

# PRODUCT INFORMATION



## Stearoyl-L-carnitine-d<sub>3</sub> (chloride)

Item No. 26580

**CAS Registry No.:** 2245711-27-5  
**Formal Name:** (R)-3-carboxy-N,N-dimethyl-N-(methyl-d<sub>3</sub>)-2-(stearoyloxy)propan-1-aminium, monochloride

**Synonyms:** CAR 18:0-d<sub>3</sub>, C18:0 Carnitine-d<sub>3</sub>, L-Carnitine octadecanoyl ester-d<sub>3</sub>, L-Carnitine stearoyl ester-d<sub>3</sub>, L-Octadecanoylcarnitine-d<sub>3</sub>, Octadecanoyl-L-carnitine-d<sub>3</sub>, L-Stearoylcarnitine-d<sub>3</sub>, R-Stearoyl carnitine-d<sub>3</sub>

**MF:** C<sub>25</sub>H<sub>47</sub>D<sub>3</sub>NO<sub>4</sub> • Cl

**FW:** 467.1

**Chemical Purity:** ≥98% (Stearoyl-L-carnitine)

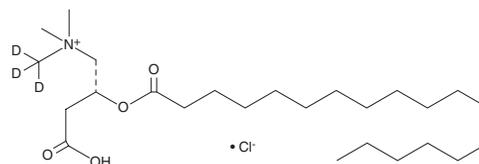
**Deuterium**

**Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>3</sub>); ≤1% d<sub>0</sub>

**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

Stearoyl-L-carnitine-d<sub>3</sub> (chloride) is intended for use as an internal standard for the quantification of stearoyl-L-carnitine (Item No. 26556) 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).

Stearoyl-L-carnitine-d<sub>3</sub> (chloride) is supplied as a solid. A stock solution may be made by dissolving the stearoyl-L-carnitine-d<sub>3</sub> (chloride) in the solvent of choice. Stearoyl-L-carnitine-d<sub>3</sub> (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 stearoyl-L-carnitine-d<sub>3</sub> (chloride) in ethanol and DMF is approximately 20 mg/ml and approximately 14 mg/ml in DMSO.

### Description

Stearoyl-L-carnitine is a naturally occurring long-chain acylcarnitine.<sup>1</sup> It inhibits sodium-dependent [<sup>3</sup>H]carnitine uptake in human proximal convoluted tubular (HPCT) cells by 52% when used at a concentration of 500 μM.<sup>2</sup> It also inhibits lecithin:cholesterol acyltransferase activity in rat, but not human, plasma when used at a concentration of 500 μM.<sup>3</sup> Plasma levels of stearoyl-L-carnitine are decreased in patients with chronic fatigue syndrome and increased in patients with end-stage renal disease.<sup>1,4</sup>

### 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. Huang, W., Shaikh, S.N., Ganapathy, M.E., *et al.* Carnitine transport and its inhibition by sulfonylureas in human kidney proximal tubular epithelial cells. *Biochem. Pharmacol.* **58(8)**, 1361-1370 (1999).
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. 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).

#### 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

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