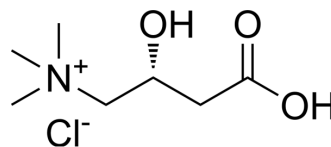


L-Carnitine hydrochloride

Cat. No.:	HY-B2246
CAS No.:	6645-46-1
Molecular Formula:	C ₇ H ₁₆ ClNO ₃
Molecular Weight:	197.66
Target:	Endogenous Metabolite
Pathway:	Metabolic Enzyme/Protease
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	H ₂ O : 250 mg/mL (1264.80 mM; Need ultrasonic)						
	Preparing Stock Solutions	Solvent Concentration	Mass	1 mg	5 mg	10 mg	
				1 mM	5.0592 mL	25.2960 mL	50.5919 mL
				5 mM	1.0118 mL	5.0592 mL	10.1184 mL
				10 mM	0.5059 mL	2.5296 mL	5.0592 mL
Please refer to the solubility information to select the appropriate solvent.							
In Vivo	1. Add each solvent one by one: PBS Solubility: 50 mg/mL (252.96 mM); Clear solution; Need ultrasonic						

BIOLOGICAL ACTIVITY

Description	L-Carnitine hydrochloride ((R)-Carnitine hydrochloride), a highly polar, small zwitterion, is an essential co-factor for the mitochondrial β-oxidation pathway. L-Carnitine hydrochloride functions to transport long chain fatty acyl-CoAs into the mitochondria for degradation by β-oxidation. L-Carnitine hydrochloride is an antioxidant. L-Carnitine hydrochloride can ameliorate metabolic imbalances in many inborn errors of metabolism ^{[1][2][3]} .	
IC ₅₀ & Target	Human Endogenous Metabolite	
In Vivo	L-Carnitine hydrochloride ((R)-Carnitine hydrochloride) (125, 250 mg/kg; i.p.) has a more pronounced bronchodilator effect in this chronic murine asthma model, and decreases urinary LTE4 excretion ^[2] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
	Animal Model:	8- to 10-weeks-old and weighed 28-30g BALB/c mice ^[2]

Dosage:	125, 250 mg/kg
Administration:	i.p.
Result:	SaO ₂ increased significantly at 250 mg/kg and decreased urinaryLTE4 excretion.

CUSTOMER VALIDATION

- Cell Metab. 2019 Jul 2;30(1):157-173.e7
- Nat Commun. 2022 Jun 17;13(1):3486.
- Biomed Pharmacother. 2020 Sep;129:110506.
- Free Radic Biol Med. 2024 Jan 19:S0891-5849(24)00017-0.
- Environ Sci Pollut Res Int. 2018 Feb;25(4):3765-3774.

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REFERENCES

- [1]. Agarwal A, et al. Role of L-carnitine in female infertility. *eprod Biol Endocrinol*. 2018 Jan 26;16(1):5.
- [2]. Ferreira GC, et al. L-Carnitine and Acetyl-L-carnitine Roles and Neuroprotection in Developing Brain. *Neurochem Res*. 2017 Jun;42(6):1661-1675.
- [3]. Uzuner N, et al. The role of L-carnitine in treatment of a murine model of asthma. *Acta Med Okayama*. 2002 Dec;56(6):295-301.

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

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