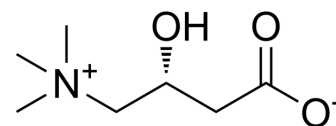


L-Carnitine

Cat. No.:	HY-B0399
CAS No.:	541-15-1
Molecular Formula:	C ₇ H ₁₅ NO ₃
Molecular Weight:	161.2
Target:	Endogenous Metabolite
Pathway:	Metabolic Enzyme/Protease
Storage:	4°C, stored under nitrogen * In solvent : -80°C, 6 months; -20°C, 1 month (stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro	H ₂ O : ≥ 50 mg/mL (310.17 mM) * "≥" means soluble, but saturation unknown.					
	Preparing Stock Solutions	Solvent	Mass	1 mg	5 mg	10 mg
		Concentration				
		1 mM		6.2035 mL	31.0174 mL	62.0347 mL
		5 mM		1.2407 mL	6.2035 mL	12.4069 mL
10 mM		0.6203 mL	3.1017 mL	6.2035 mL		
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	1. Add each solvent one by one: PBS Solubility: 100 mg/mL (620.35 mM); Clear solution; Need ultrasonic					

BIOLOGICAL ACTIVITY

Description	L-Carnitine ((R)-Carnitine), a highly polar, small zwitterion, is an essential co-factor for the mitochondrial β-oxidation pathway. L-Carnitine functions to transport long chain fatty acyl-CoAs into the mitochondria for degradation by β-oxidation. L-Carnitine is an antioxidant. L-Carnitine can ameliorate metabolic imbalances in many inborn errors of metabolism ^{[1][2][3]} .
IC₅₀ & Target	Human Endogenous Metabolite
In Vivo	L-Carnitine ((R)-Carnitine) (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.

CUSTOMER VALIDATION

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

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