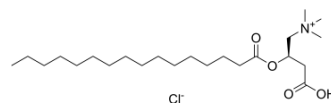


## L-Palmitoylcarnitine chloride

<b>Cat. No.:</b>	HY-113147A		
<b>CAS No.:</b>	18877-64-0		
<b>Molecular Formula:</b>	C <sub>23</sub> H <sub>46</sub> ClNO <sub>4</sub>		
<b>Molecular Weight:</b>	436.07		
<b>Target:</b>	Potassium Channel; Endogenous Metabolite		
<b>Pathway:</b>	Membrane Transporter/Ion Channel; Metabolic Enzyme/Protease		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : 50 mg/mL (114.66 mM; Need ultrasonic)  
 H<sub>2</sub>O : < 0.1 mg/mL (insoluble)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.2932 mL	11.4660 mL	22.9321 mL
	5 mM	0.4586 mL	2.2932 mL	4.5864 mL
	10 mM	0.2293 mL	1.1466 mL	2.2932 mL

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

#### In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
 Solubility: 2.08 mg/mL (4.77 mM); Suspended solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
 Solubility: 2.08 mg/mL (4.77 mM); Suspended solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
 Solubility: 2.08 mg/mL (4.77 mM); Clear solution; Need ultrasonic

### BIOLOGICAL ACTIVITY

#### Description

L-Palmitoylcarnitine chloride, a long-chain acylcarnitine and a fatty acid metabolite, accumulates in the sarcolemma and deranges the membrane lipid environment during ischaemia. L-Palmitoylcarnitine chloride inhibits K<sub>ATP</sub> channel activity, without affecting the single channel conductance, through interaction with Kir6.2<sup>[1]</sup>.

#### IC<sub>50</sub> & Target

Kir6.2 Human Endogenous Metabolite

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## In Vitro

L-Palmitoylcarnitine (1  $\mu\text{M}$ ) inhibits KATP channel activity, without affecting the single channel conductance, through interaction with Kir6.2. L-Palmitoylcarnitine simultaneously enhances the ATP sensitivity of the channel ( $\text{IC}_{50}$  fell from 62 to 30  $\mu\text{M}$ )<sup>[1]</sup>.

Modulation of the membrane lipid environment caused by L-Palmitoylcarnitine alters the  $\text{K}_{\text{ATP}}$  channel function mainly through the interaction with endogenous PI cascade, especially  $\text{PIP}_2$ <sup>[1]</sup>.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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## REFERENCES

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[1]. Haruna T, et al. Alteration of the membrane lipid environment by L-palmitoylcarnitine modulates K(ATP) channels in guinea-pig ventricular myocytes. Pflugers Arch. 2000;441(2-3):200-207.

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**Caution: Product has not been fully validated for medical applications. For research use only.**

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