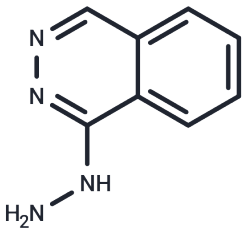
Data Sheet (Cat.No.T1613)

TargetMol

Hydralazine hydrochloride

Chemical Properties



CAS No. : 304-20-1

Formula: C8H9ClN4

Molecular Weight: 196.64

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	Hydralazine hydrochloride (Apresoline) is the hydrochloride salt of hydralazine, a phthalazine derivative with antihypertensive and potential antineoplastic activities. Hydralazine alters intracellular calcium release and interferes with smooth muscle cell calcium influx, resulting in arterial vasodilatation. This agent also inhibits the phosphorylation of myosin protein and chelation of trace metals required for smooth muscle contraction, resulting in an increase in heart rate, stroke volume, and cardiac output. In addition to its cardiovascular effects, hydralazine inhibits DNA methyltransferase, which may result in inhibition of DNA methylation in tumor cells.
Targets(IC50)	Apoptosis,Bcl-2 Family,MAO,HIF/HIF Prolyl-Hydroxylase,Caspase
In vitro	Hydralazine impairs up-regulation of RAG-2 gene expression and reduces secondary Ig gene rearrangements. Hydralazine subverts B lymphocyte tolerance to self and contributes to generation of pathogenic autoreactivity by disrupting receptor editing. [1] Hydralazine directly scavenges free acrolein, decreasing intracellular acrolein availability and thereby suppressing macromolecular adduction. Hydralazine inhibits cross-linking if adding 30 min after commencing acrolein exposure but is ineffective if added after a 90-min delay. [2] Hydralazine (0.1-10 mM) inhibits both extracellular and intracellular ROS production by inflammatory macrophages, by a ROS-scavenging mechanism probably affecting superoxide radical (O(2)(*-))-generation by xanthine oxidase (XO) and nicotinamide adenine dinucleotide/nicotinamide adenine dinucleotide phosphate (NADH/NADPH) oxidase. Hydralazine (0.1-10 mM) significantly reduces NO(*) generation, and this effect is attributable to an inhibition of NOS-2 gene expression and protein synthesis. Hydralazine also effectively blocks COX-2 gene expression which perfectly correlated with a reduction of protein levels and PGE(2) synthesis. [3] Hydralazine protects against not only acrolein-mediated injury, but also compression in guinea pig spinal cord ex vivo. Hydralazine can significantly alleviate acrolein-induced superoxide production, glutathione depletion, mitochondrial dysfunction, loss of membrane integrity, and reduces compound action potential
In vivo	Hydralazine affords strong, dose-dependent protection against the increases in plasma marker enzymes but not the hepatic glutathione depletion produced by allyl alcohol in mice. [5]

Solubility Information

Solubility	H2O: 20 mg/mL (101.71 mM),Sonication is recommended. DMSO: Insoluble, (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.0854 mL	25.4272 mL	50.8544 mL
5 mM	1.0171 mL	5.0854 mL	10.1709 mL
10 mM	0.5085 mL	2.5427 mL	5.0854 mL
50 mM	0.1017 mL	0.5085 mL	1.0171 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

Mazari L, et al. Proc Natl Acad Sci U S A,2007, 104(15), 6317-6322.
Burcham PC, et al. Mol Pharmacol,2006, 69(3), 1056-1065.
Leiro JM, et al. Int Immunopharmacol,2004, 4(2), 163-177.
Hamann K, et al. J Neurochem,2008, 104(3), 708-718.
Kaminskas LM, et al. J Pharmacol Exp Ther,2004, 310(3), 12003-12010.

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