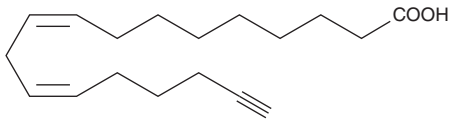
PRODUCT INFORMATION

Linoleic Acid Alkyne

Item No. 10541

CAS Registry No.: 1219038-31-9
Formal Name: 9Z,12Z-octadecadien-17-ynoic acid
Synonyms: Click Tag™ Linoleic Acid Alkyne, FA 18:4
MF: $C_{18}H_{28}O_2$
FW: 276.4
Purity: ≥95%
Supplied as: A 1 mg/ml solution in ethanol
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

Linoleic acid alkyne is supplied as a solution in ethanol. To change the solvent, simply evaporate the ethanol under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as DMSO and dimethyl formamide purged with an inert gas can be used. The solubility of linoleic acid alkyne in these solvents is approximately 100 mg/ml.

Linoleic acid alkyne is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the ethanolic solution of linoleic acid alkyne should be diluted with the aqueous buffer of choice. The solubility of linoleic acid alkyne in 0.15 M Tris-HCl, pH 8.5, and PBS (pH 7.2) is approximately 1 and 0.025 mg/ml, respectively. We do not recommend storing the aqueous solution for more than one day.

Description

Linoleic acid alkyne is an ω-alkyne derivative of linoleic acid (Item No. 90150). The ω-alkyne moiety allows Cu(I)-catalyzed cycloaddition chemistry with other molecules containing an azide group.[1,2] Linoleic acid alkyne has been used in experiments focusing on the biological roles of linoleic acid.[3,4] Alternatively, this modified lipid can be used to synthesize other alkyne-containing products, such as glycerophospholipids, for click chemistry.[5]

References

1. Gaebler, A., Penno, A., Kuerschner, L., *et al.* A highly sensitive protocol for microscopy of alkyne lipids and fluorescently tagged or immunostained proteins. *J. Lipid. Res.* **57(10)**, 1934-1947 (2016).
2. Grammel, M. and Hang, H.C. Chemical reporters for biological discovery. *Nat. Chem. Biol.* **9(8)**, 475-484 (2013).
3. Beavers, W.N., Serwa, R., Shimozu, Y., *et al.* ω-Alkynyl lipid surrogates for polyunsaturated fatty acids: Free radical and enzymatic oxidations. *J. Am. Chem. Soc.* **136(32)**, 11529-11539 (2014).
4. Windsor, K., Genaro-Mattos, T.C., Kim, H.-Y.H., *et al.* Probing lipid-protein adduction with alkynyl surrogates: Application to Smith-Lemli-Opitz syndrome. *J. Lipid. Res.* **54(10)**, 2842-2850 (2013).
5. Milne, S.B., Tallman, K.A., Serwa, R., *et al.* Capture and release of alkyne-derivatized glycerophospholipids using cobalt chemistry. *Nat. Chem. Biol.* **6(3)**, 205-207 (2010).

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