L-Palmitoylcarnitine TFA

Cat. No.: HY-113147B

Molecular Formula: $C_{25}H_{46}F_3NO_6$

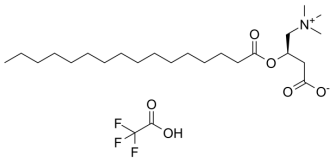
Molecular Weight: 513.63

Target: Endogenous Metabolite; Potassium Channel

Pathway: Metabolic Enzyme/Protease; Membrane Transporter/Ion Channel

Storage: 4°C, sealed storage, away from moisture

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (194.69 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.9469 mL	9.7346 mL	19.4693 mL
	5 mM	0.3894 mL	1.9469 mL	3.8939 mL
	10 mM	0.1947 mL	0.9735 mL	1.9469 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (4.87 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (4.87 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (4.87 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

L-Palmitoylcarnitine TFA, a long-chain acylcarnitine and a fatty acid metabolite, accumulates in the sarcolemma and deranges the membrane lipid environment during ischaemia. L-Palmitoylcarnitine TFA inhibits K_{ATP} channel activity, without affecting the single channel conductance, through interaction with Kir6.2[1].

IC_{50} & Target

Human Endogenous Metabolite

In Vitro

L-Palmitoylcarnitine (1 μM) inhibits K_{ATP} channel activity, without affecting the single channel conductance, through interaction with Kir6.2. L-Palmitoylcarnitine simultaneously enhances the ATP sensitivity of the channel (IC_{50} fell from 62 to 30 μM)[1].

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

REFERENCES

[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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