



# SZABO SCANDIC

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## Produktinformation



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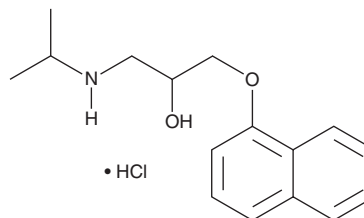
# PRODUCT INFORMATION



## (±)-Propranolol (hydrochloride)

Item No. 23349

<b>CAS Registry No.:</b>	318-98-9
<b>Formal Name:</b>	1-[(1-methylethyl)amino]-3-(1-naphthalenyloxy)-2-propanol, monohydrochloride
<b>Synonyms:</b>	ICI 45520, NSC 91523
<b>MF:</b>	C <sub>16</sub> H <sub>21</sub> NO <sub>2</sub> • HCl
<b>FW:</b>	295.8
<b>Purity:</b>	≥98%
<b>UV/Vis.:</b>	λ <sub>max</sub> : 215 nm
<b>Supplied as:</b>	A crystalline solid
<b>Storage:</b>	4°C
<b>Stability:</b>	≥2 years



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

### Laboratory Procedures

(±)-Propranolol (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the (±)-propranolol (hydrochloride) in the solvent of choice. (±)-Propranolol (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of (±)-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 (±)-propranolol (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of (±)-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

(±)-Propranolol is a β-adrenergic receptor (β-AR) antagonist (K<sub>d</sub>s = 6.91, 0.832, and 117.49 nM for human β<sub>1</sub>-, β<sub>2</sub>-, and β<sub>3</sub>-ARs, respectively).<sup>1</sup> It reduces mean blood pressure, resting heart rate, and contractility and increases AV conduction time in dogs.<sup>2</sup> (±)-Propranolol restores normal sinus rhythm in dogs with ouabain-induced arrhythmias (ED<sub>50</sub> = 3.8 mg/kg).<sup>3</sup> It also acts as a non-specific serotonin receptor antagonist, reducing tranlycypromine/L-tryptophan-induced hyperactivity in rats.<sup>4</sup> Formulations containing (±)-propranolol have been used for the treatment of hypertension, angina pectoris, and cardiac ischemia.

### References

1. Baker, J.G. The selectivity of β-adrenoceptor antagonists at the human β<sub>1</sub>, β<sub>2</sub> and β<sub>3</sub> adrenoceptors. *Br. J. Pharmacol.* **144(3)**, 317-322 (2005).
2. Fitzgerald, J.D. and O'Donnell, S.R. A comparison of the haemodynamic effects of propranolol, 4-hydroxypropranolol and practolol in anaesthetized dogs. *Br. J. Pharmacol.* **45(2)**, 207-217 (1972).
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).
4. 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).

#### 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.

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