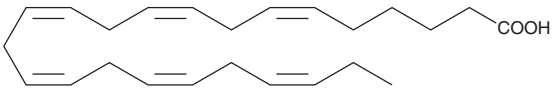
PRODUCT INFORMATION

6(Z),9(Z),12(Z),15(Z),18(Z),21(Z)-Tetracosahexaenoic Acid

Item No. 10005165

CAS Registry No.: 68378-49-4
Formal Name: 6Z,9Z,12Z,15Z,18Z,21Z-tetracosahexaenoic acid
Synonyms: 24:6 (n-3), FA 24:6, Nisinic Acid, all-*cis*-6,9,12,15,18,21-Tetracosahexaenoic Acid
MF: $C_{24}H_{36}O_2$
FW: 356.5
Purity: ≥95%
Supplied as: A solution in methyl acetate
Storage: -20°C
Stability: ≥1 year



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

Laboratory Procedures

6(Z),9(Z),12(Z),15(Z),18(Z),21(Z)-Tetracosahexaenoic acid is supplied as a solution in methyl acetate. To change the solvent, simply evaporate the 6(Z),9(Z),12(Z),15(Z),18(Z),21(Z)-tetracosahexaenoic acid under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide purged with an inert gas can be used. The solubility of 6(Z),9(Z),12(Z),15(Z),18(Z),21(Z)-tetracosahexaenoic acid in these solvents is approximately 50 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 6(Z),9(Z),12(Z),15(Z),18(Z),21(Z)-tetracosahexaenoic acid is needed, it can be prepared by evaporating the 6(Z),9(Z),12(Z),15(Z),18(Z),21(Z)-tetracosahexaenoic acid and directly dissolving the neat oil in aqueous buffers. The solubility of 6(Z),9(Z),12(Z),15(Z),18(Z),21(Z)-tetracosahexaenoic acid in PBS, pH 7.2, is approximately 100 µg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

6(Z),9(Z),12(Z),15(Z),18(Z),21(Z)-Tetracosahexaenoic acid is a very long chain polyunsaturated fatty acid (VLCPUFA) that has been found in tunny, herring, cod-liver, pilot whale, sardine, and squalus-suclii-liver oils, bovine retina, and as a component of triglycerides and cholesterol esters in mouse and rat testis.[1-3] It is produced from dietary linolenic acid *via* a series of elongation and Δ^6-desaturation reactions in fish and rat brain and undergoes β-oxidation to form docosahexaenoic acid (DHA; Item No. 90310).[4,5]

References

1. Ueno, S.-I. and Yonese, C. On the occurrence of new highly unsaturated fatty acids, $C_{26}H_{40}O_2$ and $C_{26}H_{42}O_2$, in tunny oil. *J. Soc. Chem. Ind.* **11(7)**, 437-442 (1936).
2. Rotstein, N.P. and Aveldaño, M.I. Synthesis of very long chain (up to 36 carbon) tetra, penta and hexaenoic fatty acids in retina. *Biochem. J.* **249(1)**, 191-200 (1988).
3. Furland, N.E., Maldonado, and Aveldaño, M.I. Very long chain PUFA in murine testicular triglycerides and cholesterol esters. *Lipids* **38(1)**, 73-80 (2003).
4. Williard, D.E., Harmon, S.D., Kaduce, T.L., *et al.* Docosahexaenoic acid synthesis from n-3 polyunsaturated fatty acids in differentiated rat brain astrocytes. *J. Lipid Res.* **42(9)**, 1368-76 (2001).
5. Mourente, G. and Tocher, D.R. *In vivo* metabolism of [1-^{14}C]linolenic acid (18:3(n-3)) and [1-^{14}C]eicosapentaenoic acid (20:5(n-3)) in a marine fish: Time-course of the desaturation/elongation pathway. *Biochim. Biophys. Acta.* **1212(1)**, 109-118 (1994).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM