Venlafaxine hydrochloride

Cat. No.: HY-B0196A

CAS No.: 99300-78-4

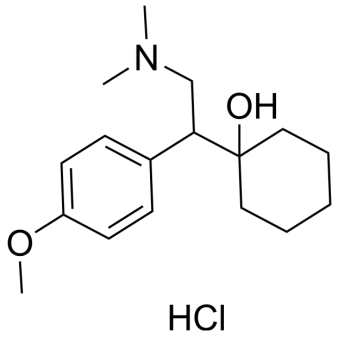
Molecular Formula: $C_{17}H_{28}ClNO_2$

Molecular Weight: 313.86

Target: Serotonin Transporter

Pathway: 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

H_2O : ≥ 100 mg/mL (318.61 mM)
DMSO : 50 mg/mL (159.31 mM; Need ultrasonic)
* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.1861 mL	15.9307 mL	31.8613 mL
5 mM	0.6372 mL	3.1861 mL	6.3723 mL
10 mM	0.3186 mL	1.5931 mL	3.1861 mL

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

In Vivo

1. Add each solvent one by one: PBS
   Solubility: 100 mg/mL (318.61 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 (7.97 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (7.97 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (7.97 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Venlafaxine hydrochloride (Wy 45030 hydrochloride) is an orally active, potent serotonin (5-HT)/norepinephrine (NE) reuptake dual inhibitor. Venlafaxine is an antidepressant[1].

In Vitro

Venlafaxine hydrochloride (Wy 45030 hydrochloride) dose-dependently inhibits binding of the serotonin transporter radioligand [^{3}H]-paroxetine to membranes from cells transfected with the human 5-HT transporter with a K_i of 2.48 μM.

	Venlafaxine hydrochloride inhibits binding of the NE transporter ligand [^{3H}]-nisoxetine to membranes from cells transfected with the human NE transporter with a K_i of 82 nM[1]. Venlafaxine hydrochloride inhibits ex vivo binding to rat 5-HT transporters and NE transporters with ED_{50} values of 2 and 54 mg/kg, respectively[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Venlafaxine hydrochloride (Wy 45030 hydrochloride; 10-100 mg/kg; IP) dose-dependently blocks the depletion of norepinephrine levels in rat hypothalamus induced by 6-OHDA[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male Sprague-Dawley rats weighing 180-230 grams[1]
Dosage:	10, 30, 100 mg/kg
Administration:	IP; one hour prior to p-chloramphetamine hydrochloride (p-CA; 10 mg/kg; i.p.)
Result:	Dose-dependently blocked the depletion of norepinephrine levels in rat hypothalamus induced by 6-OHDA (intracerebroventricularly; 50 μg/rat; one hour later), with ED_{50} values of 12 and 94 mg/kg i.p., respectively.

CUSTOMER VALIDATION

- J Agric Food Chem. 2021 Nov 4.

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REFERENCES

[1]. Bymaster FP, et al. Comparative affinity of duloxetine and venlafaxine for serotonin and norepinephrine transporters in vitro and in vivo, human serotonin receptor subtypes, and other neuronal receptors. Neuropsychopharmacology. 2001 Dec;25(6):871-80.

[2]. Goeringer KE, et al. Postmortem tissue concentrations of venlafaxine. Forensic Sci Int. 2001 Sep 15;121(1-2):70-5.

Caution: Product has not been fully validated for medical applications. For research use only.

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