Data Sheet (Cat.No.T0358)

TargetMol

Aminoguanidine hydrochloride

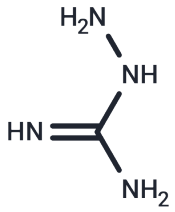
Chemical Properties

CAS No. : 1937-19-5

Formula: CH6N4·HCl

Molecular Weight: 110.55

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	Aminoguanidine hydrochloride (Hydrazinecarboximidamide) is a diamine oxidase and NO synthase inhibitor, used in the treatment of diabetic nephropathy.
Targets(IC50)	Apoptosis,NOS,NO Synthase
In vivo	Aminoguanidine ameliorates neonatal hypoxic-ischemic brain damage and that temporal profiles of NO correlated with the neuroprotective effect of aminoguanidine. Neuroprotection by AG is attributable to suppression of NO produced by iNOS after the end of the hypoxic period, during the reoxygenation phase. The half-life of AG is estimated to be between 6 and 8 h in vivo and approximately 4.4 h in human with normal renal function.AG is also an inhibitor of the formation of advanced glycation end products. Systematically administered advanced glycation end product-modified BSA increases cerebral infarct size in an adult rat, which is attenuated by AG[2].

Solubility Information

Solubility	DMSO: 247 mg/mL (2234.28 mM),Sonication is recommended. Ethanol: < 1 mg/mL (insoluble or slightly soluble), H2O: 20 mg/mL (180.91 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 5 mg/mL (45.23 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	9.0457 mL	45.2284 mL	90.4568 mL
5 mM	1.8091 mL	9.0457 mL	18.0914 mL
10 mM	0.9046 mL	4.5228 mL	9.0457 mL
50 mM	0.1809 mL	0.9046 mL	1.8091 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

Rokkas T, et al. Digestion. 1990, 46 Suppl 2:447-457.
Bi G, Liang J, Bian Y, et al.Polyamine-mediated ferroptosis amplification acts as a targetable vulnerability in cancer.Nature Communications.2024, 15(1): 2461.
Tsuji M, et al. Pediatr Res. 2000, 47(1):79-83.
Brownlee M, et al. Science. 1986, 232(4758):1629-1632.