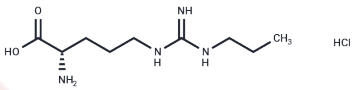
Data Sheet (Cat.No.T38017)

TargetMol

Nω-Propyl-L-arginine hydrochloride

Chemical Properties



CAS No. : 2321366-46-3

Formula: C9H21ClN4O2

Molecular Weight: 252.74

Storage: Store at low temperature
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	Nω-Propyl-L-arginine hydrochloride is a highly selective and competitive neuronal nitric oxide synthase inhibitor with nanomolar affinity and marked selectivity over endothelial nitric oxide synthase, making Nω-Propyl-L-arginine hydrochloride a precise pharmacological tool for investigating nitric oxide signaling, neuronal regulation, and neurovascular function.
Targets(IC50)	NOS
In vivo	In male NMRI mice, systemic administration of Nω-Propyl-L-arginine hydrochloride (20 mg/kg, i.p.) modulates behavioral responses in models of psychiatric impairment. The compound blocks behavioral deficits induced by Phencyclidine (PCP), specifically reducing PCP-induced disruptions in prepulse inhibition (PPI), a measure of sensorimotor gating. Additionally, it reduces the stimulation of locomotor activity caused by PCP. Beyond neurobehavioral models, the substance is used in renal physiology to study the regulation of renal blood flow and interstitial nitric oxide levels, helping to clarify the role of nNOS in kidney function [2][3].

Solubility Information

Solubility	DMSO: 20 mg/mL (79.13 mM),Sonication is recommended. H2O: 20 mg/mL (79.13 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.9566 mL	19.7832 mL	39.5664 mL
5 mM	0.7913 mL	3.9566 mL	7.9133 mL
10 mM	0.3957 mL	1.9783 mL	3.9566 mL
50 mM	0.0791 mL	0.3957 mL	0.7913 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

Kakoki et al (2001) The influence of nitric oxide synthase 1 on blood flow and interstitial nitric oxide in the kidney. Am. J. Physiol. Regul. Integr. Comp. Physiol.
Zhang et al (1997) Potent and selective inhibition of neuronal nitric oxide synthase by Nω-propyl-L-arginine. J. Med. Chem.
Klamer D, et al. The neuronal selective nitric oxide synthase inhibitor, Nomega-propyl-L-arginine, blocks the effects of phencyclidine on prepulse inhibition and locomotor activity in mice. Eur J Pharmacol. 2004 Oct 25;503(1-3):103-7.

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