

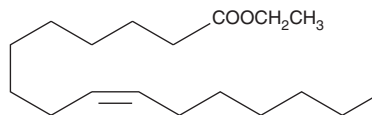
# PRODUCT INFORMATION



## Palmitoleic Acid ethyl ester

Item No. 10008204

**CAS Registry No.:** 56219-10-4  
**Formal Name:** 9Z-hexadecenoic acid, ethyl ester  
**Synonyms:** Ethyl Palmitoleate, SFE 18:1  
**MF:** C<sub>18</sub>H<sub>34</sub>O<sub>2</sub>  
**FW:** 282.5  
**Purity:** ≥95%  
**Supplied as:** A 100 mg/ml solution in ethanol  
**Storage:** -20°C  
**Stability:** ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Palmitoleic acid ethyl ester 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 palmitoleic acid ethyl ester in these solvents is approximately 30 mg/ml.

### Description

Palmitoleic acid (9-hexadecenoic acid) is an unsaturated fatty acid that is found in highest concentration in the liver. It is a common component of the glycerides of human adipose tissues. Two other sources of palmitoleic acid are macadamia oil and sea buckthorn oil which contain about 20% and 40% of total fatty acid composition, respectively.<sup>1,2</sup> Palmitoleic acid ethyl ester (ethyl palmitoleate) is a more lipophilic form of the free acid. It is one of the fatty acid ethyl esters that increase cytosolic Ca<sup>2+</sup> concentration leading to pancreatic acinar cell injury due to excessive consumption of ethanol. Ethyl palmitoleate (10-100 μM) in addition to 850 mM ethanol resulted in sustained, concentration-dependent increases in Ca<sup>2+</sup> that caused cell death.<sup>3</sup> This fatty acid ethyl ester is also a potential biomarker for fetal exposure to alcohol.<sup>4</sup>

### References

1. Yang, B. and Kallio, H.P. Fatty acid composition of lipids in sea buckthorn (*Hippophaë rhamnoides* L.) berries of different origins. *J. Agric. Food Chem.* **49(4)**, 1939-1947 (2001).
2. Fard, A.M., Turner, A.G., and Willett, G.D. High-resolution electrospray-ionization fourier-transform ion cyclotron resonance and gas chromatography-mass spectrometry of macadamia nut oil. *Aus. J. Chem.* **56(5)**, 499-508 (2003).
3. Criddle, D.N., Raraty, M.G.T., Neoptolemos, J.P., et al. Ethanol toxicity in pancreatic acinar cells: Mediation by nonoxidative fatty acid metabolites. *Proc. Natl. Acad. Sci. USA* **101(29)**, 10738-10743 (2004).
4. Moore, C., Jones, J., Lewis, D., et al. Prevalence of fatty acid ethyl esters in meconium specimens. *Clin. Chem.* **49(1)**, 133-136 (2003).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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