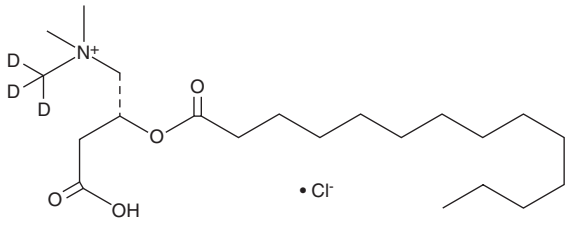
# PRODUCT INFORMATION

## Myristoyl-L-carnitine-$d_3$ (chloride)

*Item No. 26581*

**CAS Registry No.:** 1334532-25-0
**Formal Name:** (R)-3-carboxy-N,N-dimethyl-N-(methyl-$d_3$)-2-(tetradecanoyloxy)propan-1-aminium, monochloride
**Synonyms:** CAR 14:0-$d_3$, C14:0 Carnitine-$d_3$, L-Carnitine myristoyl ester-$d_3$, L-Carnitine tetradecanoyl ester-$d_3$, L-Myristoylcarnitine-$d_3$, L-Tetradecanoylcarnitine-$d_3$, Tetradecanoyl-L-carnitine-$d_3$
**MF:** $C_{21}H_{39}D_3NO_4 \bullet Cl$
**FW:** 411.0
**Chemical Purity:** ≥95% (Myristoyl-L-carnitine)
**Deuterium Incorporation:** ≥99% deuterated forms ($d_1$-$d_3$); ≤1% $d_0$
**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

Myristoyl-L-carnitine-$d_3$ (chloride) is intended for use as an internal standard for the quantification of myristoyl-L-carnitine (Item No. 26559) 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).

Myristoyl-L-carnitine-$d_3$ (chloride) is supplied as a solid. A stock solution may be made by dissolving the myristoyl-L-carnitine-$d_3$ (chloride) in the solvent of choice, which should be purged with an inert gas. Myristoyl-L-carnitine-$d_3$ (chloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of myristoyl-L-carnitine-$d_3$ (chloride) in ethanol and DMF is approximately 20 mg/ml and approximately 14 mg/ml in DMSO.

### Description

Myristoyl-L-carnitine is a naturally occurring long-chain acylcarnitine.[1] Plasma levels of myristoyl-L-carnitine are decreased in patients with chronic fatigue syndrome and increased in patients with end-stage renal disease.[1,2]

### References


1. Reuter, S.E., Evans, A.M., Faull, R.J., *et al.* Impact of haemodialysis on individual endogenous plasma acylcarnitine concentrations in end-stage renal disease. *Ann. Clin. Biochem.* **42(Pt 5)**, 387-393 (2005).
2. Reuter, S.E. and Evans, A.M. Long-chain acylcarnitine deficiency in patients with chronic fatigue syndrome. Potential involvement of altered carnitine palmitoyltransferase-I activity. *J. Intern. Med.* **270(1)**, 76-84 (2011).





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