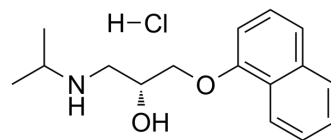


## (R)-Propranolol hydrochloride

<b>Cat. No.:</b>	HY-A0295
<b>CAS No.:</b>	13071-11-9
<b>Molecular Formula:</b>	C <sub>16</sub> H <sub>22</sub> ClNO <sub>2</sub>
<b>Molecular Weight:</b>	295.8
<b>Target:</b>	Adrenergic Receptor
<b>Pathway:</b>	GPCR/G Protein; Neuronal Signaling
<b>Storage:</b>	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 : 250 mg/mL (845.17 mM; Need ultrasonic)  
H<sub>2</sub>O : 7.14 mg/mL (24.14 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	3.3807 mL	16.9033 mL	33.8066 mL
	5 mM	0.6761 mL	3.3807 mL	6.7613 mL
	10 mM	0.3381 mL	1.6903 mL	3.3807 mL

Please refer to the solubility information to select the appropriate solvent.

#### In Vivo

- Add each solvent one by one: PBS  
Solubility: 10 mg/mL (33.81 mM); Clear solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.08 mg/mL (7.03 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: ≥ 2.08 mg/mL (7.03 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.08 mg/mL (7.03 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

(R)-Propranolol hydrochloride is a less active enantiomer of the β-adrenoceptor antagonist propranolol (HY-B0573). Propranolol is a nonselective β-adrenergic receptor (βAR) antagonist, has high affinity for the β<sub>1</sub>AR and β<sub>2</sub>AR with K<sub>i</sub> values of 1.8 nM and 0.8 nM, respectively<sup>[1]</sup>.

#### In Vivo

Both isomers of propranolol are capable of preventing adrenaline-induced cardiac arrhythmias in cats anaesthetized with halothane, but the mean dose of (-)-propranolol is 0.09 mg/kg whereas that of (+)-propranolol is 4.2 mg/kg<sup>[1]</sup>.

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Both isomers of propranolol are capable of reversing ventricular tachycardia caused by ouabain in anaesthetized cats and dogs. The dose of (-)-propranolol is significantly smaller than that of (+)-propranolol ((R)-Propranolol) in both species<sup>[1]</sup>. (R)-Propranolol hydrochloride (10 mg/kg) has no antagonistic activity in rats, the cardiac responses to isoprenaline of rat can be blocked by probably much less than 1/100th of that of the (-) isomer in this preparation<sup>[1]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

## REFERENCES

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[1]. A M Barrett, et al. The biological properties of the optical isomers of propranolol and their effects on cardiac arrhythmias. Br J Pharmacol

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**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