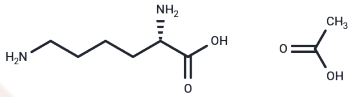
Data Sheet (Cat.No.T2A2498L2)

TargetMol

L-Lysine acetate

Chemical Properties



CAS No. : 57282-49-2

Formula: C8H18N2O4

Molecular Weight: 206.24

Storage: Keep away from direct sunlight
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	L-Lysine acetate is an essential amino acid for humans. Owing to its unique biological properties, it can be used in mechanistic investigations and research related to vascular calcification (VC) and acute pancreatitis.
Targets(IC50)	Endogenous Metabolite
In vitro	Methods: Vascular smooth muscle cells (VSMCs) were used as the research object and treated with L-Lysine acetate. Results: L-Lysine acetate decreased plasma iPTH levels and increased plasma concentrations of alanine, proline, arginine and homoarginine, thereby inhibiting apoptosis and mineral deposition in VSMCs. Methods: A systematic analysis was performed on the biological functions and pathological significance of the AKT signaling pathway. Results: AKT mediates cell survival and proliferation by inhibiting pro-apoptotic pathways. Dysregulation of the AKT signaling cascade is observed in various cancers and is associated with tumor invasiveness. Abnormal AKT function enhances cell proliferation, growth and survival, and induces apoptosis resistance. AKT1-related inhibitors can facilitate cancer-related research [1].
In vivo	Methods: Adenine-induced rats were orally administered L-Lysine acetate (40 μg/kg; p.o.) by gavage. Results: L-Lysine acetate ameliorated arterial calcification in adenine-treated rats and protected their femurs against osteoporotic lesions [1]. Methods: Male mice were given L-Lysine acetate (10, 400 mg/kg; i.g., p.o.) by gavage and oral administration, respectively. Results: L-Lysine acetate inhibited pancreatic tissue damage [2].

Solubility Information

Solubility	H2O: 93.34 mg/mL (452.58 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.8487 mL	24.2436 mL	48.4872 mL
5 mM	0.9697 mL	4.8487 mL	9.6974 mL
10 mM	0.4849 mL	2.4244 mL	4.8487 mL
50 mM	0.097 mL	0.4849 mL	0.9697 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

Shimomura A, et, al. Dietary L-lysine prevents arterial calcification in adenine-induced uremic rats. J Am Soc Nephrol. 2014 Sep;25(9):1954-65.

Al-Malki AL. Suppression of acute pancreatitis by L-lysine in mice. BMC Complement Altern Med. 2015 Jun 23;15:193.

Zhao L, Duan YT, Wang JL, Lu P, Zhang ZJ, Zheng XK, Feng WS. Epigenetic Targets and Their Inhibitors in Cancer Therapy. Curr Top Med Chem. 2018 Dec 23. doi: 10.2174/1568026619666181224095449. [Epub ahead of print] PubMed PMID: 30582481.

Li Y, He Q, Du S, Guo S, Geng Z, Deng Z. Study of Methanol Extracts from Different Parts of Peganum harmala L. Using (1)H-NMR Plant Metabolomics. J Anal Methods Chem. 2018 Nov 18;2018:6532789. doi: 10.1155/2018/6532789. eCollection 2018. PubMed PMID: 30581649; PubMed Central PMCID: PMC6276451.