

Certificate of Analysis

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Product Name: Isoproterenol hydrochloride

Catalog No.: 1747

Batch No.: 4

CAS Number: 51-30-9

EC Number: 200-089-8

IUPAC Name: 4-[1-Hydroxy-2-[(1-methylethyl)amino]ethyl]-1,2-benzenediol hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₁H₁₇NO₃.HCl

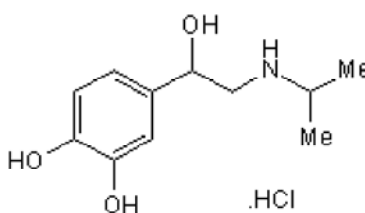
Batch Molecular Weight: 247.72

Physical Appearance: Off-white solid

Solubility: water to 100 mM

Storage: Store at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.6% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	53.33	7.32	5.65
Found	53.35	7.42	5.8

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

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IUPAC Name: 4-[1-Hydroxy-2-[(1-methylethyl)amino]ethyl]-1,2-benzenediol hydrochloride

Description:

Standard selective β -adrenoceptor agonist; vasorelaxant and bronchodilator. Activation of β_2 receptors activates downstream PKA and ERK, and may stimulate NO-mediated endothelium-dependent smooth muscle relaxation. Active in vivo.

Physical and Chemical Properties:

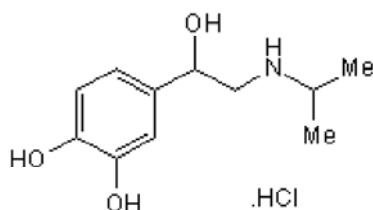
Batch Molecular Formula: C₁₁H₁₇NO₃.HCl

Batch Molecular Weight: 247.72

Physical Appearance: Off-white solid

Minimum Purity: \geq 98%

Batch Molecular Structure:



Storage: Store at RT

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:

water to 100 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.

References:

Akimoto *et al* (2002) Nitric oxide (NO) primarily accounts for endothelium-dependent component of β -adrenoceptor-activated smooth muscle relaxation of mouse aorta in response to isoprenaline. *J.Smooth Muscle Res.* **38** 87. PMID: 12596888.

Schmitt and Stork (2000) β_2 -adrenergic receptor activates extracellular signal-regulated kinases (ERKs) via the small G protein Rap1 and the serine/threonine kinase B-Raf. *J.Biol.Chem.* **275** 25342. PMID: 10840035.

Lotti *et al* (1982) Characterization of the adrenoceptor activities of isoprenaline in the field stimulated rat vas deferens: selective supersensitivity to beta 2-mediated responses following rese. treatment. *J.Auton.Pharmacol.* **2** 169. PMID: 6292228.

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