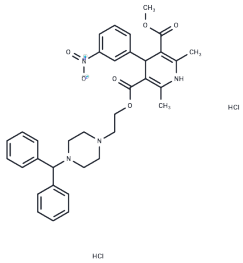
Data Sheet (Cat.No.T0193)

TargetMol

Manidipine dihydrochloride

Chemical Properties



CAS No. : 89226-75-5

Formula: C35H40Cl2N4O6

Molecular Weight: 683.62

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	Manidipine dihydrochloride (Manidipine 2HCl) is a potent calcium channel blocker for Ca2+ current(IC50=2.6 nM).
Targets(IC50)	Calcium Channel,NF-κB
In vitro	At nanomolar concentrations, Manidipine effectively modulates gene transcription involved in the inflammatory transformation of mesangial cells. Manidipine inhibits the coronary artery (pIC50=9.3 nM) and renal artery (pIC50=9.1 nM). Additionally, Manidipine decreases Ca2+ flux at concentrations above 0.1 nM and blocks Ca2+ flux at 100 nM.
In vivo	In hypertensive rats, oral administration of Manidipine (3 mg/kg and 10 mg/kg) reduced systolic blood pressure in a dose-dependent manner. When administered at a dose of 10 mg/kg, Manidipine was able to normalize blood pressure within 1 to 3 hours post-administration.
Cell Research	The mitogenic effect is measured by the amout of [3H]thymidine incorporated into DNA of human MCs and by assessment of cell proliferation. In brief, 1 × 105 quiescent cells is seeded into a 25-mL cell culture bottle and kept in low serum medium (0.1% FCS). On the following day, the cells are preincubated for 3 hours with Manidipine (10 nM) followed by stimulation with PDGF-BB (10 ng/mL) or incubated with low serum medium abone. The medium is replaced each day, and the cells are counted at days 1, 3 and 5. (Only for Reference)

Solubility Information

Solubility	Ethanol: < 1 mg/mL (insoluble or slightly soluble), H2O: < 1 mg/mL (insoluble or slightly soluble), DMSO: 142.8 mg/mL (208.89 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: 10 mg/mL (14.63 mM),Solution. 10% DMSO+90% Saline: < 10 mg/mL (14.63 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. *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*

In vivo Formulation	*vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.4628 mL	7.314 mL	14.628 mL
5 mM	0.2926 mL	1.4628 mL	2.9256 mL
10 mM	0.1463 mL	0.7314 mL	1.4628 mL
50 mM	0.0293 mL	0.1463 mL	0.2926 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

Tohse N, et al. Eur J Pharmacol, 1993, 249(2), 231-233.
Pfaffendorf M, et al. Am Heart J, 1993, 125(2 Pt 2), 571-577.
Iimura O, et al. Am Heart J, 1993, 125(2 Pt 2), 635-641.
Roth M, et al. Proc Natl Acad Sci, 1992, 89(9), 4071-4075.
Kakihana M, et al. Jpn J Pharmacol, 1988, 48(2), 223-228.