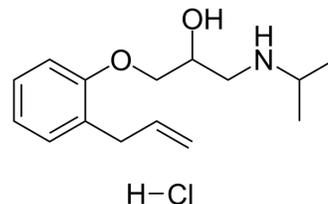


## Alprenolol hydrochloride

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 * 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)					
	H <sub>2</sub> O : 50 mg/mL (174.94 mM; Need ultrasonic)					
	Preparing Stock Solutions	Solvent Concentration	Mass	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 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 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) Solubility: ≥ 2.08 mg/mL (7.28 mM); Clear solution					
	4. Add each solvent one by one: 10% DMSO >> 90% corn oil 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.

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

## 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.**

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA