

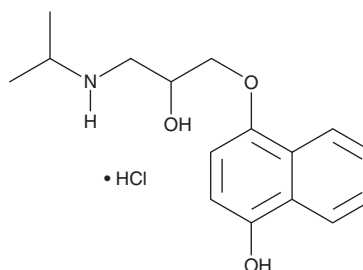
PRODUCT INFORMATION



(±)-4-hydroxy Propranolol (hydrochloride)

Item No. 18630

CAS Registry No.: 14133-90-5
Formal Name: 4-[2-hydroxy-3-[(1-methylethyl)amino]propoxy]-1-naphthalenol, monohydrochloride
MF: C₁₆H₂₁NO₃ • HCl
FW: 311.8
Purity: ≥95%
UV/Vis.: λ_{max}: 208, 243, 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

(±)-4-hydroxy Propranolol (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the (±)-4-hydroxy propranolol (hydrochloride) in the solvent of choice, which should be purged with an inert gas. (±)-4-hydroxy Propranolol (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of (±)-4-hydroxy propranolol (hydrochloride) in DMSO and ethanol is approximately 30 mg/ml and approximately 50 mg/ml in DMF.

(±)-4-hydroxy Propranolol (hydrochloride) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, (±)-4-hydroxy propranolol (hydrochloride) should first be dissolved in DMF and then diluted with the aqueous buffer of choice. (±)-4-hydroxy Propranolol (hydrochloride) has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

(±)-4-hydroxy Propranolol is an active metabolite of the β-adrenergic receptor antagonist (±)-propranolol (Item No. 23349).¹ It is formed from propranolol by the cytochrome P450 (CYP) isoform CYP2D6.² (±)-4-hydroxy Propranolol decreases tachycardia and vasodepression induced by the β₁- and β₂-adrenergic receptor agonist isoproterenol (Item No. 15592) in cats (EC₅₀ = 54 μg/kg).¹ It increases heart rate in rats depleted of catecholamines by the monocarboxylate transporter 1 (MCT1) and MCT2 inhibitor syrosingopine (Item No. 36402) when administered at doses of 10 and 80 μg/kg. (±)-4-hydroxy Propranolol decreases heart rate, myocardial contractility, and cardiac output in dogs in a dose-dependent manner.³ It also reduces superoxide-induced lipid peroxidation in isolated rat hepatic microsomes (IC₅₀ = 1.1 μM) and prevents superoxide-induced depletion of glutathione (GSH) levels in bovine aortic endothelial cells (BAECs; EC₅₀ = 1.2 μM).⁴

References

1. Fitzgerald, J.D. and O'Donnell, S.R. *Brit. J. Pharmacol.* **43(1)**, 222-235 (1971).
2. Yoshimoto, K., Echizen, H., Chiba, K., *et al.* *Br. J. Clin. Pharmacol.* **39(4)**, 421-431 (1995).
3. Fitzgerald, J.D. and O'Donnell, S.R. *Brit. J. Pharmacol.* **45(2)**, 207-217 (1972).
4. Mak, I.T. and Weglicki, W.B. *J. Pharmacol. Exp. Ther.* **308(1)**, 85-90 (2004).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 06/27/2023

CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897
[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM