Betaxolol hydrochloride

Cat. No.: HY-B0381A

CAS No.: 63659-19-8

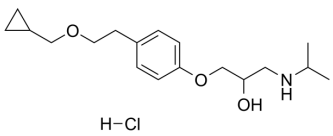
Molecular Formula: $C_{18}H_{30}ClNO_3$

Molecular Weight: 343.89

Target: Adrenergic 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 (290.79 mM)
H_2O : 10 mg/mL (29.08 mM; Need ultrasonic)
* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.9079 mL	14.5395 mL	29.0791 mL
	5 mM	0.5816 mL	2.9079 mL	5.8158 mL
	10 mM	0.2908 mL	1.4540 mL	2.9079 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 130 mg/mL (378.03 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (7.27 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (7.27 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (7.27 mM); Clear solution

BIOLOGICAL ACTIVITY

Description Betaxolol Hydrochloride is a selective beta1 adrenergic receptor blocker that can be used for the research of hypertension and glaucoma.

IC_{50} & Target Beta1 Adrenergic Receptor

In Vitro	Betaxolol hydrochloride is a cardioselective beta-adrenergic receptor blocking agent. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Betaxolol hydrochloride (5 mg/kg via i.p. injection) was administered at 24 and then 44 h following the final chronic cocaine administration. Animals treated with betaxolol during cocaine withdrawal exhibited a significant attenuation of anxiety-like behavior characterized by increased time spent in the open arms and increased entries into the open arms compared to animals treated with only saline during cocaine withdrawal. Betaxolol hydrochloride did not produce anxiolytic-like effects in control animals treated chronically with saline [1]. Betaxolol hydrochloride produces less systemic beta 2- and possibly beta 1-adrenergic receptor blockade than either timolol or levobunolol. Betaxolol hydrochloride may be relatively safer to use in patients with reactive airway disease than either timolol or levobunolol [2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Acs Biomater Sci Eng. 2022 Oct 10.
- J Pharmaceut Biomed. 2020, 113870.
- Chirality. 2018 Nov;30(11):1195-1205.

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REFERENCES

[1]. Rudoy, C.A. and E.J. Van Bockstaele, Betaxolol, a selective beta(1)-adrenergic receptor antagonist, diminishes anxiety-like behavior during early withdrawal from chronic cocaine administration in rats. Prog Neuropsychopharmacol Biol Psychiatry, 2007. 31(5

[2]. Lesar, T.S., Comparison of ophthalmic beta-blocking agents. Clin Pharm, 1987. 6(6): p. 451-63.

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