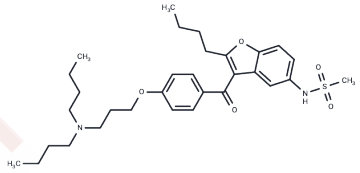
Data Sheet (Cat.No.T7056)

TargetMol

Dronedarone

Chemical Properties



CAS No. : 141626-36-0

Formula: C31H44N2O5S

Molecular Weight: 556.76

Storage: Store at low temperature
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	Dronedarone (SR 33589) is an amiodarone analogue which has an effective and promising treatment for Atrial fibrillation.
Targets(IC50)	Calcium Channel,Adrenergic Receptor,AChR,Autophagy,Cytochromes P450,Potassium Channel,Sodium Channel
In vitro	Dronedarone reduces the incidence of early and delayed after depolarizations evoked by 1 mM Dofetilide and 0.2 mM Strophantidine in Purkinje fibres. Dronedarone (10 mM) markedly reduces the L-type calcium current (76.5%) and the rapid component of the delayed rectifier potassium current (97%) in ventricular myocytes [1]. Dronedarone inhibits the activity of I(K(ACh)) channels recorded from cell-attached patches by reducing the channel open probability (from 0.56 to 0.11) without modification of the single-channel conductance in single cells isolated from sinoatrial node (SAN) tissue of rabbit hearts [2]. Dronedarone exhibits a state-dependent inhibition of the fast Na(+) channel current with an IC50 of 0.7 μM in guinea pig ventricular myocytes, when the holding potential (V (hold)) is -80 mV. Dronedarone blocks Ca(2+) currents elicited by rectangular pulses at V (hold)?=?-40 mV with IC50 value of 0.4 μM, whereas at V (hold)?=?-80 mV, Dronedarone (10 μM) blocks only 20?% of the current [3].
In vivo	Dronedarone increases action potential duration in normal hearts of rats. Dronedarone reduces the late sustained K(+) current, I(K) (or Isus) by 69%. Dronedarone induces only a tonic block of I(K). Dronedarone induces a weak increase in the fast transient outward current, I(to), in rats after myocardial infarction [4].

Solubility Information

Solubility	DMSO: 50 mg/mL (89.81 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 (3.59 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	1.7961 mL	8.9805 mL	17.9611 mL
5 mM	0.3592 mL	1.7961 mL	3.5922 mL
10 mM	0.1796 mL	0.8981 mL	1.7961 mL
50 mM	0.0359 mL	0.1796 mL	0.3592 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

Varró A, et al. Electrophysiological effects of dronedarone (SR 33589), a noniodinated amiodarone derivative in the canine heart: comparison with amiodarone.[J]. Br J Pharmacol, 2010, 133(5):625-634.
Cui R, Zhang J, Liu X, et al.Dronedarone Enhances the Antibacterial Activity of Polymyxin B and Inhibits the Quorum Sensing System by Interacting with LuxS.ACS Infectious Diseases.2024
Altomare C, et al. Effects of dronedarone on Acetylcholine-activated current in rabbit SAN cells[J]. British Journal of Pharmacology, 2010, 130(6):1315-1320.
Bogdan R, et al. Effect of dronedarone on Na+, Ca2+ and HCN channels[J]. Naunyn-Schmiedeberg's Archives of Pharmacology, 2011, 383(4):347-356.
Aimond F, et al. Cellular and in vivo electrophysiological effects of dronedarone in normal and postmyocardial infarcted rats.[J]. Journal of Pharmacology & Experimental Therapeutics, 2000, 292(1):415.