Data Sheet (Cat.No.T1189)

TargetMol

Milnacipran hydrochloride

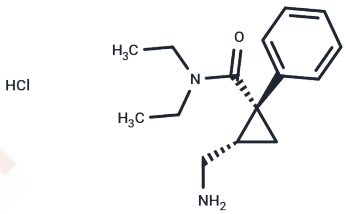
Chemical Properties

CAS No. : 101152-94-7

Formula: C15H23ClN2O

Molecular Weight: 282.81

Storage: 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	Milnacipran hydrochloride (Savella) is a serotonin and norepinephrine reuptake inhibitor used to treat major depressive disorders. Milnacipran hydrochloride is an enantiomer of milnacipran, which is used to treat fibromyalgia. Milnacipran hydrochloride and milnacipran have been associated with a low rate of transient elevations in serum aminotransferase levels during treatment and with rare instances of clinically apparent acute liver injury with jaundice.
Targets(IC50)	Norepinephrine,PERK,Serotonin Transporter
In vitro	In rat prefrontal cortex, Milnacipran (10 and 30 mg/kg, p.o.) was found to dose-dependently increase extracellular levels of NA and 5-HT. In antidepressant animal behavioral models, Milnacipran (30 and 60 mg/kg, p.o.) significantly reduced immobility time in the forced swim test in rats. Similarly, in animal models of anxiety, Milnacipran (30 and 60 mg/kg, p.o.) notably decreased immobility time in the conditioned fear stress test. In freely moving guinea pigs' hypothalamus, treatment with Milnacipran (10 mg/kg and 40 mg/kg) resulted in a 57% and 47% reduction in the NA metabolite MHPG respectively. Furthermore, Milnacipran (<40 mg/kg, i.p.) increased extracellular levels of NA and 5-HT in the hypothalamus of freely moving guinea pigs in a dose-dependent manner.
In vivo	Over 80% of Milnacipran is excreted in the urine primarily in its unchanged form and as glucuronide conjugates, with less than 10% metabolized through CYP3A4 enzyme-mediated N-deethylation. At high concentrations, Milnacipran can inhibit certain ligand-gated ion channel receptors, including 5-HT3A (IC50: 185 μM), NMDA (IC50: 58.4 μM), and nACh (IC50: 14.3 μM) receptors.

Solubility Information

Solubility	H2O: 28.3 mg/mL (100.07 mM),Sonication is recommended. DMSO: 50 mg/mL (176.8 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 (7.07 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*

In vivo Formulation	*vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.5359 mL	17.6797 mL	35.3594 mL
5 mM	0.7072 mL	3.5359 mL	7.0719 mL
10 mM	0.3536 mL	1.768 mL	3.5359 mL
50 mM	0.0707 mL	0.3536 mL	0.7072 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

Chen C, et al. Bioorg Med Chem Lett, 2008, 18(4), 1346-1349.
Ueta K, et al. Psychopharmacology (Berl), 2004, 175(2), 241-246.
Mochizuki D, et al. Psychopharmacology (Berl), 2002, 162(3), 323-332.
Moret C, et al. J Neurochem, 1997, 69(2), 815-822.