

Product Data Sheet

Product Name: Dronedarone HCl

Cat. No.: GC12234

Chemical Properties

Cas. No. 141625-93-6

Chemical Name N-[2-butyl-3-[4-[3-(dibutylamino)propoxy]benzoyl]-1-benzofuran-5-yl]methanesulfonamide;hydrochloride

SMILES CCCCC1=C(C2=C(O1)C=CC(=C2)NS(=O)(=O)C)C(=O)C3=CC=C(C=C3)OCCCN(CCCC)CCCC.Cl

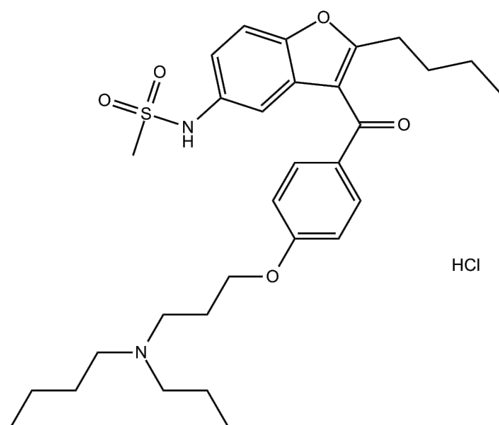
Formula C₃₁H₄₅ClN₂O₅S M.Wt 593.22

Solubility ≥ 28.25mg/mL in DMSO Storage Store at -20°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure



Protocol

Caution: Product has not been fully validated for medical applications. For research use only.

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**Animal
experiment:**

Rats: Rats are anesthetized, artificially ventilated, and the thorax opened by a left thoracotomy. Ischemia is induced by left coronary artery ligation, and reperfusion is achieved (after a 5-min period of ischemia) in a separate group of rats by removing the ligature. Agents are given intravenously 5 min before occlusion or orally 4 h before study[3]. Mice: Twelve-week-old C57Bl/6 mice are divided into two groups: dronedarone (200 mg/kg body weight with a once daily oral gavage for 14 days) or control (1.4 % methylcellulose). Twenty-four hours after the last application, mice are anesthetized by intraperitoneal injection of 87 mg/kg sodium pentobarbital. Rose bengal is diluted to 12 mg/mL in phosphate-buffered saline and then injected into the tail vein at a concentration of 63 mg/kg[4].

References:

- [1]. Bogdan R, et al. Effect of dronedarone on Na⁺, Ca²⁺ and HCN channels. Naunyn Schmiedebergs Arch Pharmacol. 2011 Apr;383(4):347-56.
- [2]. Doggrell SA, et al. Dronedarone: an amiodarone analogue. Expert Opin Investig Drugs. 2004 Apr;13(4):415-26.
- [3]. Manning AS, et al. SR 33589, a new amiodarone-like agent: effect on ischemia- and reperfusion-induced arrhythmias in anesthetized rats. J Cardiovasc Pharmacol. 1995 Sep;26(3):453-61.
- [4]. Breitenstein A, et al. Dronedarone reduces arterial thrombus formation. Basic Res Cardiol. 2012 Nov;107(6):302.

Background

Dronedarone HCL is an amiodarone analogue which has been shown an effective and promising treatment for Atrial fibrillation (AF) [1].

In vitro, dronedarone has been demonstrated to inhibit muscarinic acetylcholine receptor-operated K⁺ current IK(ACh) induced by carbachol or GTP-gamma-S with IC₅₀ values of 10nm and <100nm, respectively, in cells isolated from guinea pig atria. Notably, dronedarone was 100-fold potent and selective over amiodarone in inhibiting IK(ACh) [1].

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In vivo, dronedarone has shown to block arterial thrombus formation, decrease platelet aggregation and reduce plasminogen activator inhibitor-1 (PAI1) expression in C57Bl/6 mice [2].

References:

- [1] Guillemare E1, Marion A, Nisato D, Gautier P. Inhibitory effects of dronedarone on muscarinic K⁺ current in guinea pig atrial cells. J Cardiovasc Pharmacol. 2000 Dec;36(6):802-5.
- [2] Breitenstein A1, Sluka SH, Akhmedov A, Stivala S, Steffel J, Camici GG, Riem HH, Beer HJ, Studt JD, Duru F, Luscher TF, Tanner FC. Dronedarone reduces arterial thrombus formation. Basic Res Cardiol. 2012 Nov;107(6):302.

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