



# SZABO SCANDIC

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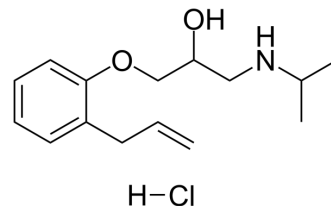
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## Alprenolol hydrochloride

|                    |                                                                                                                                |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Cat. No.:          | HY-B1517A                                                                                                                      |
| CAS No.:           | 13707-88-5                                                                                                                     |
| Molecular Formula: | C <sub>15</sub> H <sub>24</sub> ClNO <sub>2</sub>                                                                              |
| Molecular Weight:  | 285.81                                                                                                                         |
| Target:            | 5-HT Receptor                                                                                                                  |
| Pathway:           | GPCR/G Protein; Neuronal Signaling                                                                                             |
| Storage:           | 4°C, sealed storage, away from moisture<br>* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture) |



### SOLVENT & SOLUBILITY

|                                                                               |                                                                                                                                                              |                                                                      |           |            |            |
|-------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|-----------|------------|------------|
| In Vitro                                                                      | DMSO : 100 mg/mL (349.88 mM; Need ultrasonic)<br>H <sub>2</sub> O : 50 mg/mL (174.94 mM; Need ultrasonic)                                                    |                                                                      |           |            |            |
|                                                                               | Preparing Stock Solutions                                                                                                                                    | <div><div>Solvent</div><div>Concentration</div><div>Mass</div></div> | 1 mg      | 5 mg       | 10 mg      |
|                                                                               |                                                                                                                                                              | 1 mM                                                                 | 3.4988 mL | 17.4941 mL | 34.9883 mL |
|                                                                               |                                                                                                                                                              | 5 mM                                                                 | 0.6998 mL | 3.4988 mL  | 6.9977 mL  |
|                                                                               |                                                                                                                                                              | 10 mM                                                                | 0.3499 mL | 1.7494 mL  | 3.4988 mL  |
| Please refer to the solubility information to select the appropriate solvent. |                                                                                                                                                              |                                                                      |           |            |            |
| In Vivo                                                                       | 1. Add each solvent one by one: PBS<br>Solubility: 11 mg/mL (38.49 mM); Clear solution; Need ultrasonic                                                      |                                                                      |           |            |            |
|                                                                               | 2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline<br>Solubility: 2.08 mg/mL (7.28 mM); Suspended solution; Need ultrasonic |                                                                      |           |            |            |
|                                                                               | 3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)<br>Solubility: ≥ 2.08 mg/mL (7.28 mM); Clear solution                               |                                                                      |           |            |            |
|                                                                               | 4. Add each solvent one by one: 10% DMSO >> 90% corn oil<br>Solubility: ≥ 2.08 mg/mL (7.28 mM); Clear solution                                               |                                                                      |           |            |            |
|                                                                               |                                                                                                                                                              |                                                                      |           |            |            |

### BIOLOGICAL ACTIVITY

|                           |                                                                                                                                                                                                                                                                                                                         |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Description               | Alprenolol ((RS)-Alprenolol; dl-Alprenolol) hydrochloride is an orally active non-selective β-adrenoceptor antagonist and an antagonist of 5-HT <sub>1A</sub> and 5-HT <sub>1B</sub> receptors. Alprenolol hydrochloride is used as an anti-hypertensive, anti-anginal and anti-arrhythmic agent <sup>[1][2][3]</sup> . |
| IC <sub>50</sub> & Target | 5-HT <sub>1A</sub> Receptor                                                                                                                                                                                                                                                                                             |

## In Vivo

Alprenolol (p.o., 50 mg/kg) hydrochloride causes a significant drop in blood pressure which averages 20 mm Hg (at 3-hr) and an increase in heart rate by 39 beats/min (at 3-hr) in conscious renal hypertensive dogs<sup>[1]</sup>.

Alprenolol (i.p., 5 mg/kg) hydrochloride effectively blocks the anxiolytic effects of indorenate and ipsapirone but do not reduce the motor activity in adult male Swiss Webster mice<sup>[2]</sup>.

Alprenolol (intravenous injection, 0.5 or 1.0 mg/kg) can decrease systolic pressure by a mean of 10 mm Hg, diastolic pressure by a mean of 10 mm Hg hydrochloride and heart rate by 23 beats/min, as well as slightly reduce both myocardial and liver blood flows by mean of 17% and 15% respectively at a dose of 1.0 mg/kg in cats<sup>[3]</sup>.

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## CUSTOMER VALIDATION

- Nat Commun. 2020 Sep 25;11(1):4857.
- Nat Chem Biol. 2023 Aug 14.
- J Pharmaceut Biomed. 2020, 113870.
- J Chromatogr B. 2023 Jun 20, 123804.
- bioRxiv. 2020 Jan.

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## REFERENCES

[1]. Himori N, et al. Effects of beta-adrenoceptor blocking agents, pindolol, alprenolol and practolol on blood pressure and heart rate in conscious renal hypertensive dogs. Arch Int Pharmacodyn Ther. 1977 Jan;225(1):152-65.

[2]. Fernández-Guasti A, et al. Evidence for the involvement of the 5-HT<sub>1A</sub> receptor in the anxiolytic action of indorenate and ipsapirone. Psychopharmacology (Berl). 1990;101(3):354-8.

[3]. Parratt JR, et al. Myocardial and haemodynamic effects of the beta-adrenoceptor blocking drug alprenolol (H56/28) in anaesthetized cats. Br J Pharmacol. 1969 Oct;37(2):357-66.

**Caution: Product has not been fully validated for medical applications. For research use only.**

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