Data Sheet (Cat.No.T84368)

TargetMol

Caldaret HCl

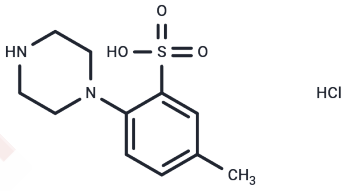
Chemical Properties

CAS No. : 1002096-67-4

Formula: C11H17ClN2O3S

Molecular Weight: 292.78

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	Caldaret HCl is an intracellular Ca2+ modulator that regulates calcium homeostasis at the sarcoplasmic reticulum and cell membrane, and can be used to study acute myocardial infarction and heart failure.
Targets(IC50)	Calcium Channel
In vitro	Caldaret (MCC-135) is demonstrated to restore Ca2+-ATPase activity of the sarcoplasmic reticulum (SR) isolated from the myocardium acutely exposed to ischemia and reperfusion in vitro[2].
In vivo	Caldaret is a modulator of intracellular Ca2+ handling that limits infarct size in reperfused canine hearts; its cardioprotective effects against reperfusion injury were investigated through inhibition of the reverse mode Na+/Ca2+ exchanger and potential sarcoplasmic reticulum (SR) Ca2+ uptake enhancement. Intravenous infusion of Caldaret (3 or 30 μg/kg/hour) for 30 minutes during left circumflex artery (LCX) reperfusion significantly reduced infarct size (by 51.3% or 71.9%, respectively). Caldaret improves the dysfunction of intracellular Ca2+ handling, thereby exerting cardioprotective effects against reperfusion injury after prolonged ischemia [1]. Caldaret (MCC-135) is a novel potent compound with beneficial effects in heart failure. In diabetic rats, Caldaret significantly reduced TR80 but had no significant effect on developed tension (DT). Caldaret had minimal effects on SR Ca2+ uptake in normal rats, with the highest concentration of 10 μM resulting in an increase in SR Ca2+ uptake at uptake times of 20 and 30 seconds. In diabetic rats, Caldaret increased SR Ca2+ uptake over the entire uptake time range. Caldaret increased both the initial rate of SR Ca2+ uptake and the amount of Ca2+ accumulated in the SR during longer uptake times. [1]

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.4155 mL	17.0777 mL	34.1553 mL
5 mM	0.6831 mL	3.4155 mL	6.8311 mL
10 mM	0.3416 mL	1.7078 mL	3.4155 mL
50 mM	0.0683 mL	0.3416 mL	0.6831 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

Kawasumi H, et al. Caldaret, an intracellular Ca2+ handling modulator, limits infarct size of reperfused canine heart. J Pharmacol Sci. 2007 Feb;103(2):222-33.

Satoh N, et al. Lusitropic effect of MCC-135 is associated with improvement of sarcoplasmic reticulum function in ventricular muscles of rats with diabetic cardiomyopathy. J Pharmacol Exp Ther. 2001 Sep;298(3):1161-6.