

Certificate of Analysis

Product Name: (±)-Bisoprolol hemifumarate

Catalog No.: 0914

Batch No.: 2

CAS Number: 104344-23-2

IUPAC Name: (±)-1-[4-[[2-(1-Methylethoxy)ethoxy)methyl]phenoxy]-3-[(1-methylethyl)amino]-2-propanol hemifumarate

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{18}H_{31}NO_4 \cdot \frac{1}{2}C_4H_4O_4 \cdot \frac{1}{4}H_2O$

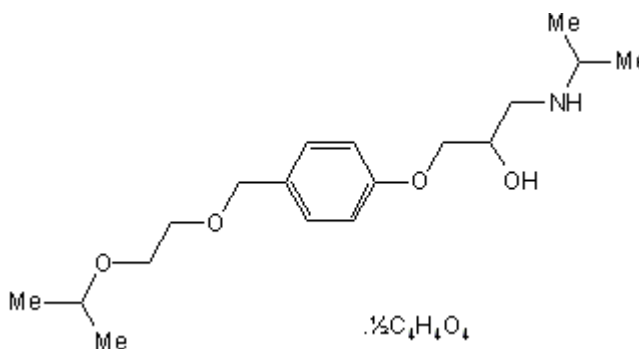
Batch Molecular Weight: 387.98

Physical Appearance: White solid

Solubility: water to 50 mM
ethanol to 100 mM
DMSO to 100 mM

Storage: Store at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: $R_f = 0.65$ (Dichloromethane:Methanol:Ammonia soln. [17:3:0.1])

Melting Point: Between 100 - 101°C

HPLC: Shows 98% purity

¹H NMR: Consistent with structure

	Carbon Hydrogen Nitrogen		
	Carbon	Hydrogen	Nitrogen
Theoretical	61.91	8.7	3.61
Found	61.95	8.68	3.6

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

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Description:

A selective β_1 -adrenergic antagonist. Has a K_d of 2-3 nM at the β_1 receptor and a β_1/β_2 selectivity of approximately 100-fold.

Physical and Chemical Properties:

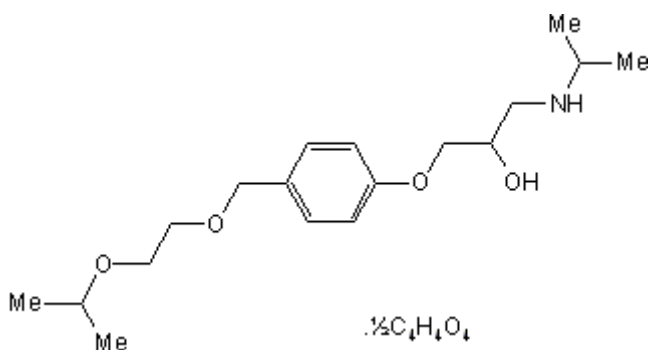
Batch Molecular Formula: $C_{18}H_{31}NO_4 \cdot \frac{1}{2}C_4H_4O_4 \cdot \frac{1}{4}H_2O$

Batch Molecular Weight: 387.98

Physical Appearance: White solid

Minimum Purity: >98%

Batch Molecular Structure:



Storage: Store at RT

Solubility & Usage Info:

water to 50 mM

ethanol to 100 mM

DMSO 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:

Kaumann and Lemoine (1985) Direct labelling of myocardial β_1 -adrenoceptors. Comparison of binding affinity of 3H(-)-bisoprolol with its blocking potency. *Naunyn Schmiedebergs Arch.Pharmacol.* **331** 27. PMID: 2866449.

Klockow et al (1986) Studies on the receptor profile of bisoprolol. *Arzneimittelforschung* **36** 197. PMID: 2870719.

Heible et al (1995) α - and β -Adrenoceptors: from the gene to the clinic. 1. Molecular biology and adrenoceptor subclassification. *J.Med.Chem.* **38** 3415. PMID: 7658428.

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