reducing downstream inflammatory products such as prostaglandin E<sub>2</sub> and leukotrienes.<sup>4</sup>

### References

1. Asset, G., Leroy, A., Bauge, E., *et al.* Effects of dietary maritime pine (*Pinus pinaster*)-seed oil on high-density lipoprotein levels and *in vitro* cholesterol efflux in mice expressing human apolipoprotein A-I. *British Journal of Nutrition* **84**, 353-360 (2000).
2. Mongrand, S., Badoc, A., Patouille, B., *et al.* Taxonomy of gymnospermae: Multivariate analyses of leaf fatty acid composition. *Phytochem.* **58**, 101-115 (2001).
3. Go, J.V., Rezanka, T., Srebnik, M., *et al.* Variability of fatty acid components of murine and freshwater gastropod species from the littoral zone of the Red Sea, Mediterranean Sea, and Sea of Galilee. *Biochemical Systematics and Ecology* **30**, 819-835 (2002).
4. Berger, A., Monnard, I., Baur, M., *et al.* Epidermal anti-inflammatory properties of 5,11,14 20:3: Effects on mouse ear edema, PGE<sub>2</sub> levels in cultured keratinocytes, and PPAR activation. *Lipids in Health and Disease* **1(5)**, 1-12 (2002).

### Related Products

5(Z),8(Z),11(Z)-Eicosatrienoic Acid-d<sub>6</sub> - Item No. 10742 • 5(Z),8(Z),11(Z)-Eicosatrienoic Acid - Item No. 90190 • 11(Z),14(Z),17(Z)-Eicosatrienoic Acid - Item No. 90192

**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY; NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

### MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent *via* email to your institution.

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