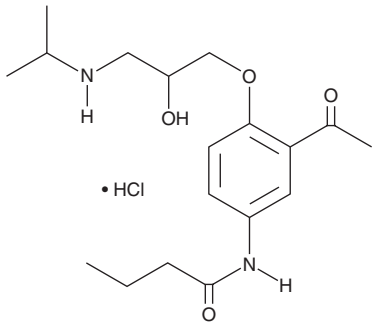
PRODUCT INFORMATION

Acebutolol (hydrochloride)

Item No. 23393

CAS Registry No.: 34381-68-5
Formal Name: N-[3-acetyl-4-[2-hydroxy-3-[(1-methylethyl)amino]propoxy]phenyl]-butanamide, monohydrochloride
Synonym: M&B 17803A
MF: $C_{18}H_{28}N_2O_4 \bullet HCl$
FW: 372.9
Purity: ≥98%
UV/Vis.: λ_{max}: 236 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Acebutolol (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the acebutolol (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Acebutolol (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of acebutolol (hydrochloride) in these solvents is approximately 33 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of acebutolol (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of acebutolol (hydrochloride) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Acebutolol is an antagonist of β_1-adrenergic receptors (β_1-ARs; K_i = 125 nM).[1] It is selective for β_1- over β_2-ARs (K_i = 7,070 nM). *In vivo*, acebutolol decreases isoprenaline-induced tachycardia and diastolic hypotension in cats (ED_{50} = 0.09 mg/kg for both).[2] Acebutolol (12.5, 25, and 50 mg/kg) inhibits ouabain-induced arrhythmias in rabbits, as well as protects against chloroform-induced ventricular fibrillation in mice (ED_{50} = 0.067 mg/kg).[3] Formulations containing acebutolol have been used in the treatment of angina and irregular heartbeat.

References

1. Tsuchihashi, H., Nakashima, Y., Kinami, J., *et al.* Characteristics of 125I-iodocyanopindolol binding to β-adrenergic and serotonin-1B receptors of rat brain: Selectivity of β-adrenergic agents. *Jpn. J. Pharmacol.* **52(2)**, 195-200 (1990).
2. Basil, B., Jordan, R., Loveless, A.H., *et al.* β-Adrenoceptor blocking properties and cardioselectivity of M & B 17,803A. *Br. J. Pharmacol.* **48(2)**, 198-211 (1973).
3. Basil, B., Jordan, R., Loveless, A.H., *et al.* A comparison of the experimental anti-arrhythmic properties of acebutolol (M and B 17,803), propranolol and practolol. *Br. J. Pharmacol.* **50(3)**, 323-333 (1974).

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