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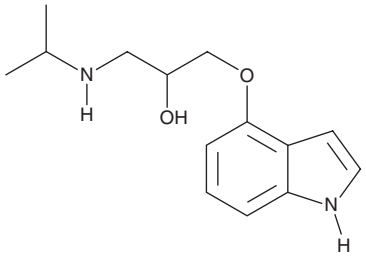
# PRODUCT INFORMATION

## Pindolol

*Item No. 21445*

| | |
|---|---|
| **CAS Registry No.:** | 13523-86-9 |
| **Formal Name:** | 1-(1H-indol-4-yloxy)-3-[(1-methylethyl)amino]-2-propanol |
| **Synonym:** | DL-Pindolol |
| **MF:** | $C_{14}H_{20}N_2O_2$ |
| **FW:** | 248.3 |
| **Purity:** | ≥99% |
| **UV/Vis.:** | $\lambda_{max}$: 218, 288 nm |
| **Supplied as:** | A crystalline solid |
| **Storage:** | -80°C |
| **Stability:** | ≥2 year |




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

### Laboratory Procedures

Pindolol is supplied as a crystalline solid. A stock solution may be made by dissolving the pindolol in the solvent of choice. Pindolol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of pindolol in ethanol is approximately 5 mg/ml and approximately 15 mg/ml in DMSO and DMF.

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

### Description

Pindolol is an antagonist of $\beta_1$- and $\beta_2$-adrenergic receptors ($\beta_1$- and $\beta_2$-ARs; $K_i$s = 2.6 and 4.8 nM, respectively) and a partial agonist of the $\beta_3$-AR, stimulating adenylyl cyclase in membranes of cells expressing the human receptor.[1,2] It is also an antagonist of the serotonin 5-$HT_{1A}$ receptor ($K_i$ = 81.1 nM for inhibition of 5-HT-stimulated GTPγS binding).[3] Pindolol inhibits isoproterenol-induced tachycardia in anesthetized cats ($ED_{50}$ = 1.8 µg/kg).[4] It also decreases mean blood pressure in conscious spontaneously hypertensive rats when administered at a dose of 30 mg/kg per day, but concomitantly increases heart rate.[5] Formulations containing pindolol have been used in the treatment of hypertension.

### References


1. Hicks, P.E., Cavero, I., Manoury, P., *et al.* Comparative analysis of beta-1 adrenoceptor agonist and antagonist potency and selectivity of cicloprolol, xamoterol and pindolol. *J. Pharmacol. Exp. Ther.* **242(3)**, 1025-1034 (1987).
2. Hoffmann, C., Leitz, M.R., Oberdorf-Maass, S., *et al.* Comparative pharmacology of human β-adrenergic receptor subtypes--characterization of stably transfected receptors in CHO cells. *Naunyn-Schmiedeberg's Arch. Pharmacol.* **369(2)**, 151-159 (2004).
3. Krushinski, J.H., Jr., Schaus, J.M., Thompson, D.C., *et al.* Indoloxypropanolamine analogues as 5-$HT_{1A}$ receptor antagonists. *Bioorg. Med. Chem. Lett.* **17(20)**, 5600-5604 (2007).
4. Lubawski, I. and Wale, J. Studies with LB 46, a new β-receptor blocking drug. *Eur. J. Pharmacol.* **6(3)**, 345-348 (1969).
5. Antonaccio, M.J., High, J., DeForrest, J.M., *et al.* Antihypertensive effects of 12 beta adrenoceptor antagonists in conscious spontaneously hypertensive rats: Relationship to changes in plasma renin activity, heart rate and sympathetic nerve function. *J. Pharmacol. Exp. Ther.* **238(1)**, 378-387 (1986).





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