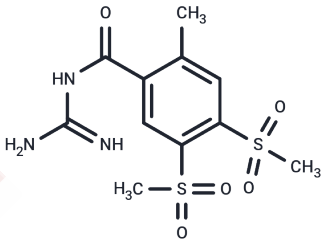
Data Sheet (Cat.No.T5319)

TargetMol

Rimeporide

Chemical Properties



CAS No. : 187870-78-6

Formula: C11H15N3O5S2

Molecular Weight: 333.38

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	Rimeporide (EMD-87580) (EMD-87580) is a potent and selective Sodium hydrogen exchange 1 (NHE-1) inhibitor.
Targets(IC50)	Sodium Channel
In vitro	Treatment for 24 h with 10 μM phenylephrine significantly increased cell surface area to 129.6 3.1% of control values. The hypertrophic effect of phenylephrine was completely abrogated by 5 μM of EMD87580 [1].
Cell Research	To induce hypertrophy, myocytes were treated for 10 min or 24 h as appropriate and noted under Results with 10 μM phenylephrine in the absence or presence of the following agents: the NHE-1 inhibitor EMD87580 (5 μM) or cariporide (5 μM), the JNK1/2 inhibitor SP600125, the p38 inhibitor SB203580, the ERK1/2 inhibitor PD98059 (all at 10 μM), and the reverse mode Na+-Ca2+ exchange inhibitor KB-R7943 or SN-6 (both at 10 μM). All drugs were added 30 min before the addition of phenylephrine [1].
Animal Research	Two groups were studied. The treatment group (n = 5) received EMD 87580 at a dose of 5 mg/kg IV bolus 5 min before aortic cross-clamping and 10 mol/L EMD 87580 in the cardioplegic solution. The control group (n = 9) received the same volume of saline vehicle. Systemic pretreatment was used to ensure drug availability during the ischemic period prior to CPA. Direct infusion via cardioplegia ensures drug delivery at the time of ischemia (CPA), and it decreases the variability of drug delivery that may occur during the hemodilution with CPB initiation. Incorporation into the cardioplegia also minimizes the potential variable of drug/extracorporeal circuit interactions. Using this dosing regimen, the plasma concentration of EMD 87580 was in the 2,500 to 3,000 ng/mL range at 10 min after CPB. This concentration has been shown to be effective at Na+/H+ exchanger inhibition in vitro [2].

Solubility Information

Solubility	DMSO: 15 mg/mL (44.99 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 (6 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one.*

In vivo Formulation	*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	2.9996 mL	14.9979 mL	29.9958 mL
5 mM	0.5999 mL	2.9996 mL	5.9992 mL
10 mM	0.300 mL	1.4998 mL	2.9996 mL
50 mM	0.060 mL	0.300 mL	0.5999 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

Stanbouly S, et al. Sodium hydrogen exchange 1 (NHE-1) regulates connexin 43 expression in cardiomyocytes via reverse mode sodium calcium exchange and c-Jun NH2-terminal kinase-dependent pathways. J Pharmacol Exp Ther. 2008 Oct;327(1):105-13.

Cox CS Jr, et al. Improved myocardial function using a Na+/H+ exchanger inhibitor during cardioplegic arrest and cardiopulmonary bypass. Chest. 2003 Jan;123(1):187-94.