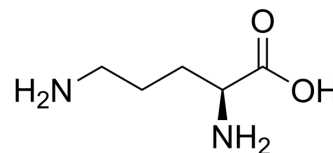


L-Ornithine

Cat. No.:	HY-B1352
CAS No.:	70-26-8
Molecular Formula:	C ₅ H ₁₂ N ₂ O ₂
Molecular Weight:	132.16
Target:	Endogenous Metabolite; Arginase
Pathway:	Metabolic Enzyme/Protease; Immunology/Inflammation
Storage:	4°C, sealed storage, away from moisture and light * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

H₂O : 50 mg/mL (378.32 mM; Need ultrasonic)
DMSO : < 1 mg/mL (ultrasonic;warming;heat to 60°C) (insoluble or slightly soluble)

	Solvent Concentration	Mass	1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM		7.5664 mL	37.8321 mL	75.6641 mL
	5 mM		1.5133 mL	7.5664 mL	15.1328 mL
	10 mM		0.7566 mL	3.7832 mL	7.5664 mL

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

BIOLOGICAL ACTIVITY

Description	L-Ornithine ((S)-2,5-Diaminopentanoic acid) is a non-proteinogenic amino acid, is mainly used in urea cycle removing excess nitrogen in vivo. L-Ornithine shows nephroprotective ^{[1][2]} .	
IC ₅₀ & Target	Human Endogenous Metabolite	Microbial Metabolite
In Vitro	L-Ornithine (0-10 mM) activates the CaSR in a concentration-dependent manner and exerts effects on Ca²⁺ signaling in HK-2 cells^[2]. L-Ornithine (10 mM) activates TRPC channels mediated Ca²⁺ entry pathway in HK-2 cells^[2]. L-Ornithine (100 or 300 μM; 24 h) shows the protection against ROS generation in HK-2 cells via ROCE pathway^[2]. L-Ornithine (10 μM) can protect the ROS and oxidative damage in HK-2 cells exposed to H₂O₂^[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.	

CUSTOMER VALIDATION

- Nature. 2024 Dec 18.
- PLoS Biol. 2024 June 27.
- Molecules. 2025 Mar 9;30(6):1224.
- Molecules. 2023 Apr 11, 28(8), 3375.
- Amino Acids. 2024 Sep 18;56(1):56.

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REFERENCES

[1]. Demura S, et al. Effect of L-ornithine hydrochloride ingestion on intermittent maximal anaerobic cycle ergometer performance and fatigue recovery after exercise. Eur J Appl Physiol. 2011 Nov;111(11):2837-43.

[2]. Shin S, et al. L-ornithine activates Ca²⁺ signaling to exert its protective function on human proximal tubular cells. Cell Signal. 2020 Mar;67:109484.

Caution: Product has not been fully validated for medical applications. For research use only.

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