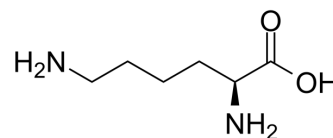


L-Lysine

Cat. No.:	HY-N0469		
CAS No.:	56-87-1		
Molecular Formula:	C ₆ H ₁₄ N ₂ O ₂		
Molecular Weight:	146.19		
Target:	Endogenous Metabolite; Virus Protease		
Pathway:	Metabolic Enzyme/Protease; Anti-infection		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro	H ₂ O : 100 mg/mL (684.04 mM; Need ultrasonic)			
	DMSO : < 1 mg/mL (ultrasonic;warming;heat to 80°C) (insoluble or slightly soluble)			
		Solvent	Mass	
		Concentration		
Preparing Stock Solutions		1 mg	5 mg	10 mg
	1 mM	6.8404 mL	34.2021 mL	68.4041 mL
	5 mM	1.3681 mL	6.8404 mL	13.6808 mL
	10 mM	0.6840 mL	3.4202 mL	6.8404 mL
Please refer to the solubility information to select the appropriate solvent.				
In Vivo	1. Add each solvent one by one: PBS Solubility: ≥ 100 mg/mL (684.04 mM); Clear solution			

BIOLOGICAL ACTIVITY

Description	L-lysine, an essential amino acid for humans ^{[1][2]} , offers numerous benefits and can be used in herpes research. Additionally, L-lysine enhances calcium absorption, reduces diabetes-related complications, improves gut health, and alleviates pancreatitis inflammation ^{[2][3]} .	
IC₅₀ & Target	Microbial Metabolite	Human Endogenous Metabolite
In Vivo	L-lysine (10 mg/kg, p.o., pre-treated or post-treated) treatment attenuates pancreatic tissue injury induced by L-arginine by inhibiting the release of the inflammatory cytokine IL-6 and enhance antioxidant activity in acute pancreatitis mice model ^[3] . L-lysine (5 or 10 mg/kg, p.o., 45 days) significantly ameliorates these proinflammatory changes and is effective against sepsis-induced Acute Lung Injury in the Lipopolysaccharide (HY-D1056)-induced mouse model ^[4] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.	

Animal Model:	Acute pancreatitis mice model ^[3]
Dosage:	10 mg/kg
Administration:	Oral gavage (p.o.), pre-treated or post-treated
Result:	Led to significant decreases in the levels of malondialdehyde and nitric oxide, while significant enhancement was observed in the activities of antioxidant enzymes (superoxide dismutase, catalase, and glutathione peroxidase) and glutathione (p < 0.001).
Animal Model:	a Lipopolysaccharide (HY-D1056) -induced mouse model ^[4]
Dosage:	5 mg/kg, 10 mg/kg
Administration:	Oral gavage (p.o.), 45 days
Result:	Significantly reduced lipid peroxidation, total protein content, lung tissue wet/dry ratio, tumor necrosis factor-alpha, interleukin-8, and macrophage inhibitory factor levels, myeloperoxidase activity, as well as total cell, neutrophil, and lymphocyte counts. Additionally, L-lysine increased the levels of reduced glutathione and the activities of glutathione peroxidase, superoxide dismutase, and catalase.

CUSTOMER VALIDATION

- Microbiome. 2019 Mar 20;7(1):43.
- J Anim Physiol Anim Nutr. 2022 Aug 3.
- Laurea Magistrale in Biomedical Engineering, Politecnico di Milano. 2019 Jun.

See more customer validations on www.MedChemExpress.com

REFERENCES

- [1]. Al-Malki AL. Suppression of acute pancreatitis by L-lysine in mice. BMC Complement Altern Med. 2015 Jun 23;15:193.
- [2]. Santos AMD, et al. Transitional metaplasia in intestinal epithelium of rats submitted to intestinal cystoplasty and treatment with L -lysine. Acta Cir Bras. 2017 Apr;32(4):297-306.
- [3]. Al-Malki AL. Suppression of acute pancreatitis by L-lysine in mice. BMC Complement Altern Med. 2015, 23;15:193
- [4]. Zhang Y, et al. L-lysine ameliorates sepsis-induced acute lung injury in a lipopolysaccharide-induced mouse model. Biomed Pharmacother. 2019 Oct;118:109307.

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