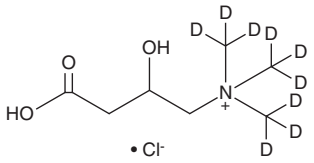
PRODUCT INFORMATION

DL-Carnitine-d_9 (chloride)

Item No. 26566

CAS Registry No.: 1219386-75-0
Formal Name: 3-carboxy-2-hydroxy-N,N,N-tri(methyl-d_3)-1-propanaminium, monochloride
Synonym: (±)-Carnitine-d_9
MF: $C_7H_7D_9NO_3 \bullet Cl$
FW: 206.7
Chemical Purity: ≥95% (Carnitine)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_9); ≤1% d_0
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

DL-Carnitine-d_9 (chloride) is intended for use as an internal standard for the quantification of carnitine (Item Nos. 21489 | 16749) 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).

DL-Carnitine-d_9 (chloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the DL-carnitine-d_9 (chloride) in the solvent of choice. DL-Carnitine-d_9 (chloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of DL-carnitine-d_9 (chloride) in these solvents is approximately 25, 20, and 15 mg/ml, respectively.

Description

DL-Carnitine is a racemic mixture of L- and D-carnitine. Unlike L-carnitine, DL-carnitine (60 and 120 µM) does not increase glucose or urea production from L-glutamine (Item No. 23716) in isolated rat liver and does not compensate for carnitine deficiency in the skeletal muscle of rats receiving a carnitine-deficient diet.[1,2] DL-Carnitine induces tetanic fade in stimulated isolated rat phrenic nerve diaphragm preparations when used at a concentration of 60 µM, an effect that can be blocked by choline.[3]

References

1. Lopes, G., Gazola, V.A., Galende, S.B., *et al.* Comparative acute effects of *l*-carnitine and *dl*-carnitine on hepatic catabolism of *l*-alanine and *l*-glutamine in rats. *Acta Pharmacol. Sin.* **25(10),** 1257-1261 (2004).
2. Spasov, A.A., Iezhitsa, I.N., Kravchenko, M.S., *et al.* Effects of L-, D-, and DL-carnitine on morphometric parameters of skeletal muscle and exercise performance of laboratory animals receiving carnitine-deficient diet. *Bull. Exp. Biol. Med.* **142(4),** 458-460 (2006).
3. Lopes, G., Bazotte, R.B., Curi, R., *et al.* L- and DL-carnitine induce tetanic fade in rat neuromuscular preparation. *Braz. J. Med. Biol. Res.* **36(9),** 1255-1262 (2003).

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