

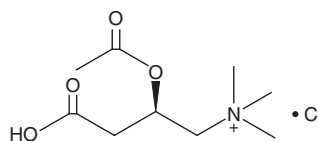
PRODUCT INFORMATION



Acetyl-L-carnitine (chloride)

Item No. 16948

CAS Registry No.: 5080-50-2
Formal Name: 2R-(acetyloxy)-3-carboxy-N,N,N-trimethyl-1-propanaminium, monochloride
Synonyms: ALCAR, L-Acetylcarnitine, C2:0 Carnitine, CAR 2:0, L-Carnitine acetyl ester
MF: C₉H₁₈NO₄ • Cl
FW: 239.7
Purity: ≥98%
UV/Vis.: λ_{max}: 209 nm
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

Acetyl-L-carnitine (chloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the acetyl-L-carnitine (chloride) in the solvent of choice, which should be purged with an inert gas. Acetyl-L-carnitine (chloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of acetyl-L-carnitine (chloride) in ethanol and DMF is approximately 20 mg/ml and approximately 10 mg/ml in DMSO.

Description

Acetyl-L-carnitine is an acetylated form of the essential mitochondrial metabolite L-carnitine (Item No. 21489) that is catabolized by plasma esterases into carnitine.¹⁻³ Acetyl-L-carnitine facilitates the uptake of acetyl-CoA into mitochondria during fatty acid oxidation, enhances acetylcholine production, and stimulates protein and membrane phospholipid synthesis. *In vivo*, acetyl-L-carnitine (100 mg/kg) increases mGlu2/3 receptor protein levels and mechanical pain thresholds in a mouse model of chronic inflammatory pain induced by complete Freund's adjuvant.⁴

References

1. Vaz, F.M. and Wanders, R.J.A. Carnitine biosynthesis in mammals. *Biochem. J.* **361(Pt 3)**, 417-429 (2002).
2. Fu, L., Huang, M., and Chen, S. Primary carnitine deficiency and cardiomyopathy. *Korean. Circ. J.* **43(12)**, 785-792 (2013).
3. Stieger, B., O'Neill, B., and Krähenbühl, S. Characterization of L-carnitine transport by rat kidney brush-border-membrane vesicles. *Biochem. J.* **309(Pt 2)**, 643-647 (1995).
4. Notartomaso, S., Mascio, G., Bernabucci, M., *et al.* Analgesia induced by the epigenetic drug, L-acetylcarnitine, outlasts the end of treatment in mouse models of chronic inflammatory and neuropathic pain. *Mol. Pain* **13**, 1744806917697009 (2017).

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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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD

ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM

WWW.CAYMANCHEM.COM