Mianserin hydrochloride

Cat. No.: HY-B0188A

CAS No.: 21535-47-7

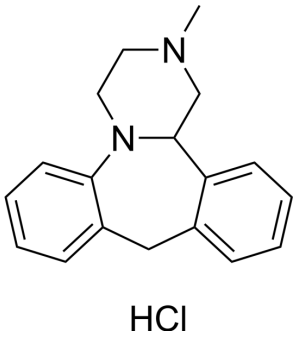
Molecular Formula: $C_{18}H_{21}ClN_2$

Molecular Weight: 300.83

Target: Histamine Receptor

Pathway: GPCR/G Protein; Immunology/Inflammation; Neuronal Signaling

Storage: 4°C, sealed storage, away from moisture
* In solvent : -80°C, 2 years; -20°C, 1 year (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (166.21 mM; Need ultrasonic)
H_2O : 25 mg/mL (83.10 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions

Mass / Solvent / Concentration	1 mg	5 mg	10 mg
1 mM	3.3241 mL	16.6207 mL	33.2414 mL
5 mM	0.6648 mL	3.3241 mL	6.6483 mL
10 mM	0.3324 mL	1.6621 mL	3.3241 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 (8.31 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (8.31 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (8.31 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Mianserin hydrochloride (Org GB 94) is a H1 receptor inverse agonist and is a psychoactive agent of the tetracyclic antidepressant.

IC_{50} & Target

H_1 Receptor

In Vitro

Mianserin hydrochloride (Org GB 94) is a psychoactive drug of the tetracyclic antidepressant (TeCA) therapeutic family. It is classified as a noradrenergic and specific serotonergic antidepressant (NaSSA) and has antidepressant, anxiolytic (anti-anxiety), hypnotic (sedating), antiemetic (nausea and vomiting-attenuating), orexigenic (appetite-stimulating), and

antihistamine effects. It is not approved for use in the US, but its analogue, mirtazapine, is. Mianserin was the first antidepressant to reach the UK market that was less dangerous than the tricyclic antidepressants in overdose. Mianserin is an antagonist/inverse agonist of the H1, 5-HT1D, 5-HT2A, 5-HT2B, 5-HT2C, 5-HT3, 5-HT6, 5-HT7, α1-adrenergic, and α2-adrenergic receptors, and also inhibits the reuptake of norepinephrine. As a high affinity H1 receptor inverse agonist, mianserin has strong antihistamine effects (sedation, weight gain, etc.). Contrarily, it has negligible affinity for the mACh receptors, and thus lacks any anticholinergic properties. It was recently found to be a potent kappa opioid receptor agonist. In addition, mianserin also appears to be a potent antagonist of the neuronal octopamine receptor. What implications this may have on mood are currently unknown, however octopamine has been implicated in the regulation of sleep, appetite and insulin production and therefore may theoretically contribute to the overall side effect profile of mianserin.

REFERENCES

[1]. Olianas MC,et al. The atypical antidepressant mianserin exhibits agonist activity at κ-opioid receptors. Br J Pharmacol. 2012 Nov;167(6):1329-41.

[2]. Roeder T. High-affinity antagonists of the locust neuronal octopamine receptor. Eur J Pharmacol. 1990 Nov 27;191(2):221-4.

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