Data Sheet (Cat.No.T1046)

TargetMol

Mexiletine hydrochloride

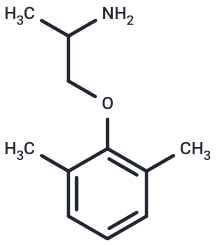
Chemical Properties

CAS No. : 5370-01-4

Formula: C11H18ClNO

Molecular Weight: 215.72

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	Mexiletine hydrochloride (KOE-1173 hydrochloride) is a voltage-gated sodium channel blocker and a Class IB antiarrhythmic drug. Mexiletine hydrochloride exerts antiarrhythmic effects by inhibiting sodium current in myocardial cells, thereby reducing the rise rate of cardiac action potential (phase 0) and reducing the automaticity of Purkinje fibers.
Targets(IC50)	AhR,Sodium Channel
In vitro	Mexiletine shortened the cardiac Purkinje fiber effective response period (ERP) less than the action potential duration (APD), resulting in higher ERP/APD ratios.Mexiletine had no significant effect on atrioventricular conduction velocity, resting membrane potential, sinus node autoregulation, systolic arterial pressure, left ventricular function, or QRS or QT intervals. Mexiletine inhibits the inward flow of sodium ions through inhibition of sodium channels (requiring pulse initiation and conduction), which in turn reduces the rate of action potential elevation.
In vivo	Mexiletine shortened the cardiac Purkinje fiber effective response period (ERP) less than the action potential duration (APD), resulting in higher ERP/APD ratios.Mexiletine had no significant effect on atrioventricular conduction velocity, resting membrane potential, sinus node autoregulation, systolic arterial pressure, left ventricular function, or QRS or QT intervals. Mexiletine inhibits the inward flow of sodium ions through inhibition of sodium channels (requiring pulse initiation and conduction), which in turn reduces the rate of action potential elevation.

Solubility Information

Solubility	DMSO: 50 mg/mL (231.78 mM),Sonication is recommended. H2O: 21.6 mg/mL (100.13 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 (9.27 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	4.6356 mL	23.1782 mL	46.3564 mL
5 mM	0.9271 mL	4.6356 mL	9.2713 mL
10 mM	0.4636 mL	2.3178 mL	4.6356 mL
50 mM	0.0927 mL	0.4636 mL	0.9271 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

Mexiletine HCl