



# SZABO SCANDIC

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## Produktinformation



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- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

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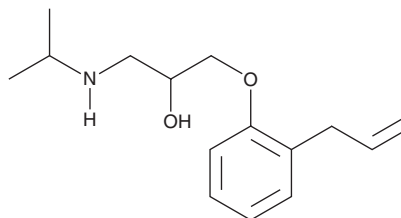
# PRODUCT INFORMATION



## Alprenolol

Item No. 25338

**CAS Registry No.:** 13655-52-2  
**Formal Name:** 1-[(1-methylethyl)amino]-3-[2-(2-propen-1-yl)phenoxy]-2-propanol  
**Synonyms:** (±)-Alprenolol, dl-Alprenolol, (RS)-Alprenolol  
**MF:** C<sub>15</sub>H<sub>23</sub>NO<sub>2</sub>  
**FW:** 249.4  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 218, 272 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥2 years



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

### Laboratory Procedures

Alprenolol is supplied as a crystalline solid. A stock solution may be made by dissolving the alprenolol in the solvent of choice. Alprenolol is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of alprenolol in these solvents is approximately 5, 15, and 20 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 alprenolol can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of alprenolol in PBS, pH 7.2, is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

Alprenolol is a non-selective  $\beta$ -adrenergic receptor ( $\beta$ -AR) antagonist that is also an antagonist of the serotonin (5-HT) receptor subtypes 5-HT<sub>1A</sub> and 5-HT<sub>1B</sub>.<sup>1,2</sup> It binds to  $\beta_1$ -,  $\beta_2$ -, and  $\beta_3$ -ARs expressed in CHO cells ( $K_d$ s = 15, 0.91, and 117 nM, respectively, for the human receptors) and to 5-HT<sub>1A</sub> and 5-HT<sub>1B</sub> receptors in rat hippocampal and striatal membranes ( $K_i$ s = 34 and 134 nM, respectively).<sup>1,2</sup> *In vivo*, alprenolol (40 mg/kg, i.v.) completely blocks the hyperactivity response of rats to 2-PCPA (Item No. 10010494) and L-tryptophan.<sup>3</sup> Alprenolol (10  $\mu$ g, i.v.) inhibits decreases in heart rate and left ventricular systolic pressure induced by the  $\beta_2$ -AR antagonist ICI 118551 (Item No. 15591) in transgenic mice overexpressing the  $\beta_2$ -AR.<sup>4</sup> It also reduces the level of abnormal prion fibrils (PrP<sup>Sc</sup>) in the brain of mice intracerebrally infected with prion disease to less than 20% of control levels when administered in drinking water at a dose of 50 mg/L.<sup>5</sup>

### References

1. Baker, J.G. *Br. J. Pharmacol.* **144**(3), 317-322 (2005).
2. Langlois, M., Brémont, B., Rousselle, D., *et al. Eur. J. Pharmacol.* **244**(1), 77-87 (1993).
3. Costain, D.W. and Green, A.R. *Br. J. Pharmacol.* **64**(2), 193-200 (1978).
4. Bond, R.A., Leff, P., Johnson, T.D., *et al. Nature* **374**(6519), 272-276 (1995).
5. Miyazaki, Y., Ishikawa, T., Kamatari, Y.O., *et al. Mol. Neurobiol.* (2018).

#### 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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