



Product Information

5,8,11,14-Eicosatetraynoic acid

Product Number **E 1768**

Storage Temperature -20 °C

Product Description

Molecular formula: C₂₀H₂₄O₂

Molecular weight: 296.4

CAS Number: 1191-85-1

Melting Point: 78-80 °C

Synonyms: Octadecyloxyarachidonic acid, ETYA
Eicosatetraynoic acid (ETYA) is an analog of arachidonic acid in which each of the cis-double bonds has been replaced with an acetylene group.

ETYA is a nonspecific inhibitor for all cyclooxygenases (COX) and lipoxygenases (LO).^{1,2} ETYA is a suicide inhibitor with an apparent IC₅₀ of 4 mM for 12-LO and 8 mM for COX-1, both prepared from human platelets.^{1,2} ETYA may be a valuable lead for selective modulation of the 12-lipoxygenase pathway in platelet or other target tissues.³ The activity of ETYA in activating peroxisome proliferator-activated receptors (PPARs) suggests that arachidonic acid metabolites may serve as PPAR ligands. ETYA activates PPAR α and PPAR γ chimeras at concentrations of 10 μ M.⁴

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is soluble in ethanol (50 mg/ml), yielding a clear, colorless to yellow solution. Stock solutions of ETYA can be made up to 100 mg/ml in ethanol, DMSO, or dimethyl formamide. To prevent oxidation of ETYA, the solvent should be purged with an inert gas before use. High dilutions of the stock solution into aqueous buffers or isotonic saline should be made just prior to performing biological experiments, minimizing the residual amount of organic solvent, because organic solvents may have physiological effects at low concentrations.

If an organic solvent-free aqueous solution of ETYA is needed, the ETYA can be directly dissolved in basic buffers. ETYA is sparingly soluble in neutral buffers. Store aqueous solutions of ETYA on ice and use within 12 hours of preparation. Although the aqueous solutions of ETYA may be stable for more than 12 hours, it is strongly recommended to prepare fresh solutions each day.

Storage/Stability

ETYA is stable for at least six months in organic solvents if stored at -20 °C. Store aqueous solutions of ETYA on ice and use within 12 hours of preparation.

References

1. Hammarström, S., Selective inhibition of platelet n-8 lipoxygenase by 5,8,11-eicosatriynoic acid. *Biochim. Biophys. Acta*, **487(3)**, 517-519 (1977).
2. Tobias, L. D. and Hamilton, J. G., The effect of 5,8,11,14-eicosatetraynoic acid on lipid metabolism. *Lipids*, **14(2)**14, 181-193 (1979).
3. Sun, F. F., et al., Inhibition of platelet arachidonic acid 12-lipoxygenase by acetylenic acid compounds. *Prostaglandins*, **21(2)**, 333-343 (1981).
4. Kliewer, S. A., et al., A prostaglandin J2 metabolite binds peroxisome proliferator-activated receptor γ and promotes adipocyte differentiation. *Cell*, **83(5)**, 813-819 (1995).

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