

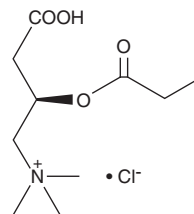
# PRODUCT INFORMATION



## 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:** CAR 3:0, C3:0 Carnitine, L-Carnitine propionyl ester, Levocarnitine propionate, L-Propionylcarnitine, ST 261  
**MF:** C<sub>10</sub>H<sub>20</sub>NO<sub>4</sub> • Cl  
**FW:** 253.7  
**Purity:** ≥98%  
**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

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, which should be purged with an inert gas. Propionyl-L-carnitine (chloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. 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  $\beta$ -oxidation of uneven chain fatty acids.<sup>1</sup> Propionyl-L-carnitine increases the basal release of prostaglandin E<sub>2</sub> (PGE<sub>2</sub>; Item No. 14010) and 6-keto-prostaglandin F<sub>1 $\alpha$</sub>  (Item No. 15210) in carrageenan-stimulated isolated rat peritoneal cells contaminated with neutrophils and increases the basal release of thromboxane B<sub>2</sub> (TXB<sub>2</sub>; Item No. 19030) in non-contaminated cells.<sup>1</sup> 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.<sup>2</sup> 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.<sup>3</sup>

### References

1. Garrelds, I.M., Elliott, G.R., Pruijboom, W.M., *et al.* Effects of carnitine and its congeners on eicosanoid discharge from rat cells: Implications for release of TNF $\alpha$ . *Mediators Inflamm.* **2(7)**, S57-S62 (1993).
2. Stasi, M.A., Scioli, M.G., Arcuri, G., *et al.* Propionyl-L-carnitine improves postischemic blood flow recovery and arteriogenic revascularization and reduces endothelial NADPH-oxidase 4-mediated superoxide production. *Arterioscler. Thromb. Vasc. Biol.* **30(3)**, 426-435 (2010).
3. Ferrari, R., Ceconi, C., Cargnoni, A., *et al.* The effect of propionyl-L-carnitine on the ischemic and reperfused intact myocardium and on their derived mitochondria. *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.

#### WARRANTY AND LIMITATION OF REMEDY

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