PRODUCT INFORMATION



4-oxo-2-Nonenal Alkyne

Item No. 17104

CAS Registry No.:	1680193-58-1	
Formal Name:	4-oxo-2E-Nonen-8-ynal	
Synonyms:	4-ONE Alkyne, Alkynyl 4-oxo-2-Nonenal,	
	Click Tag™ 4-oxo-2-Nonenal Alkyne	0
MF:	$C_{9}H_{10}O_{2}$	U U
FW:	150.2	H
Purity:	≥98%	
UV/Vis.:	λ _{max} : 226 nm	-
Supplied as:	A solution in methyl acetate	
Storage:	-80°C	
Stability:	≥1 year	
Information represent	the product specifications Batch specific analytical	results are provided on each certificate of analysis

Laboratory Procedures

4-oxo-2-Nonenal (4-ONE) alkyne is supplied as a solution in methyl acetate. To change the solvent, simply evaporate the methyl acetate under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol, DMSO, and dimethyl formamide (DMF) purged with an inert gas can be used. The solubility of 4-ONE alkyne in ethanol is approximately 10 mg/ml and approximately 1 mg/ml in DMSO and DMF.

4-ONE alkyne is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, the methyl acetate solution of 4-ONE alkyne should be diluted with the aqueous buffer of choice. The solubility of 4-ONE alkyne in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

4-ONE (Item No. 10185) is a product of lipid peroxidation that actively modifies histidine and lysine residues on proteins and causes protein cross-linking.¹⁻⁵ It also modifies 2'-deoxyguanosine, further implicating lipid peroxidation in mutagenesis and carcinogenesis.¹ 4-ONE alkyne is an alkyne-tagged electrophile that can be used as a probe to isolate and identify the reaction products of lipid peroxidation using click chemistry.^{6,7}

References

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- 4. Liu, Z., Minkler, P.E., and Sayre, L.M. Mass spectroscopic characterization of protein modification by 4-hydroxy-2-(E)-nonenal and 4-oxo-2-(E)-nonenal. Chem. Res. Toxicol. 16(7), 901-911 (2003).
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- 6. Wang, C., Weerapana, E., Blewett, M.M., et al. A chemoproteomic platform to quantitatively map targets of lipid-derived electrophiles. Nat. Methods 11(1), 79-85 (2014).
- 7. 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).

WARNING THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFFTY 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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