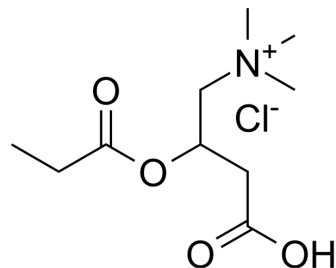


Propionyl-DL-carnitine chloride

Cat. No.:	HY-101018		
CAS No.:	18828-58-5		
Molecular Formula:	C ₁₀ H ₂₀ ClNO ₄		
Molecular Weight:	253.72		
Target:	Endogenous Metabolite		
Pathway:	Metabolic Enzyme/Protease		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

Methanol : 250 mg/mL (985.34 mM; Need ultrasonic)
 DMSO : 100 mg/mL (394.14 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent		1 mg	5 mg	10 mg
	Concentration	Mass			
	1 mM		3.9414 mL	19.7068 mL	39.4135 mL
	5 mM		0.7883 mL	3.9414 mL	7.8827 mL
	10 mM		0.3941 mL	1.9707 mL	3.9414 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Propionyl-DL-carnitine chloride is a carnitine derivative. Propionyl-DL-carnitine chloride can be used for the research of inflammation^{[1][2][3][4]}.

In Vitro

Propionyl-DL-carnitine chloride shows protection to beta-thalassaemic erythrocytes from oxidative stress^[1].
 Propionyl-DL-carnitine chloride increases production of ¹⁴CO₂ from [1-¹⁴C]pyruvate and increases the rate of formation of acetyl carnitine from pyruvate^[2].
 Propionyl-DL-carnitine chloride allows the endothelial cells to maintain their functionality and regulatory role on vessel activity for a longer time and decreases the formation of oxygen reactive species due to xanthine oxidase activity on hypoxanthine formed by adenine nucleotide catabolism^[4].
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Propionyl-DL-carnitine chloride (2 mM/kg; p.o. once daily for 4 weeks) affects plasma and urine total carnitine concentrations of mice^[3].
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Adult age-matched male C57BL/6 mice ^[3]
Dosage:	2 mM/kg
Administration:	Oral gavage; 2 mM/kg/day for 4 weeks
Result:	Increased plasma and urine total carnitine concentrations, but showed no effect on the skeletal muscle carnitine content of mice.

REFERENCES

- [1]. Palmieri L, et al. Protection of beta-thalassaemic erythrocytes from oxidative stress by propionyl carnitine. *Int J Tissue React.* 1994;16(3):121-9.
- [2]. Tassani V, et al. Anaplerotic effect of propionyl carnitine in rat heart mitochondria. *Biochem Biophys Res Commun.* 1994 Mar 15;199(2):949-53.
- [3]. Morand R, et al. Effect of carnitine, acetyl-, and propionylcarnitine supplementation on the body carnitine pool, skeletal muscle composition, and physical performance in mice. *Eur J Nutr.* 2014 Sep;53(6):1313-25.
- [4]. Bertelli A, et al. Effect of propionyl carnitine on energy charge and adenine nucleotide content of cardiac endothelial cells during hypoxia. *Int J Tissue React.* 1991;13(1):37-40.
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Caution: Product has not been fully validated for medical applications. For research use only.

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