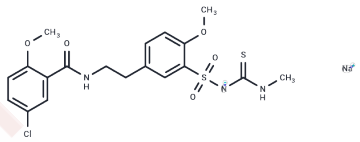
Data Sheet (Cat.No.T63330)

TargetMol

Clamikalant sodium

Chemical Properties



CAS No. : 261717-22-0

Formula: C19H21ClN3NaO5S2

Molecular Weight: 493.96

Storage: Keep away from direct sunlight,Keep away from moisture
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	Clamikalant sodium (HMR 1098) is an ATP-dependent potassium channel (KATP) cardiac-selective blocker, used in the study of arrhythmias.
Targets(IC50)	Potassium Channel
In vitro	Clamikalant sodium is a selective sarcosine K (ATP) channel inhibitor. It blocks the sK (ATP) current (IC (50) =0.36 mM) induced by the K (ATP) opener pinacidil. [1] In mouse atrial myocytes, both spontaneous activation and diazine-activated K (ATP) currents were effectively inhibited by 10 μM Clamikalant sodium. In contrast, in ventricular myocytes, high concentrations of Clamikalant sodium (100 μM) inhibited the K (ATP) current activated by the pinate, but low concentrations (10 μM) did not. Consistent with this finding, in COSm6 cells, Clamikalant sodium inhibits (86) Rb (+) efflux through Kir6.2/SUR1 more effectively than the Kir6.2/SUR2A channel. [2]
In vivo	Clamikalant sodium treatment (3 mg/kg push followed by continuous intravenous injection at 17 μg/kg/min throughout the study) did not prevent the shortening of HRA-ERP and the flattening or inversion of ERP rate adaptation in dogs. [3]

Solubility Information

Solubility	DMSO: 40 mg/mL (80.98 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 (4.05 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	2.0245 mL	10.1223 mL	20.2446 mL
5 mM	0.4049 mL	2.0245 mL	4.0489 mL
10 mM	0.2024 mL	1.0122 mL	2.0245 mL
50 mM	0.0405 mL	0.2024 mL	0.4049 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

Rainbow RD, et al. Reduced effectiveness of HMR 1098 in blocking cardiac sarcolemmal K(ATP) channels during metabolic stress. J Mol Cell Cardiol. 2005 Oct;39(4):637-46.
Zhang HX, et al. HMR 1098 is not an SUR isotype specific inhibitor of heterologous or sarcolemmal K ATP channels. J Mol Cell Cardiol. 2011 Mar;50(3):552-60.
Vereckei A, et al. Effect of the cardioselective, sarcolemmal K(ATP) channel blocker HMR 1098 on atrial electrical remodeling during pacing-induced atrial fibrillation in dogs. Cardiovasc Drugs Ther. 2004 Jan;18(1):23-30.

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