

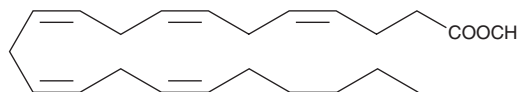
PRODUCT INFORMATION



all-cis-4,7,10,13,16-Docosapentaenoic Acid methyl ester

Item No. 21124

CAS Registry No.: 31930-67-3
Formal Name: 4Z,7Z,10Z,13Z,16Z-docosapentaenoic acid, methyl ester
Synonyms: all-cis-4,7,10,13,16-DPA methyl ester, all-Z-4,7,10,13,16-DPA methyl ester, Osbond Acid methyl ester, SFE 23:5
MF: C₂₃H₃₆O₂
FW: 344.5
Purity: ≥98%
UV/Vis.: λ_{max}: 204 nm
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

all-cis-4,7,10,13,16-Docosapentaenoic acid (all-cis-4,7,10,13,16-DPA) 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 all-cis-4,7,10,13,16-DPA methyl ester 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 all-cis-4,7,10,13,16-DPA methyl ester is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. For greater aqueous solubility, all-cis-4,7,10,13,16-DPA methyl ester can be directly dissolved in 0.1 M Na₂CO₃ (1 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.

Description

all-cis-4,7,10,13,16-DPA methyl ester is a more lipid-soluble form of the free acid (Item No. 10008335). all-cis-4,7,10,13,16-DPA, also known as osbond acid, is an isomer of DPA (Item No. 90165) an ω-3, 22-carbon fatty acid found in fish oils. It is an ω-6 fatty acid formed by the elongation and desaturation of arachidonic acid (Item No. 90010). Levels of all-cis-4,7,10,13,16-DPA fatty acid may be diminished during fatty acid desaturase syndrome and this may affect development.¹ Upregulated expression of hepatic elongation of very long fatty acids protein 6 and increased levels of very long chain fatty acids, including all-cis-4,7,10,13,16-DPA, are characteristic of nonalcoholic steatohepatitis, a preneoplastic condition of hepatocellular carcinoma.²

References

1. Steer, C.D., Lattka, E., Koletzko, B., *et al.* Maternal fatty acids in pregnancy, FADS polymorphisms, and child intelligence quotient at 8 y of age. *Am. J. Clin. Nutr.* **98**(6), 1575-1582 (2013).
2. Muir, K., Hazim, A., He, Y., *et al.* Proteomic and lipidomic signatures of lipid metabolism in NASH-associated hepatocellular carcinoma. *Cancer Res.* **73**(15), 4722-4731 (2013).

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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