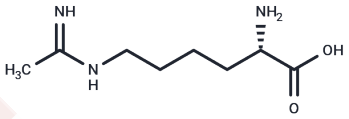
Data Sheet (Cat.No.T11805)

TargetMol

L-NIL

Chemical Properties



CAS No. : 53774-63-3

Formula: C8H17N3O2

Molecular Weight: 187.24

Appearance: no data available

Storage: store at low temperature,keep away from moisture
Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	L-NIL is a selective nitric oxide synthase (iNOS) inhibitor that reverses burn-induced activation of glycogen synthase kinase-3β in rat skeletal muscle and may slow the progression of squamous cell carcinoma lung.
Targets(IC50)	NOS
In vitro	The IC50 values of L-NIL for miNOS and rcNOS were 3.3 and 92 pM, respectively, indicating that L-NIL was 28-fold more selective for miNOS. In addition, the potency of L-NIL on miNOS was approximately 6 times higher than that of L-NMA or L-NNA, and L-NIL produced concentration-dependent inhibition of both inducible NOS (miNOS) in mice and constitutive NOS (rcNOS) in the rat brain, with a higher potency on miNOS [1].
In vivo	L-NIL protects the integrity of the tarsal, talus and calcaneus bones as well as the soft tissue surrounding the joint, while adjuvant controls exhibit severe deterioration of these bones and dramatic soft tissue swelling. L-NIL limits progression of preexisting atherosclerosis in hypercholesterolemic rabbits. Increased intimal collagen accumulation may participate in iNOS-induced atherosclerosis progression.L-NIL may prove particularly useful in determining the role of nitric oxide production by inducible NOS in models of chronic inflammation (e.g., adjuvant arthritis). L-NIL suppresses the increase in plasma nitrite levels and joint inflammation associated with adjuvant-induced arthritis in a dose-dependent manner. L-NIL attenuates the inducible nitric oxide synthase immunoreactivity in adjuvant-treated rats[2];L-NIL (10 and 30 mg/kg, IP) prevents inflammation, oxidative stress and autophagy induced by renal IR in mice.[4]

Solubility Information

Solubility	DMSO: < 1 mg/mL (insoluble or slightly soluble), H2O: 30 mg/mL (160.22 mM),Sonification is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.3407 mL	26.7037 mL	53.4074 mL
5 mM	1.0681 mL	5.3407 mL	10.6815 mL
10 mM	0.5341 mL	2.6704 mL	5.3407 mL
50 mM	0.1068 mL	0.5341 mL	1.0681 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.

Reference

Moore WM, et al. L-N6-(1-iminoethyl)lysine: a selective inhibitor of inducible nitric oxide synthase. J Med Chem. 1994 Nov 11;37(23):3886-8.

Connor JR, et al. Suppression of adjuvant-induced arthritis by selective inhibition of inducible nitric oxide synthase. Eur J Pharmacol. 1995 Jan 24;273(1-2):15-24.

Behr-Roussel D, et al. Effect of chronic treatment with the inducible nitric oxide synthase inhibitor N-iminoethyl-L-lysine or with L-arginine on progression of coronary and aortic atherosclerosis in hypercholesterolemic rabbits. Circulation. 2000 Aug 29;102(9):1033-8.

Pasten C, et al. l-NIL prevents the ischemia and reperfusion injury involving TLR-4, GST, clusterin, and NFAT-5 in mice. Am J Physiol Renal Physiol. 2019 Apr 1;316(4):F624-F634.