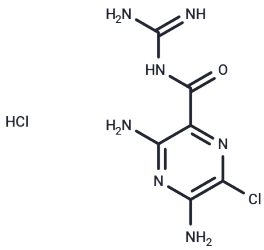
Data Sheet (Cat.No.T0175)

TargetMol

Amiloride hydrochloride

Chemical Properties



CAS No. :	2016-88-8
Formula:	C6H9Cl2N7O
Molecular Weight:	266.09
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	Amiloride hydrochloride (Amiloride HCl) is an effective sodium channel blocker of epithelial.
Targets(IC50)	Apoptosis,Serine Protease,Sodium Channel,TRP/TRPV Channel
In vitro	In salt-sensitive hypertensive animals, Amiloride antagonizes or blocks the action of aldosterone in cells, as well as within vascular and renal tissues. Daily subcutaneous injections of 1 mg/kg Amiloride in DOCA-salt hypertensive rats reversed the initial increase in collagen deposition. In stroke-prone spontaneously hypertensive rats, Amiloride administration via saline drinking water delayed the onset of proteinuria and improved histological scores in brain and kidney tissues compared to controls.
In vivo	Upon increased perfusion pressure, 1 μM Amiloride and 30 nM Benzamil inhibit myogenic responses by blocking the activity of ENaC proteins, thereby suppressing vasoconstriction. In vascular smooth muscle cells, Amiloride completely inhibits sodium influx. Amiloride is a relatively selective inhibitor of epithelial sodium channels (ENaC) with an IC 50 of 0.1 μM to 0.5 μM. Although less effective as a Na+/H+ exchanger (NHE) inhibitor, Amiloride's IC 50 values range from as low as 3 μM at low external sodium concentrations to 1 mM at high external sodium concentrations. Furthermore, Amiloride exerts a weak inhibitory effect on Na+/Ca2+ exchange (NCX) with an IC 50 of 1 mM.

Solubility Information

Solubility	H2O: < 1 mg/mL (insoluble) DMSO: 50 mg/mL (187.91 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: 2 mg/mL (7.52 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	3.7581 mL	18.7906 mL	37.5813 mL
5 mM	0.7516 mL	3.7581 mL	7.5163 mL
10 mM	0.3758 mL	1.8791 mL	3.7581 mL
50 mM	0.0752 mL	0.3758 mL	0.7516 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

Teiwes J, et al. Am J Hypertens, 2007, 20(1), 109-117.
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Li X, Tang H, Huang X, et al. Rigidity-Dependent Placental Cells Uptake of Silk-Based Microcapsules. Macromolecular bioscience. 2019: 1900105.
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