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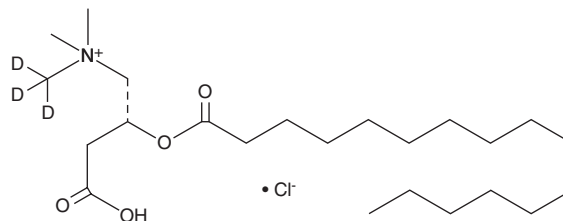
PRODUCT INFORMATION



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: 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 naturally occurring long-chain acylcarnitine and the L-enantiomer of palmitoyl-DL-carnitine (Item No. 11095).¹ In cells, palmitoyl-L-carnitine is transported into mitochondria via carnitine palmitoyl transferase II to deliver palmitate for fatty acid oxidation and energy production.² It also inhibits lecithin:cholesterol acyltransferase activity in rat, but not human, plasma when used at a concentration of 500 μM.³ *In vivo*, palmitoyl-L-carnitine increases intestinal absorption of the antibiotic cefoxitin (Item No. 15990) in rat intestine.⁴

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. Sutton, S.C., LeCluyse, E.L., Cammack, L., *et al.* *Pharm. Res.* **9(2)**, 191-194 (1992).

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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