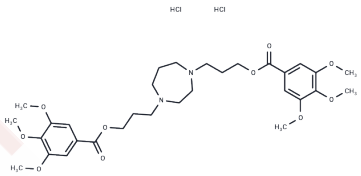
Data Sheet (Cat.No.T15130)

TargetMol

Dilazep dihydrochloride

Chemical Properties



CAS No. : 20153-98-4

Formula: C31H46Cl2N2O10

Molecular Weight: 677.61

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	Dilazep dihydrochloride is an adenosine uptake inhibitor. Dilazep dihydrochloride also inhibits the ischemic damage, membrane transport of nucleosides and platelet aggregation. Dilazep dihydrochloride has cerebral and coronary vasodilating action through enhancement of effect of adenosine.
Targets(IC50)	Others
In vitro	Dilazep, NBI and Dipyridamole have been reported to inhibit the uptake of adenosine into different cells. The uptake mechanism has been studied extensively in vitro. In these compounds, Dilazep and NBI are almost 10 times more effective than Dipyridamole. Only Dilazep is water soluble and no solubility aiding organic solvent is needed for preparing an aqueous solution[1].
In vivo	Dilazep acts by inhibiting phospholipase activation in reperfused heart mitochondria and preventing lipid peroxidation in cerebral ischemia and reperfusion, potentially reducing ischemic cerebral injury through increased cerebral blood flow and protection of vascular endothelial cell membranes. Importantly, low doses (0.04-0.1 mg/kg/min) amplify the effects of adenosine, significantly enhancing superior mesenteric arterial conductance (SMAC) and raising arterial plasma adenosine levels, with a clear correlation observed between adenosine levels and SMAC changes, showing a 193.4% change in SMAC and an EC50 value of 2.8 μM. However, the vasodilatory potentiation by Dilazep is nullified by 8-phenyltheophylline, though this does not interfere with isoproterenol-induced relaxation.

Solubility Information

Solubility	DMSO: 71.4 mg/mL (105.37 mM),Sonication is recommended. H2O: 80 mg/mL (118.06 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: 7.14 mg/mL (10.54 mM),Solution. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (2.95 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	1.4758 mL	7.3789 mL	14.7578 mL
5 mM	0.2952 mL	1.4758 mL	2.9516 mL
10 mM	0.1476 mL	0.7379 mL	1.4758 mL
50 mM	0.0295 mL	0.1476 mL	0.2952 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

Zhang Y, et al. Dilazep potentiation of adenosine-mediated superior mesenteric arterial vasodilation. J Pharmacol Exp Ther. 1991 Sep;258(3):767-71.

Kawagoe J, et al. Effect of dilazep dihydrochloride against ischemia and reperfusion-induced disruption of blood-brain barrier in rats: a quantitative study. Naunyn Schmiedebergs Arch Pharmacol. 1992 Apr;345(4):485-8.