

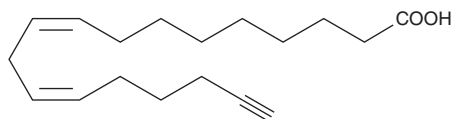
PRODUCT INFORMATION



Linoleic Acid Alkyne

Item No. 10541

CAS Registry No.: 1219038-31-9
Formal Name: 9Z,12Z-octadecadien-17-ynoic acid
MF: $C_{18}H_{28}O_2$
FW: 276.4
Purity: $\geq 95\%$
Supplied as: A solution in ethanol
Storage: $-20^{\circ}C$
Stability: ≥ 1 year



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.

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. If an organic solvent-free solution of linoleic acid alkyne is needed, it can be prepared by evaporating the ethanol and directly dissolving the neat oil in aqueous buffers. The solubility of linoleic acid alkyne in 0.15 M Tris-HCl, pH 8.5, and PBS, pH 7.2, is approximately 1 and 0.1 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).

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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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM