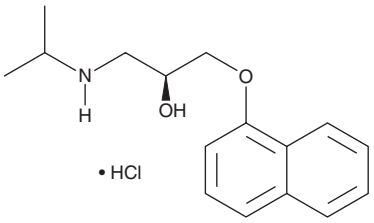
PRODUCT INFORMATION

(S)-(-)-Propranolol (hydrochloride)

Item No. 17291

CAS Registry No.:	4199-10-4
Formal Name:	1-[(1-methylethyl)amino]-3-(1-naphthalenyloxy)-2S-propanol, monohydrochloride
MF:	$C_{16}H_{21}NO_2$ • HCl
FW:	295.8
Purity:	≥98%
UV/Vis.:	λ_{max}: 213, 229, 290, 319 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

(S)-(-)-Propranolol (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the (S)-(-)-propranolol (hydrochloride) in the solvent of choice, which should be purged with an inert gas. (S)-(-)-Propranolol (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of (S)-(-)-propranolol (hydrochloride) in these solvents is approximately 11, 16, and 14 mg/ml, respectively.

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 (S)-(-)-propranolol (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of (S)-(-)-propranolol (hydrochloride) in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

(S)-(-)-Propranolol is the active enantiomer of propranolol, a β-adrenergic receptor antagonist with log K_d values of -8.16, -9.08, and -6.93 for β_1, β_2, and β_3, respectively.[1,2] It is also a non-specific serotonin receptor antagonist.[3] Propanolol was one of the first β-adrenergic receptor blockers to be widely used in clinical practice for the treatment of hypertension, angina pectoris, and cardiac ischemia.[1,4]

References

1. Baker, J.G. The selectivity of β-adrenoceptor antagonists at the human β_1, β_2 and β_3 adrenoceptors. *Br. J. Pharmacol.* **144(3)**, 317-322 (2005).
2. Mehvar, R. and Brocks, D.R. Stereospecific pharmacokinetics and pharmacodynamics of β-adrenergic blockers in humans. *J. Pharm. Pharm. Sci.* **4(2)**, 185-200 (2001).
3. Costain, D.W. and Green, A.R. β-Adrenoceptor antagonists inhibit the behavioural responses of rats to increased brain 5-hydroxytryptamine. *Br. J. Pharmacol.* **64(2)**, 193-200 (1978).
4. Gerber, J.G., Freed, C.R., and Nies, A.S. Antihypertensive pharmacology. *West. J. Med.* **132(5)**, 430-439 (1980).

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