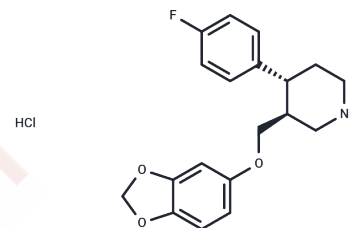


Paroxetine hydrochloride

Chemical Properties

CAS No. :	78246-49-8
Formula:	C ₁₉ H ₂₁ ClFNO ₃
Molecular Weight:	365.826
Storage:	Keep away from moisture Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



Biological Description

Description	Paroxetine hydrochloride (Paroxetine HCl) is a serotonin uptake inhibitor that is effective in the treatment of depression.
Targets(IC50)	5-HT Receptor,AChR,Autophagy,GRK,Serotonin Transporter
In vitro	Paroxetine, at an ED ₅₀ of 1-3 mg/kg when administered orally (PO), demonstrates the capability to prevent the depletion of serotonin (5-HT) in rats' brains induced by p-chloroamphetamine (PCA), signifying an inhibition of serotonin uptake in vivo. Additionally, in isolated rat hypothalamic synaptosomes, paroxetine exhibits a dose-dependent inhibition of [3H] - 5-HT uptake with an ED ₅₀ of 1.9 mg/kg, while showing minimal effects on the uptake of [3H] - norepinephrine (NA), with an ED ₅₀ exceeding 30 mg/kg.
In vivo	Paroxetine, a highly effective hydroxylated metabolite inhibitor of (dextromethorphan), demonstrates the concentration-dependent reduction in the firing rate of serotonergic neurons within the DRN of super fused brainstem slices at 1-300 μM, with an IC ₅₀ value of 1.4 μM. With an inhibition constant (K _i) of 2 mM, Paroxetine's inhibitory capacity surpasses that of fluoxetine or norfluoxetine, indicating its more potent effect. Moreover, in rat cortical and in vitro hypothalamic synapses, Paroxetine acts as a potent and specific inhibitor of [3H]-5-hydroxytryptamine (5-HT), with a K _i of 1.1 nM. Its antidepressant activity is attributed to the increased concentration of 5-HT in the extracellular compartment, thereby enhancing serotonergic neurotransmission. Paroxetine also inactivates CYP2D6 by forming metabolic intermediate complexes.
Cell Research	Paroxetine is dissolved in DMSO. Cell viability is determined by the tetrazolium salt 3-[4,5-dimethylthiazol-2-yl]-2,5-diphenyltetrazolium bromide (MTT) assay. BV2 and primary microglial cells are initially seeded into 96-well plates at a density of 1×10 ⁴ cells/well and 5×10 ⁴ cells/well, respectively. Following treatment, MTT (5 mg/mL in PBS) is added to each well and incubated at 37°C for four hours. The resulting formazan crystals are dissolved in dimethylsulfoxide (DMSO). The optical density is measured at 570 nm, and results are expressed as a percentage of surviving cells compared with the control.

Solubility Information

A DRUG SCREENING EXPERT

Solubility	H2O: 10 mg/mL (27.34 mM),Sonication is recommended. Ethanol: 35 mg/mL (95.67 mM),Sonication is recommended. DMSO: 45 mg/mL (123.01 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (5.47 mM),Sonication is recommended. <i>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.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.7335 mL	13.6676 mL	27.3351 mL
5 mM	0.5467 mL	2.7335 mL	5.467 mL
10 mM	0.2734 mL	1.3668 mL	2.7335 mL
50 mM	0.0547 mL	0.2734 mL	0.5467 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

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