Product Data Sheet

Product Name: Befiradol hydrochloride (NLX-112 (hydrochloride))
Cat. No.: GC34304

Chemical Properties

Cas. No.			
SMILES	O=C(C1=CC=C(F)C(Cl)=C1)N2CCC(CNCC3=NC=C(C)C=C3)(F)CC2.Cl		
Formula	$C_{20}H_{23}Cl_2F_2N_3O$	M.Wt	430.32
Solubility	DMSO : 125 mg/mL (290.48 mM)	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure			

Protocol

Animal experiment:

Rats[1]Male albino Wistar rats (230-300 g) are used throughout the study. Rats are anaesthetized with chloral hydrate (400-500 mg/kg, i.p.) or isoflurane. For the experiment with systemic administration of the compounds, saline or (±)WAY100635 are injected s.c., followed, 40 min later, by i.p. administration of saline or Befiradol. For the experiments with local perfusion, saline is injected s.c. and 40 min later, Befiradol (F13640; NLX-112) is added to the perfusion medium for the concentration-response experiment. For the antagonism, (±)WAY100635 (or aCSF) is delivered through the dialysis probe and 40 min later, Befiradol is added to the perfusion medium. Samples are collected for 140 min after administration or beginning of the perfusion of the agonist[1].

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References:

[1]. Lladó-Pelfort L, et al. In vivo electrophysiological and neurochemical effects of the selective 5-HT1A receptor agonist, F13640, at pre- and postsynaptic 5-HT1A receptors in the rat. Psychopharmacology (Berl). 2012 May;221(2):261-72.

Background

Befiradol hydrochloride (NLX-112 hydrochloride) is a selective 5-HT1A receptor agonist.

Befiradol (F13640; NLX-112) reduces the activity of dorsal raphe serotonergic neurons at 0.2-18.2 μg/kg, i.v. (cumulative doses; ED50=0.69 μg/kg, i.v.) and increases the discharge rate of 80% of mPFC pyramidal neurons in the same dose range (ED50=0.62 μg/kg, i.v.). Both effects are reversed by the subsequent administration of the 5-HT1A receptor antagonist (±)WAY100635. In microdialysis studies, Befiradol (F13640; NLX-112) (0.04-0.63 mg/kg, i.p.) dose-dependently decreases extracellular 5-HT in the hippocampus and mPFC. Likewise, Befiradol (F13640; NLX-112) (0.01-2.5 mg/kg, i.p.) dose-dependently increases extracellular DA in mPFC, an effect dependent on the activation of postsynaptic 5-HT1A receptors in mPFC. Local perfusion of Befiradol in mPFC (1-1,000 μM) also increases extracellular DA in a concentration-dependent manner. Both the systemic and local effects of Befiradol are prevented by prior (±)WAY100635 administration[1].

[1]. Lladó-Pelfort L, et al. In vivo electrophysiological and neurochemical effects of the selective 5-HT1A receptor agonist, F13640, at pre- and postsynaptic 5-HT1A receptors in

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