# (+)-Penbutolol

**Cat. No.:** HY-116790A

**CAS No.:** 38363-41-6

**Molecular Formula:** $C_{18}H_{29}NO_2$

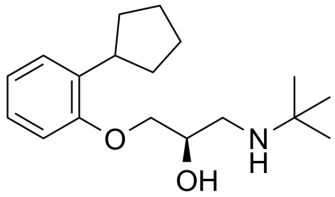
**Molecular Weight:** 291.43

**Target:** Adrenergic Receptor

**Pathway:** GPCR/G Protein; Neuronal Signaling

**Storage:**

| | | |
|---|---|---|
| Powder | -20°C | 3 years |
| | 4°C | 2 years |
| In solvent | -80°C | 2 years |
| | -20°C | 1 year |



## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 100 mg/mL (343.14 mM; Need ultrasonic)

| Preparing Stock Solutions | Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|---|
| | 1 mM | 3.4314 mL | 17.1568 mL | 34.3136 mL |
| | 5 mM | 0.6863 mL | 3.4314 mL | 6.8627 mL |
| | 10 mM | 0.3431 mL | 1.7157 mL | 3.4314 mL |

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

**In Vivo**

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (8.58 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (8.58 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (8.58 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

(+)-Penbutolol is a β-adrenoceptor antagonist, with an $IC_{50}$ of 0.74 μM[1]. (+)-Penbutolol is an optical isomer of l-penbutolol with $Na^+$ channel-blocking action[2].

**$IC_{50}$ & Target**

IC50: 0.74 μM (β-adrenoceptor)[1].

**In Vitro**

(+)-penbutolol on the $[Ca^{2+}]_i$-increase induced by LPC is concentration-dependent[1].
(+)-penbutolol inhibits the rounding of cells dose dependently (8±4%, 56±4% and 66±2% at the concentrations of $10^{-6}$ M,

$5\times10^{-6}$ M and $10^{-5}$ M, respectively)[2].

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

## REFERENCES


[1]. Chen M, et al. Effects of beta-adrenoceptor antagonists on Ca(2+)-overload induced by lysophosphatidylcholine in rat isolated cardiomyocytes. Br J Pharmacol. 1996 Jun;118(4):865-70.

[2]. Hashizume H, et al. Effects of antiischemic drugs on veratridine-induced hypercontracture in rat cardiac myocytes. Eur J Pharmacol. 1994 Dec 12;271(1):1-8.





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