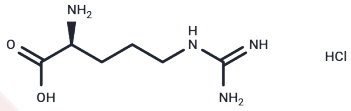
Data Sheet (Cat.No.T0670)

TargetMol

L-Arginine hydrochloride

Chemical Properties



CAS No. : 1119-34-2

Formula: C6H15ClN4O2

Molecular Weight: 210.66

Storage: 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-Arginine hydrochloride serve as substrates and nitrogen donors for endothelial nitric oxide synthase (eNOS) to produce nitric oxide (NO). They are transported into vascular smooth muscle cells via cationic amino acid transporters, where they are metabolized into NO, polyamines, or L-proline. As effective vasodilators, they are commonly used to induce experimental acute pancreatitis models.
Targets(IC50)	Amino Acids and Derivatives,Endogenous Metabolite,NO Synthase
In vitro	In individuals with sickle cell anemia, oral administration of L-Arginine (0.1 g/kg) significantly reduces pulmonary arterial systolic pressure after 5 days. Continuous treatment with L-Arginine (4 mg/kg per minute for 1 hour) in rabbit limbs subjected to regional ischemia/reperfusion reduced superoxide production by cNOS, thereby increasing NO accumulation. In SV-129 mice, subcutaneous injection of L-Arginine (2 mg/kg) resulted in the upregulation of eNOS.
In vivo	Treatment with L-Arginine (0.3 mM) for 30 minutes significantly increases nitric oxide (NO) production in bovine aortic endothelial cells exposed to n-LDL and oxidized-LDL.

Solubility Information

Solubility	DMSO: Insoluble, H2O: 255 mg/mL (1210.48 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.747 mL	23.7349 mL	47.4699 mL
5 mM	0.9494 mL	4.747 mL	9.494 mL
10 mM	0.4747 mL	2.3735 mL	4.747 mL
50 mM	0.0949 mL	0.4747 mL	0.9494 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

Vergnani L, et al. Circulation, 2000, 01(11), 1261-1266.
Huk I, et al. Circulation, 1997, 96(2), 667-675.
Morris CR, et al. Am J Respir Crit Care Med, 2003, 168(1), 63-69.
Bakker J, et al. Crit Care Med, 2004, 32(1), 1-12.
Yamada M, et al. J Cereb Blood Flow Metab, 2000, 20(4), 709-717.