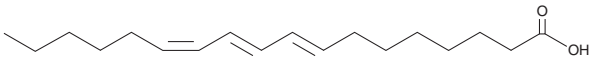
PRODUCT INFORMATION

8(E),10(E),12(Z)-Octadecatrienoic Acid

Item No. 30885

CAS Registry No.: 5204-87-5
Synonyms: α-Calendic Acid, Calendic Acid, Calendulic Acid, FA 18:3, *trans,trans,cis*-8,10,12-Octadecatrienoic Acid
MF: $C_{18}H_{30}O_2$
FW: 278.4
Purity: ≥98%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

8(E),10(E),12(Z)-Octadecatrienoic acid is supplied as a solid. A stock solution may be made by dissolving the 8(E),10(E),12(Z)-octadecatrienoic acid in the solvent of choice, which should be purged with an inert gas. 8(E),10(E),12(Z)-Octadecatrienoic acid is soluble in organic solvents such as DMSO, ethanol, and dimethyl formamide. The solubility of 8(E),10(E),12(Z)-octadecatrienoic acid in these solvents is approximately 10, 20, and 30 mg/ml, respectively.

Description

8(E),10(E),12(Z)-Octadecatrienoic acid is a conjugated polyunsaturated fatty acid (PUFA) that has been found in *C. officinalis* seed oil and has anticancer activity.[1-3] It inhibits the growth of Caco-2 cells when used at concentrations ranging from 10 to 50 µM.[2] 8(E),10(E),12(Z)-Octadecatrienoic acid (10 µM) induces formation of thiobarbituric acid reactive substances (TBARS) and apoptosis in DLD-1 colorectal adenocarcinoma cells.[3] It also inhibits prostaglandin biosynthesis in sheep vesicular gland microsomes (IC_{50} = 31 µM).[4]

References

1. Crombie, L. and Holloway, S.J. The biosynthesis of calendic acid, octadeca-(8*E*,10*E*, 12*Z*)-trienoic, acid, by developing marigold seeds: Origins of (*E*,*E*,*Z*) and (*Z*,*E*,*Z*) conjugated triene acids in higher plants. *J. Chem. Soc. Perk. T.* **1,** 2425-2434 (1985).
2. Yasui, Y., Hosokawa, M., Kohno, H., *et al.* Growth inhibition and apoptosis induction by all-trans-conjugated linolenic acids on human colon cancer cells. *Anticancer Res.* **26(3A)**, 1855-1860 (2006).
3. Shinohara, N., Ito, J., Tsuduki, T., *et al.* Jacaric acid, a linolenic acid isomer with a conjugated triene system, reduces stearoyl-CoA desaturase expression in liver of mice. *J. Oleo Sci.* **61(8)**, 433-441 (2012).
4. Nugteren, D.H. and Christ-Hazelhof, E. Naturally occurring conjugated octadecatrienoic acids are strong inhibitors of prostaglandin biosynthesis. *Prostaglandins* **33(3)**, 403-417 (1987).

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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