

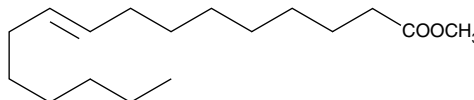
Product Information



Palmitelaidic Acid methyl ester

Item No. 9001797

CAS Registry No.: 10030-74-7
Formal Name: (9E)-hexadecenoic acid, methyl ester
Synonym: 9-*trans*-Hexadecenoic acid methyl ester
MF: C₁₇H₃₂O₂
FW: 268.4
Purity: ≥98%
Stability: ≥1 year at -20°C
Supplied as: A solution in ethanol



Laboratory Procedures

For long term storage, we suggest that palmitelaidic acid methyl ester be stored as supplied at -20°C. It should be stable for at least one year.

Palmitelaidic acid methyl 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 palmitelaidic acid methyl ester in these solvents is approximately 30 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 aqueous solution of palmitelaidic acid methyl ester is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in basic buffers. Palmitelaidic acid methyl ester is sparingly soluble in neutral buffers. Store aqueous solutions of palmitelaidic acid methyl ester on ice and use within 12 hours of preparation. Although the aqueous solutions of palmitelaidic acid methyl ester may be stable for more than 12 hours, we strongly recommend using a fresh preparation each day.

Palmitoleic acid (Item No. 10009871) is a common constituent of the triglycerides of human adipose tissue. Palmitoleic acid-based diets raise low-density lipoprotein cholesterol and diminish high-density lipoprotein cholesterol, even when dietary intake of cholesterol is maintained at a low level.¹ Palmitelaidic acid (Item No. 9001798) is the *trans* isomer of the 16:1 fatty acid palmitoleic acid. While its effects on cholesterol levels are poorly studied, palmitelaidic acid can have very different effects from those of palmitoleic acid on lipid metabolism and mobilization.^{2,3} Palmitelaidic acid methyl ester is an ester version of the free acid which may be more amenable for the formulation of fatty acid-containing diets and dietary supplements.

References

1. Nestel, P., Clifton, P., and Noakes, M. Effects of increasing dietary palmitoleic acid compared with palmitic and oleic acids on plasma lipids of hypercholesterolemic men. *J. Lipid Res.* **35**, 656-662 (1994).
2. Tung, B.S., Unger, E.R., Levin, B., *et al.* Use of an unsaturated fatty acid auxotroph of *Saccharomyces cerevisiae* to modify the lipid composition and function of mitochondrial membranes. *J. Lipid Res.* **32**, 1025-1038 (1991).
3. van Greevenbroek, M.M.J., Robertus-Teunissen, M.G., Erkelens, D.W., *et al.* Lipoprotein secretion by intestinal Caco-2 cells is affected differently by *trans* and *cis* unsaturated fatty acids: Effect of carbon chain length and position of the double bond. *Am. J. Clin. Nutr.* **68**, 561-567 (1998).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/9001797

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

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 Safety Data Sheet, which has been sent via email to your institution.

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