

Ibutilide

Chemical Properties

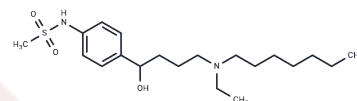
CAS No. : 122647-31-8

Formula: C₂₀H₃₆N₂O₃S

Molecular Weight: 384.58

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	Ibutilide (U70226E free base) is a potent antiarrhythmic compound that extends the action potential duration. It effectively blocks the rapidly activating delayed rectifier potassium current (I _{Kr}) in AT-1 cells [1].
Targets(IC50)	Others,Potassium Channel
In vitro	Ibutilide is a potent IKr blocker with EC 50 value of 20 nM at +20 mV in atrial tumor myocytes (AT-1) cells [1]. Ibutilide blocks I _{Kr} in cells expressing HERG+MDR1*1 to the same extent as cells expressing HERG alone (IC 50 : 22.5±0.9 vs 27.4±2.5 nM). However, cells expressing MDR1*7 show a marked resistance to Ibutilide (IC 50 : 105.3±1.42 nM vs 27.4±2.5 nM) [2].
In vivo	Ibutilide effectively prolongs cardiac repolarization both in vitro and in vivo, with its administration in cumulative doses (0.01, 0.02, and 0.05 mg/kg i.v., each delivered over 10 minutes) inducing both polymorphic and monomorphic non-sustained ventricular tachycardia. In a study involving fifteen adult mongrel dogs of either sex, it was shown that at a dosage of 0.01 mg/kg, Ibutilide significantly extends the action potential duration at 90% (APD90) in subjects with congestive heart failure (CHF) compared to controls. Furthermore, this dosage resulted in an increased dispersion of left-right ventricular APD90 in CHF subjects, an effect not observed in the control group.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.6002 mL	13.0012 mL	26.0024 mL
5 mM	0.520 mL	2.6002 mL	5.2005 mL
10 mM	0.260 mL	1.3001 mL	2.6002 mL
50 mM	0.052 mL	0.260 mL	0.520 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.

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