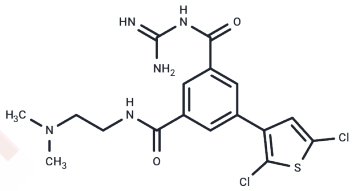
Data Sheet (Cat.No.T11319)

TargetMol

FR183998 free base

Chemical Properties



CAS No. : 239440-20-1

Formula: C17H19Cl2N5O2S

Molecular Weight: 428.34

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	FR183998 free base is an inhibitor of Na+/Ca2+ Exchanger.
Targets(IC50)	Na+/Ca2+ Exchanger,Sodium Channel
In vitro	FR183998 free base has potent inhibitory effects on Na+/H+ exchanger in rat lymphocytes, rat platelets, and human platelets with IC50s of 0.3 nM, 6.5 nM, and 3.1 nM, respectively[1].
In vivo	Administered intravenously at 1 mg/kg, FR183998 free base diminishes the serum elevation of alanine transaminase, aspartate transaminase, and lactate dehydrogenase caused by hepatic ischemia/reperfusion (I/R), while also preventing hepatic necrosis, apoptosis, and neutrophil infiltration. It inhibits the I/R-triggered activation of NF-κB, downregulates iNOS induction, and curbs nitric oxide production, in addition to reducing the liver's iNOS gene antisense transcript expression in hepatic I/R rats. At dosages of 0.1 and 1.0 mg/kg via intravenous injection, FR183998 free base does not alter hemodynamic parameters, mean blood pressure, or heart rate in conscious rats. Both pre- and post-treatment with FR183998 free base, in doses ranging from 0.01 to 0.10 mg/kg intravenously, dose-dependently mitigates reperfusion-induced ventricular fibrillation and mortality in anesthetized rats, showing ED50 values against ventricular fibrillation of 0.015 mg/kg and 0.070 mg/kg, respectively. Moreover, it significantly reduces myocardial infarct sizes and suppresses arrhythmias in anesthetized rats.

Solubility Information

Solubility	DMSO: 200 mg/mL (466.92 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.3346 mL	11.673 mL	23.3459 mL
5 mM	0.4669 mL	2.3346 mL	4.6692 mL
10 mM	0.2335 mL	1.1673 mL	2.3346 mL
50 mM	0.0467 mL	0.2335 mL	0.4669 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

Ohara F, et al. Preischemic and postischemic treatment with a new Na+/H+-exchange inhibitor, FR183998, shows cardioprotective effects in rats with cardiac ischemia and reperfusion. J Cardiovasc Pharmacol. 1999 Dec;34(6): 848-56.

Ishizaki M, et al. Protective effect of FR183998, a Na+/H+ exchanger inhibitor, and its inhibition of iNOS induction in hepatic ischemia-reperfusion injury in rats. Shock. 2008 Sep;30(3):311-7.