Actinine chloride

Cat. No.: HY-113270A

CAS No.: 6249-56-5

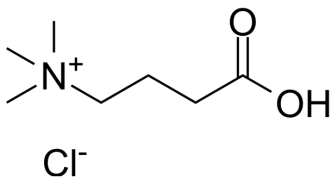
Molecular Formula: $C_7H_{16}ClNO_2$

Molecular Weight: 181.66

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_2O : 100 mg/mL (550.48 mM; Need ultrasonic)
DMSO : 30 mg/mL (165.14 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	5.5048 mL	27.5239 mL	55.0479 mL
5 mM	1.1010 mL	5.5048 mL	11.0096 mL
10 mM	0.5505 mL	2.7524 mL	5.5048 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (13.76 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (13.76 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (13.76 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Actinine (γ-Butyrobetaine) chloride is angiopathic substance produced as an intermediary metabolite by gut microbiota that feed on carnitine in dietary red meat.

In Vivo

(3-Carboxypropyl)trimethylammonium chloride is produced as an intermediary metabolite by gut microbes of L-Carnitine to TMAO[1]. (3-Carboxypropyl)trimethylammonium chloride is implicated in arteriosclerosis and long-term cardiovascular death[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Koeth RA, et al. γ-Butyrobetaine is a proatherogenic intermediate in gut microbial metabolism of L-carnitine to TMAO. Cell Metab. 2014 Nov 4;20(5):799-812.

[2]. Susumu Ogawa, et al. The Dynamics of Carnitine, γ-butyrobetaine and Trimethylamine N-oxide in Diabetics and the Effects of Changes in Renal Function. Ogawa et al., J Nephrol Ren Dis 2017, 1:2

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