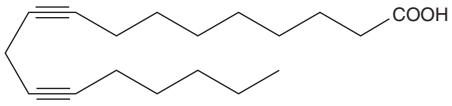
PRODUCT INFORMATION

9,12-Octadecadiynoic Acid

Item No. 90400

CAS Registry No.: 2012-14-8
Formal Name: octadeca-9,12-diynoic acid
Synonym: Ro 3-1314
MF: $C_{18}H_{28}O_2$
FW: 276.4
Purity: ≥98%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥1 year
Special Conditions: Oxygen and light sensitive



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

Laboratory Procedures

9,12-Octadecadiynoic acid is supplied as a crystalline solid. A stock solution may be made by dissolving the 9,12-octadecadiynoic acid in the solvent of choice, which should be purged with an inert gas. 9,12-Octadecadiynoic acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 9,12-octadecadiynoic acid 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. Organic solvent-free aqueous solutions of 9,12-octadecadiynoic acid can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 9,12-octadecadiynoic acid in PBS (pH 7.2) is approximately 100 µg/ml and approximately 1 mg/ml in 0.15 M Tris-HCl (pH 8.5). We do not recommend storing the aqueous solution for more than one day.

Description

9,12-Octadecadiynoic acid is an inhibitor of both COX and lipoxygenase.[1,2] 9,12-octadecadiynoic acid inhibits ram seminal vesicle COX with a K_i of 0.6 µM.[1] It is a more effective inhibitor of COX-1 than of 15-LO, inhibiting 95% and 68%, respectively, of these enzymatic activities when used at a concentration of 48 µM.[2]

References

1. Vanderhoek, J.Y. and Lands, W.E.M. Acetylenic inhibitors of sheep vesicular gland oxygenase. *Biochim. Biophys. Acta* **296**, 374-381 (1973).
2. Downing, D.T., Barve, J.A., Gunstone, F.D., *et al.* Structural requirements of acetylenic fatty acids for inhibition of soybean lipoxygenase and prostaglandin synthase. *Biochim. Biophys. Acta* **280**, 343-347 (1972).

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