

L-NMMA acetate

Chemical Properties

CAS No. : 53308-83-1

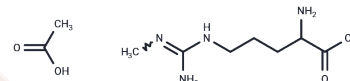
Formula: C₉H₂₀N₄O₄

Molecular Weight: 248.28

Store under nitrogen, Store at low temperature

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-NMMA acetate (Tilarginine acetate) is an inhibitor of nitric oxide synthase of all NOS isoforms (i.e. NOS1, NOS2, and NOS3). The Ki values are 0.18, 0.4, and 6 μ M for nNOS, eNOS, and iNOS, respectively.
Targets(IC50)	NOS, Endogenous Metabolite, NO Synthase
In vitro	L-NMMA selectively inhibits vasodilator responses to endothelium-dependent ACh without affecting responses to endothelium-independent NP and does not alter isoprenaline-induced relaxation. Its inhibitory action remains unaffected by D-arginine but is countered by L-arginine (L-Arg). L-NMMA initiates a concentration-dependent decrease in vasodilation (2Hz) starting at 100 μ M, achieving maximum inhibition around 35% at 1 mM. It reduces arteriolar diameter and increases arteriolar tone in a dose-dependent manner with an immediate onset of action. Moreover, L-NMMA significantly enhances NE-induced vasoconstriction.

Solubility Information

Solubility	H ₂ O: 24.83 mg/mL (100.01 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.0277 mL	20.1386 mL	40.2771 mL
5 mM	0.8055 mL	4.0277 mL	8.0554 mL
10 mM	0.4028 mL	2.0139 mL	4.0277 mL
50 mM	0.0806 mL	0.4028 mL	0.8055 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

Maggi CA, et al. Effect of NG-monomethyl L-arginine (L-NMMA) and NG-nitro L-arginine (L-NOARG) on non-adrenergic non-cholinergic relaxation in the circular muscle of the human ileum. *Br J Pharmacol.* 1991 Aug;103(4):1970-2.

Nakamura T, et al. Effect of NG-monomethyl-L-arginine on arcade arterioles of rat spinotrapezius muscles. *Am J Physiol.* 1991 Jul;261(1 Pt 2):H46-52.

Frey C, et al. L-thiocitrulline. A stereospecific, heme-binding inhibitor of nitric-oxide synthases. *J Biol Chem.* 1994 Oct 21;269(42):26083-91.

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