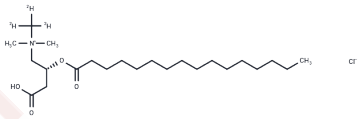
Data Sheet (Cat.No.TMID-0040)

TargetMol

Palmitoyl L-Carnitine-D3 hydrochloride

Chemical Properties



CAS No. : 1334532-26-1

Formula: C23H43D3ClNO4

Molecular Weight: 439.09

Storage: Keep away from moisture
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Palmitoyl L-Carnitine-d3 Hydrochloride is a deuterated derivative of Palmitoyl L-carnitine. Palmitoyl L-carnitine is a long-chain acylcarnitine formed from palmitic acid and carnitine, playing a pivotal role in mitochondrial fatty acidβ-oxidation and energy metabolism. Under pathological conditions such as myocardial ischemia, it accumulates within cell membranes. Research indicates that it alters the membrane lipid environment and modulates KATP channels, thereby affecting the electrophysiological properties of myocytes. As a deuterated internal standard, this compound is primarily utilized in mass spectrometry-based (LC-MS/MS) quantitative analysis, leveraging the kinetic isotope effect (KIE) to enhance precision in pharmacokinetic studies.

Solubility Information

Solubility	Ethanol: 16 mg/mL (36.44 mM),Sonication is recommended. DMSO: 8 mg/mL (18.22 mM),Sonication is recommended. H2O: 20 mg/mL (45.55 mM),Sonication is recommended. DMF: 16 mg/mL (36.44 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.2774 mL	11.3872 mL	22.7744 mL
5 mM	0.4555 mL	2.2774 mL	4.5549 mL
10 mM	0.2277 mL	1.1387 mL	2.2774 mL
50 mM	0.0455 mL	0.2277 mL	0.4555 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019;53(2):211-216.

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.

Tel:781-999-4286 E_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481