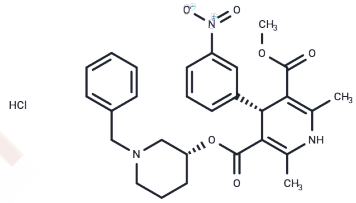
Data Sheet (Cat.No.T6227)

TargetMol

Benidipine hydrochloride

Chemical Properties



CAS No. : 91599-74-5

Formula: C28H32ClN3O6

Molecular Weight: 542.03

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Benidipine hydrochloride (Coniel) , a hydrochloride salt form of benidipine, is used as a blocker of dihydropyridine calcium channel.
Targets(IC50)	EGFR,Calcium Channel,Src
Kinase Assay	Enzyme Assays and Methods. : TS activity is assayed using a spectrophotometric method, which involved monitoring the increase in absorbance at 340 nm resulting from formation of the product, 7,8-dihydrofolate. The assay buffer contains 50 mM N-tris [hydroxymethyljmethyl-2-aminoethanesulfonic acid, 25 mM MgC12, 6.5 mM formaldehyde, 1 mM EDTA, and 75 mM 2-mercaptoethanol, pH 7.4. The concentrations of deoxyuridylate monophosphate, 6R-MTHF, and hIS are 100 μM, 30 μM and 30 nM (1.7 milliunits/mL), respectively. At the 6R-MTHF concentration, an uninhibited reaction and six concentrations of inhibitor are assayed. Ki app values are determined by fitting the data to the Morrison equation using nonlinear regression analysis with the aid of the program ENZFITTER. Ki values are calculated using the equation: Ki app= Ki(1 + [S]/Km), where [S] is equal to 30 μM and Km is equal to 3 μM. DHFR activity is assayed spectrophotometrically by monitoring the dis appearance of the substrates NADPH and 7,8-dihydrofolate at 340 nm. The reaction takes place at 25°C in 0.5 mL of 50 mM potassium phosphate buffer, which contains 150 mM KC1 and 10 nM 2-mercaptoethanol, pH 7.5, and 14 nM (0.34 milliunitlmL) DHFR. The NADPH concentration is 10 μM and 7,8-dihydrofolate is varied at 5, 10, or 15 μM. At each 7,8-dihydrofolate concentration, an uninhibited reaction and seven concentrations of inhibitor are assayed. The ENZFITI'ER microcomputer program is used to obtain Ki app values by fitting the data to the Morrison equation by nonlinear regression analysis. Ki app= Ki(1 + [S]/Km), where [S] is equal to the concentration of 7,8-dihydrofolate used and Km of 7,8-dihydrofolate is equal to 0.15 μM. GARFT activity is assayed spectrophotometrically by monitoring the increase of absorbance resulting from formation of the product 5,8-dideazafolate at 295 nm. The reaction solvent contains 75 mM HEPES, 20% glycerol, and 50 mM a-thioglygerol, pH 7.5, at 25°C.The concentrations of substrates and enzyme used are 10 μM α,β-glycinamide ribonucleotide, 0-10 μM 10-formyl-5,8-dideazafolic acid, and 10 nM (1.9 milliunits/mL) GARFT. Ki values are calculated using the Enzyme Mechanism program of the Beckman DU640 spectrophotometer, which uses nonlinear regression analysis to fit data to the Michaelis-Menten equation for competitive inhibition.

Solubility Information

Solubility	Ethanol: < 1 mg/mL (insoluble or slightly soluble), DMSO: 65 mg/mL (119.92 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.8449 mL	9.2246 mL	18.4492 mL
5 mM	0.369 mL	1.8449 mL	3.6898 mL
10 mM	0.1845 mL	0.9225 mL	1.8449 mL
50 mM	0.0369 mL	0.1845 mL	0.369 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.

Reference

Chang YM, Oncogene, 2008, 27(49), 6365-6375.
Huo M, Guo W, Ding L.Benidipine Hydrochloride Inhibits NLRP3 Inflammasome Activation by Inhibiting LPS-Induced NF-κB Signaling in THP-1 Macrophages.Journal of Inflammation Research.2024: 6307-6316.