

Product Data Sheet

Product Name: Oleic Acid Alkyne

Cat. No.: GC41646

Chemical Properties

Cas. No. 151333-45-8

Chemical Name (9Z)-9-octadecen-17-ynoic acid

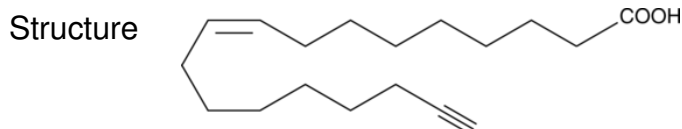
SMILES C#CCCCCCC/C=C\CCCCCCCC(O)=O

Formula C₁₈H₃₀O₂ M.Wt 278.4

Solubility 100mg/mL in DMSO, 100mg/mL in DMF, Miscible in ethanol Storage Store at -20°C, protect from light

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.



Background

Oleic acid is a monounsaturated fatty acid and is one of the major components of membrane phospholipids. Oleic acid contributes about 17% of the total fatty acids esterified to phosphatidylcholine, the major phospholipid class in porcine platelets.[1] Oleic acid inhibits collagen-stimulated platelet aggregation by approximately 90% when used at a concentration of 10 µg/ml. [1] fMLF-induced neutrophil aggregation and degranulation is inhibited by 55% and 68%, respectively, using 5 µM oleic acid. This inhibition is comparable to that observed using arachidonic acid under the same conditions. [2] Oleic acid, whether applied extracellularly (EC₅₀ = ~60 µM) to human platelets or released from membrane phospholipids, causes an increase in intracellular calcium levels. [3] Oleic acid alkyne is a form of oleic acid with an ω-terminal alkyne. The terminal alkyne group can be used in click chemistry linking reactions, to tag oleic acid with fluorescent or biotinylated labels for analysis of its metabolism and biological activity.[4] [5] [6][7]

Caution: Product has not been fully validated for medical applications. For research use only.

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Reference:

- [1]. Wahle, K.W., and Peacock, L.I. Effects of isomeric cis and trans eighteen carbon monounsaturated fatty acids on porcine platelet function. *Biochim. Biophys. Acta* 1301(1-2), 141-149 (1996).
- [2]. Naccache, P.H., Moiski, T.F., Volpi, M., et al. Modulation of rabbit neutrophil aggregation and degranulation by free fatty acids. *J. Leukoc. Biol.* 36(3), 333-340 (1984).
- [3]. Siafaka-Kapadai, A., Hanahan, D.J., and Javors, M.A. Oleic acid-induced Ca^{2+} mobilization in human platelets: Is oleic acid an intracellular messenger? *J. Lipid Mediat. Cell Signal* 15(3), 215-232 (1997).
- [4]. Kolb, H.C., and Sharpless, K.B. The growing impact of click chemistry on drug discovery. *Drug Discov. Today* 8(24), 1128-1137 (2003).
- [5]. Lutz, J.F., and Zarafshani, Z. Efficient construction of therapeutics, bioconjugates, biomaterials and bioactive surfaces using azide-alkyne "click" chemistry. *Adv. Drug Deliv. Rev.* 60(9), 958-970 (2008).
- [6]. Vila, A., Tallman, K.A., Jacobs, A.T., et al. Identification of protein targets of 4-hydroxynonenal using click chemistry for ex vivo biotinylation of azido and alkynyl derivatives. *Chemical Research in Toxicology* 21(2), 432-444 (2008).
- [7]. Jiang, H., Khan, S., Wang, Y., et al. SIRT6 regulates TNF- α secretion through hydrolysis of long-chain fatty acyl lysine. *Nature* 496, 110-113 (2013).

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