

Certificate of Analysis

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Product Name: Amiodarone hydrochloride

Catalog No.: 4095

Batch No.: 2

CAS Number: 19774-82-4

EC Number: 243-293-2

IUPAC Name: 2-Butyl-3-benzofuranyl-4-[2-(diethylamino)ethoxy]-3,5-diiodophenyl ketone hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₂₅H₂₉I₂NO₃.HCl

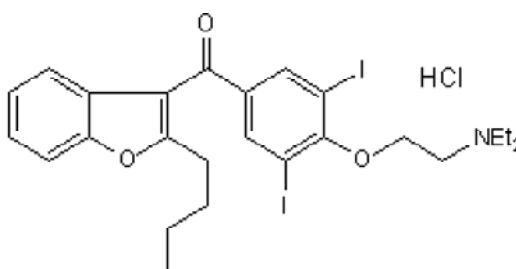
Batch Molecular Weight: 681.77

Physical Appearance: White solid

Solubility: DMSO to 20 mM

Storage: Store at +4°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.8% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	44.04	4.44	2.05
Found	43.84	4.23	2.1

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Amiodarone hydrochloride is a broad-spectrum ion channel blocker; blocks late I_{Na} , I_{Ca} , I_{Kr} and I_{Ks} and increases QT. Displays class III antiarrhythmic properties. Also exhibits fungicidal activity; elicits Ca^{2+} influx in *Saccharomyces cerevisiae* and causes mitochondrial fragmentation and cell death. Thought to stimulate autophagy by targeting upstream mTORC1 control pathways. Selectively toxic to NSCs in hESC-derived cell populations. Amiodarone depolarizes the resting membrane potential of the triple-negative breast cancer (TNBC) cells and decreases cell migration.

Physical and Chemical Properties:

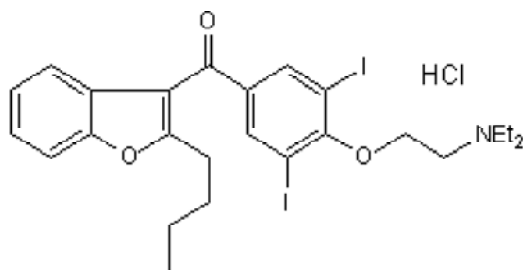
Batch Molecular Formula: $C_{25}H_{29}I_2NO_3 \cdot HCl$

Batch Molecular Weight: 681.77

Physical Appearance: White solid

Minimum Purity: $\geq 99\%$

Batch Molecular Structure:



References:

Payne et al (2021) Potassium channel-driven bioelectric signalling regulates metastasis in triple-negative breast cancer. *EBioMedicine* **75** 103767. PMID: 34933180.

Balgi et al (2009) Screen for chemical modulators of autophagy reveals novel therapeutic inhibitors of mTORC1 signaling. *PLoS One* **4** e7124. PMID: 19771169.

Han et al (2009) Identification by automated screening of a small molecule that selectively eliminates neural stem cells derived from hESCs but not DA neurons. *PLoS One*. **4** 7155. PMID: 19774075.

Storage: Store at +4°C

CAUTION - This product is light sensitive and we recommend that the solid material and any solutions obtained are protected from exposure to light.

Solubility & Usage Info:

DMSO to 20 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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