

**Product Name:** E-4031 dihydrochloride

**Catalog No.:** 1808

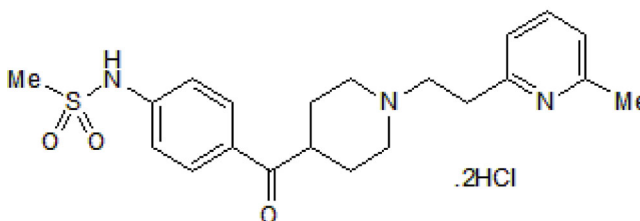
**Batch No.:** 5

CAS Number: 113559-13-0

IUPAC Name: *N*-[4-[[1-[2-(6-Methyl-2-pyridinyl)ethyl]-4-piperidinyl]carbonyl]phenyl]methanesulfonamide dihydrochloride

**1. PHYSICAL AND CHEMICAL PROPERTIES**

**Batch Molecular Formula:** C<sub>21</sub>H<sub>27</sub>N<sub>3</sub>O<sub>3</sub>S.2HCl.  
**Batch Molecular Weight:** 474.44  
**Physical Appearance:** White solid  
**Solubility:** water to 100 mM  
DMSO to 20 mM with gentle warming  
**Storage:** Desiccate at RT  
**Batch Molecular Structure:**



**2. ANALYTICAL DATA**

**HPLC:** Shows 99.1% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen	Chlorine
Theoretical	53.16	6.16	8.86	14.94
Found	52.64	6.06	8.61	13.93

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**Description:**

E-4031 dihydrochloride is a selective blocker of  $K_{V11.1}$  (hERG) channels; inhibits the rapid delayed-rectifier  $K^+$  current ( $I_{Kr}$ ). Reversibly prolongs action potential duration in guinea pig papillary muscle and isolated ventricular myocytes, without affecting  $Na^+$  or  $Ca^{2+}$  inward currents. Class III antiarrhythmic agent.

**Physical and Chemical Properties:**

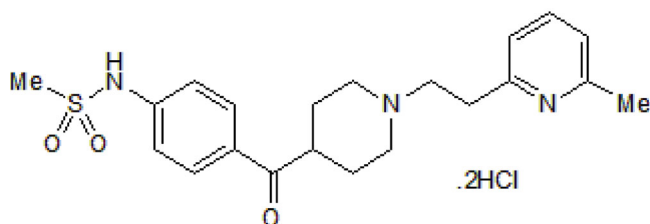
Batch Molecular Formula:  $C_{21}H_{27}N_3O_3S \cdot 2HCl$ .

Batch Molecular Weight: 474.44

Physical Appearance: White solid

**Minimum Purity:**  $\geq 98\%$

**Batch Molecular Structure:**



**Storage:** Desiccate at RT

**Solubility & Usage Info:**

water to 100 mM

DMSO to 20 mM with gentle warming

**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. \*Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

**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.

**References:**

**Ficker *et al* (2002)** The binding site for channel blockers that rescue misprocessed human long QT syndrome type 2 *ether-a-gogo*-related gene (HERG) mutations. *J.Biol.Chem.* **277** 4989. PMID: 11741928.

**Verheijck *et al* (1995)** Effects of the delayed rectifier current blockade by E-4031 on impulse generation in single sinoatrial nodal myocytes of the rabbit. *Circ.Res.* **76** 607. PMID: 7895335.

**Wettwer *et al* (1991)** Effects of the new class III antiarrhythmic drug E-4031 on myocardial contractility and electrophysiological parameters. *J.Cardiovasc.Pharmacol.* **17** 480. PMID: 1711611.

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