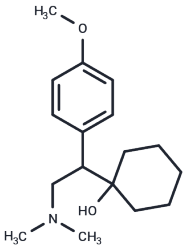
Data Sheet (Cat.No.T0472)

TargetMol

Venlafaxine hydrochloride

Chemical Properties



CAS No. : 99300-78-4

Formula: C17H28ClNO2

Molecular Weight: 313.86

Storage: Keep away from moisture
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Venlafaxine hydrochloride (Wy 45030 hydrochloride) is a cyclohexanol and phenylethylamine derivative functioning as a serotonin and noradrenaline reuptake inhibitor (SNRI) used as an antidepressive agent.
Targets(IC50)	5-HT Receptor,Serotonin Transporter
In vitro	In mice, the analgesic effect induced by Venlafaxine is significantly inhibited by naloxone, nor-BNI, and naltrexone indol, indicating involvement of kappa (κ-) and delta (δ-) opioid mechanisms, but not by β-FNA or naloxazone. In fully developed neuropathic rats, Venlafaxine reverses hyperalgesia. Venlafaxine demonstrates a dose-dependent analgesic effect with an ED50 of 46.7 mg/kg in mice.
In vivo	Venlafaxine exhibits lower potential for inhibiting the metabolism of CYP2D6 substrates compared to widely used SSRIs such as desipramine and imipramine and can also inhibit the metabolism of several other major human hepatic P450 substrate enzymes. It inhibits the binding to human noradrenaline and serotonin transporters with K(i) values of 2480 nM and 82 nM, respectively. Furthermore, venlafaxine blocks p-chloroamphetamine and 6-hydroxydopamine-induced monoamine depletion with ED (50) values of 5.9 mg/kg and 94 mg/kg.

Solubility Information

Solubility	H2O: 252.5 mg/mL (804.5 mM),Sonication is recommended. DMSO: 245 mg/mL (780.6 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: 10 mg/mL (31.86 mM),Solution. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (6.37 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
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
50 mM	0.0637 mL	0.3186 mL	0.6372 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Ball SE, et al. Br J Clin Pharmacol, 1997, 43(6), 619-626.
Jiang B, Wang H, Wang J L, et al. Hippocampal Salt-Inducible Kinase 2 Plays a Role in Depression Via the CREB-Regulated Transcription Coactivator 1-Cyclic AMP Response Element Binding-Brain-Derived Neurotrophic Factor Pathway. Biological Psychiatry. 2019, 85(8): 650-666
Bymaster FP, et al. Neuropsychopharmacology, 2001, 25(6), 871-880.
Schreiber S, et al. Neurosci Lett, 1999, 273(2), 85-88.
Lang E, et al. Pain, 1996, 68(1), 151-155.
Jiang Bo, et al. Hippocampal Salt-Inducible Kinase 2 Plays a Role in Depression Via the CREB-Regulated Transcription Coactivator 1-Cyclic AMP Response Element Binding-Brain-Derived Neurotrophic Factor Pathway [J]. Biological psychiatry. 2019 Apr 15;85(8):650-666.