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Zuschläge

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- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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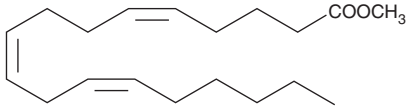
PRODUCT INFORMATION

Pinolenic Acid methyl ester

Item No. 10008656

CAS Registry No.: 38406-57-4
Formal Name: 5Z,9Z,12Z-octadecatrienoic acid, methyl ester
Synonym: SFE 19:3
MF: $C_{19}H_{32}O_2$
FW: 292.5
Purity: ≥98%
Supplied as: A 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

Pinolenic 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 ethanol, DMSO, and dimethyl formamide (DMF) purged with an inert gas can be used. The solubility of pinolenic acid methyl ester in ethanol is approximately 100 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Pinolenic acid methyl ester is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the ethanol solution of pinolenic acid methyl ester should be diluted with the aqueous buffer of choice. Pinolenic acid methyl ester has a solubility of 0.5 mg/ml in a 1:1 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Pinolenic acid is a polyunsaturated fatty acid found in Korean pine (*Pinus orientalis*) and maritime pine (*Pinus pinaster*) seed oils. Both oils have been found to have lipid-lowering properties. A diet containing maritime pine seed oil (MPSO) lowered HDL and ApoA-I levels in transgenic mice expressing human ApoA-I. MPSO was found to diminish cholesterol efflux *in vitro*.[1] Korean pine seed oil supplements may help in obesity by reduction of appetite. People taking this oil had an increase in the satiety hormones CCK and GLP-1 and a reduced desire to eat.[2] The activity of the oil is attributed to pinolenic acid. Due to the non-methylene-interrupted double bond at the Δ^5 position, pinolenic acid is not converted to arachidonic acid metabolically. Pinoleic acid can reduce arachidonic acid levels in the phosphatidylinositol fraction of HepG2 cells from 15.9% to 7.0%.[3] Pinolenic acid methyl ester is a neutral, more lipophilic form of the free acid.

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(3)**, 353-360 (2000).
2. Causey, J.L. Korean pine nut fatty acids induce satiety-producing hormone release in overweight human volunteers. *The 231st ACS National Meeting, Atlanta, GA, March 26-30, 2006.*
3. Tamotsu, T., Tatsunori, T., Morishige, J., *et al.* Non-methylene-interrupted polyunsaturated fatty acids: Effective substitute for arachidonate of phosphatidylinositol. *Biochem. Biophys. Res. Commun.* **264(3)**, 683-688 (1999).

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