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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

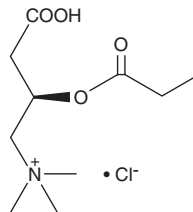
PRODUCT INFORMATION



Propionyl-L-carnitine (chloride)

Item No. 9001873

CAS Registry No.: 119793-66-7
Formal Name: 3-carboxy-N,N,N-trimethyl-2R-(1-oxopropoxy)-1-propanaminium, monochloride
Synonyms: C3 Carnitine, Levocarnitine propionate, L-Propionylcarnitine, ST 261
MF: C₁₀H₂₀NO₄ • Cl
FW: 253.7
Purity: ≥98%
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

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

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 propionyl-L-carnitine (chloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of propionyl-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

Propionyl-L-carnitine is a naturally occurring carnitine derivative formed by carnitine acetyltransferase during β -oxidation of uneven chain fatty acids.¹ Propionyl-L-carnitine increases the basal release of prostaglandin E₂ (PGE₂; Item No. 14010) and 6-keto-prostaglandin F_{1 α} (Item No. 15210) in carrageenan-stimulated isolated rat peritoneal cells contaminated with neutrophils and increases the basal release of thromboxane B₂ (TXB₂; Item No. 19030) in non-contaminated cells.¹ It reduces the production of reactive oxygen species (ROS) and decreases the expression of NADPH oxidase 2 (NOX2), NOX4, and ICAM-1 in human umbilical vein endothelial cells (HUVECs). It also increases the rate of revascularization and the hind limb vascular area in a rabbit model of hind limb ischemia when administered at a dose of 10 mg per animal.² Propionyl-L-carnitine reduces mitochondrial dysfunction induced by ischemia, preventing mitochondrial calcium overload, and depletion of ATP tissue stores in a rabbit model of ischemia.³

References

1. Garrelds, I.M., Elliott, G.R., Pruijboom, W.M., et al. *Mediators Inflamm.* **2(7)**, S57-S62 (1993).
2. Stasi, M.A., Scioli, M.G., Arcuri, G., et al. *Arterioscler. Thromb. Vasc. Biol.* **30(3)**, 426-435 (2010).
3. Ferrari, R., Ceconi, C., Cargnoni, A., et al. *Cardiovasc. Drugs Ther.* **5 (Suppl 1)**, 57-65 (1991).

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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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