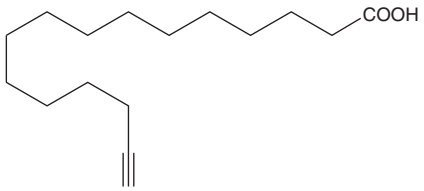
# PRODUCT INFORMATION

## Palmitic Acid Alkyne

*Item No. 13266*

| | |
|---|---|
| **CAS Registry No.:** | 99208-90-9 |
| **Formal Name:** | 15-hexadecynoic acid |
| **Synonyms:** | Alk-14, Click Tag™ Palmitic Acid Alkyne, FA 16:2 |
| **MF:** | $C_{16}H_{28}O_2$ |
| **FW:** | 252.4 |
| **Purity:** | ≥95% |
| **Supplied as:** | A crystalline solid |
| **Storage:** | -20°C |
| **Stability:** | ≥4 years |




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

### Laboratory Procedures

Palmitic acid alkyne is supplied as a crystalline solid. A stock solution may be made by dissolving the palmitic acid alkyne in the solvent of choice, which should be purged with an inert gas. Palmitic acid alkyne is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of palmitic acid alkyne in ethanol and DMF is approximately 30 mg/ml and approximately 20 mg/ml in DMSO.

Palmitic acid alkyne is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, palmitic acid alkyne should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Palmitic acid alkyne has a solubility of approximately 0.15 mg/ml in a 1:5 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Protein S-palmitoylation is the post-translational acylation of proteins and serves to regulate localization, stability, and interaction with associates and substrates.[1] Palmitic acid alkyne is a form of palmitic acid (Item No. 10006627) with an ω-terminal alkyne. The terminal alkyne group can be used in linking reactions, known as click chemistry; this chemistry is characterized by high dependability and specificity of the azide-alkyne bioconjugation reactions.[2,3] The use of palmitic acid alkyne and related lipids in isolating palmitoylated proteins has been described.[4-6]

### References


1. Aicart-Ramos, C., Valero, R.A., and Rodriguez-Crespo, I. Protein palmitoylation and subcellular trafficking. *Biochim. Biophys. Acta* **1808(12)**, 2981-2994 (2011).
2. Kolb, H.C. and Sharpless, K.B. The growing impact of click chemistry on drug discovery. *Drug Discov. Today* **8(24)**, 1128-1137 (2003).
3. 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).
4. Martin, B.R. and Cravatt, B.F. Large-scale profiling of protein palmitoylation in mammalian cells. *Nat. Methods* **6(2)**, 135-138 (2009).
5. Yap, M.C., Kostiuk, M.A., Martin, D.D.O., *et al.* Rapid and selective detection of fatty acylated proteins using ω-alkynyl-fatty acids and click chemistry. *J. Lipid Res.* **51(6)**, 1566-1580 (2010).
6. Jiang, H., Khan, S., Wang, Y., *et al.* SIRT6 regulates TNF-α secretion through hydrolysis of long-chain fatty acyl lysine. *Nature* **496(7443)**, 110-113 (2013).



**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.

**WARRANTY AND LIMITATION OF REMEDY**
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 03/11/2024



**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