

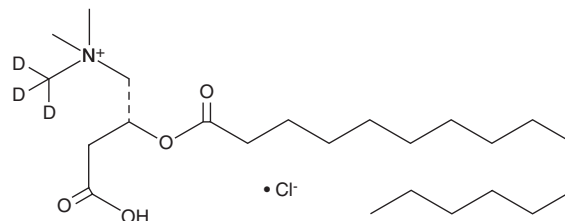
PRODUCT INFORMATION



Palmitoyl-L-carnitine-d₃

Item No. 26569

CAS Registry No.: 1334532-26-1
Formal Name: 3-carboxy-N,N-dimethyl-N-(methyl-d₃)-2R-[(1-oxohexadecyl)oxy]-1-propanaminium, monochloride
Synonyms: CAR 16:0-d₃, C16:0 Carnitine-d₃, L-Carnitine hexadecanoyl ester-d₃, L-Carnitine palmitoyl ester-d₃, Hexadecanoyl-L-carnitine-d₃, L-Hexadecanoylcarnitine-d₃, L-Palmitoylcarnitine-d₃
MF: C₂₃H₄₃D₃NO₄ • Cl
FW: 439.1
Chemical Purity: ≥98% (Palmitoyl-L-carnitine)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₃); ≤1% d₀
Supplied as: A solid
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

Palmitoyl-L-carnitine-d₃ (chloride) is intended for use as an internal standard for the quantification of palmitoyl-L-carnitine (Item No. 26553) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Palmitoyl-L-carnitine-d₃ (chloride) is supplied as a solid. A stock solution may be made by dissolving the palmitoyl-L-carnitine-d₃ (chloride) in the solvent of choice. Palmitoyl-L-carnitine-d₃ (chloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of palmitoyl-L-carnitine-d₃ (chloride) in ethanol and DMF is approximately 20 mg/ml and approximately 10 mg/ml in DMSO.

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.* *Am. J. Physiol. Endocrinol. Metab.* **290**(3), E509-E515 (2006).
2. El-Hayek, R., Valdivia, C., Valdivia, H.H., *et al.* *Biophys. J.* **65**(2), 779-789 (1993).
3. Bell, F.P. *Int. J. Biochem.* **15**(2), 133-136 (1983).
4. Simcox, J., Geoghegan, G., Maschek, J.A., *et al.* *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.

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