

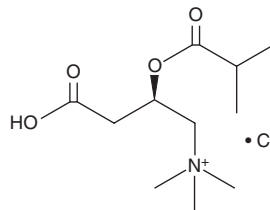
PRODUCT INFORMATION



Isobutyryl-L-carnitine (chloride)

Item No. 37103

CAS Registry No.: 6920-31-6
Formal Name: (2R)-3-carboxy-N,N,N-trimethyl-2-(2-methyl-1-oxopropoxy)-1-propanaminium, monochloride
Synonyms: CAR 4:0, C4:0 Carnitine, L-Carnitine isobutyryl ester, L-Isobutyrylcarnitine, ST 284
MF: C₁₁H₂₂NO₄ • Cl
FW: 267.8
Purity: ≥95%
Supplied as: A crystalline 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

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

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of isobutyryl-L-carnitine (chloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of isobutyryl-L-carnitine (chloride) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Isobutyryl-L-carnitine is a natural 4-carbon acylcarnitine that is involved in fatty acid oxidation and organic acid metabolism.¹ Elevated levels of isobutyryl-L-carnitine are associated with isobutyryl-CoA dehydrogenase deficiency.^{2,3}

References

1. Turer, A.T., Stevens, R.D., Bain, J.R., *et al.* Metabolomic profiling reveals distinct patterns of myocardial substrate use in humans with coronary artery disease or left ventricular dysfunction during surgical ischemia/reperfusion. *Circulation* **119**(13), 1736-1746 (2009).
2. Koeberl, D.D., Young, S.P., Gregersen, N., *et al.* Rare disorders of metabolism with elevated butyryl- and isobutyryl-carnitine detected by tandem mass spectrometry newborn screening. *Pediatr. Res.* **54**(2), 219-223 (2003).
3. Rinaldo, P., Cowan, T.M., and Matern, D. Acylcarnitine profile analysis. *Genet. Med.* **10**(2), 151-156 (2008).

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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