For Research Use Only

(±)-Carnitine chloride

www.ptgcn.com

Catalog Number: CM05513

产品信息

Catalog Number:
CM05513

CAS号:
461-05-2

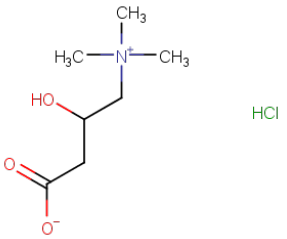
分子式:
$C_7H_{15}NO_3 \cdot HCl$

主要靶点:
Reactive Oxygen Species

主要通路:
代谢|NF-κB信号通路|免疫与炎症

分子量:
197.66

溶解度:
H2O:37 mg/mL (187.2 mM),Ethanol:<1 mg/mL,DMSO:38 mg/mL (192.2 mM)



体外活性

The main effect of L-carnitine is to shuttle long-chain fatty acids across the inner mitochondrial membrane. After L-carnitine and acyl-CoA become acyl-carnitine by activation of carnitine palmitoyl transferase (CPT)-I, the transported acyl-carnitine is changed into acyl-CoA by CPT-II in the mitochondria matrix. Palmitoyl-CoA-induced mitochondrial respiration is increased by L-carnitine treatment, and then is accelerated by the presence of ADP. This acceleration is induced by treatment with L-carnitine in a concentration-dependent manner, and is saturated at 5 mM L-carnitine[1]. Pretreatment with L-carnitine augments Nrf2 nuclear translocation, DNA binding activity and heme oxygenase-1 (HO-1) expression in Water2-treated HL7702 cells. L-carnitine protects HL7702 cells against Water2-induced cell damage through Akt-mediated activation of Nrf2 signaling pathway[2].

体内活性

L-carnitine is found to down-regulate the ubiquitin proteasome pathway and increase IGF-1 concentrations in animal models. L-carnitine administration for 2 weeks of hindlimb suspension alleviates the decrease in weight and fiber size in the soleus muscle. Moreover, L-carnitine suppresses atrogin-1 mRNA expression, which has been reported to play a pivotal role in muscle atrophy[3]. Simultaneous treatment with L-carnitine attenuates the renal fibrosis (which correlated with a reduction of plasma TGF-β1 levels) and the pro-oxidative and proinflammatory status reported in L-NAME groups, with a concomitant increase in the expression of PPAR-γ [4].

描述

(±)-Carnitine chloride (Monocamin) is a quaternary ammonium compound biosynthesized from the amino acids lysine and methionine.

储存

Powder: -20°C for 3 years | In solvent: -80°C for 2 years