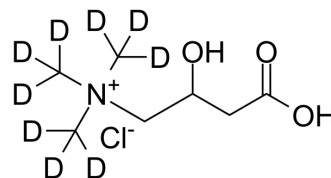


(±)-Carnitine-d9 chloride

Cat. No.:	HY-B1453S1
CAS No.:	1219386-75-0
Molecular Formula:	C ₇ H ₇ D ₉ ClNO ₃
Molecular Weight:	206.72
Target:	Reactive Oxygen Species
Pathway:	Immunology/Inflammation; Metabolic Enzyme/Protease; NF-κB
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 : 50 mg/mL (241.87 mM; Need ultrasonic)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM	4.8375 mL	24.1873 mL	48.3746 mL
		5 mM	0.9675 mL	4.8375 mL	9.6749 mL
		10 mM	0.4837 mL	2.4187 mL	4.8375 mL
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	<ol style="list-style-type: none"> Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.5 mg/mL (12.09 mM); Suspended solution Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.5 mg/mL (12.09 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.5 mg/mL (12.09 mM); Clear solution 				

BIOLOGICAL ACTIVITY

Description	(±)-Carnitine-d9 (DL-Carnitine-d9) chloride is the deuterium labeled (±)-Carnitine chloride. (±)-Carnitine chloride exists in two isomers, known as D and L. L-carnitine plays an essential role in the β-oxidation of fatty acids and also shows antioxidant, and anti-inflammatory activities.
In Vitro	<p>Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs^[1].</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>

REFERENCES

- [1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother*. 2019;53(2):211-216.
- [2]. Oyanagi E, et al. Protective action of L-carnitine on cardiac mitochondrial function and structure against fatty acidstress. *Biochem Biophys Res Commun*. 2011 Aug 19;412(1):61-7.
- [3]. Li J, et al. L-carnitine protects human hepatocytes from oxidative stress-induced toxicity through Akt-mediated activation of Nrf2 signaling pathway. *Can J Physiol Pharmacol*. 2016 May;94(5):517-25.
- [4]. Jang J, et al. L-Carnitine supplement reduces skeletal muscle atrophy induced by prolonged hindlimb suspension in rats. *Appl Physiol Nutr Metab*. 2016 Dec;41(12):1240-1247.
- [5]. Zambrano S, et al. L-carnitine attenuates the development of kidney fibrosis in hypertensive rats by upregulating PPAR- γ . *Am J Hypertens*. 2014 Mar;27(3):460-70.
-

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA