

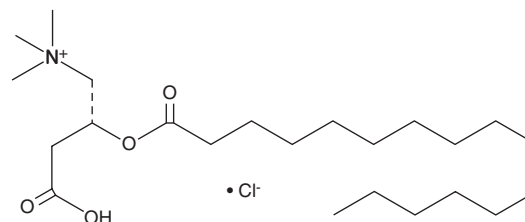
PRODUCT INFORMATION



Palmitoyl-L-carnitine (chloride)

Item No. 26553

CAS Registry No.: 18877-64-0
Formal Name: 3-carboxy-N,N,N-trimethyl-2R-[(1-oxohexadecyl)oxy]-1-propanaminium, monochloride
Synonyms: CAR 16:0, C16:0 Carnitine, L-Carnitine hexadecanoyl ester, L-Carnitine palmitoyl ester, Hexadecanoyl-L-carnitine, L-Hexadecanoylcarnitine, L-Palmitoylcarnitine
MF: C₂₃H₄₆NO₄ • Cl
FW: 436.1
Purity: ≥95%
UV/Vis.: λ_{max}: 212 nm
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

Palmitoyl-L-carnitine (chloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the palmitoyl-L-carnitine (chloride) in the solvent of choice, which should be purged with an inert gas. Palmitoyl-L-carnitine (chloride) is slightly soluble in water (warmed, sonicated). We do not recommend storing the aqueous solution for more than one day.

Description

Palmitoyl-L-carnitine is a long-chain acylcarnitine and an isomer of palmitoyl-DL-carnitine (Item No. 11095) and palmitoyl-D-carnitine (Item No. 26552).¹ Palmitoyl-L-carnitine is transported into mitochondria via carnitine palmitoyl transferase II to deliver palmitate for fatty acid oxidation and energy production.² It inhibits lecithin:cholesterol acyltransferase activity in isolated rat, but not human, plasma when used at a concentration of 500 μM.³ Serum and hepatic levels of palmitoyl-L-carnitine are increased in mice during cold exposure, and it is taken up by brown adipose tissue.⁴ Palmitoyl-L-carnitine also protects against age-induced cold sensitivity in mice.

References

1. Bezaire, V., Bruce, C.R., Heigenhauser, G.J.F., *et al.* Identification of fatty acid translocase on human skeletal muscle mitochondrial membranes: Essential role in fatty acid oxidation. *Am. J. Physiol. Endocrinol. Metab.* **290(3)**, E509-E515 (2006).
2. El-Hayek, R., Valdivia, C., Valdivia, H.H., *et al.* Activation of the Ca²⁺ release channel of skeletal muscle sarcoplasmic reticulum by palmitoyl carnitine. *Biophys. J.* **65(2)**, 779-789 (1993).
3. Bell, F.P. Carnitine esters: Novel inhibitors of plasma lecithin: Cholesterol acyltransferase in experimental animals but not in man (*Homo sapiens*). *Int. J. Biochem.* **15(2)**, 133-136 (1983).
4. Simcox, J., Geoghegan, G., Maschek, J.A., *et al.* Global analysis of plasma lipids identifies liver-derived acylcarnitines as a fuel source for brown fat thermogenesis. *Cell Metab.* **26(3)**, 509-522 (2017).

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, 02/16/2024

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