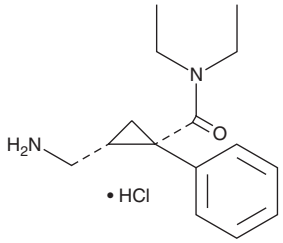
PRODUCT INFORMATION

Levomilnacipran (hydrochloride)

Item No. 23951

CAS Registry No.: 175131-60-9
Formal Name: 2R-(aminomethyl)-N,N-diethyl-1S-phenyl-cyclopropanecarboxamide, monohydrochloride
Synonym: (1S-*cis*)-Milnacipran
MF: $C_{15}H_{22}N_2O \bullet HCl$
FW: 282.8
Purity: ≥98%
UV/Vis.: λ_{max}: 207 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Levomilnacipran (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the levomilnacipran (hydrochloride) in the solvent of choice. Levomilnacipran (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of levomilnacipran (hydrochloride) in ethanol and DMSO is approximately 33 mg/ml and approximately 20 mg/ml in DMF.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of levomilnacipran (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of levomilnacipran (hydrochloride) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Levomilnacipran is an active enantiomer of the serotonin (5-HT) and norepinephrine (NE) reuptake inhibitor milnacipran (Item No. 23837).[1] It binds to the 5-HT and NE transporters (K_is = 11.2 and 92.2 nM, respectively, for human recombinant transporters) and inhibits reuptake *in vitro* (IC_{50}s = 19 and 10.5 nM, respectively). It is selective for 5-HT and NE transporters over DAT (K_i = >10,000 nM for human recombinant DAT) and 23 receptors (K_is = ≥10,000 nM). Levomilnacipran increases extracellular levels of 5-HT and NE in rat cortex with minimal effective doses (MEDs) of 20 and 10 mg/kg, respectively. It decreases immobility in the forced swim and tail suspension tests (MEDs = 20 and 2.5 mg/kg, respectively) without increasing locomotor activity. Formulations containing levomilnacipran have been used in the treatment of major depressive disorder.

Reference

1. Auclair, A.L., Martel, J.C., Assié, M.B., *et al.* Levomilnacipran (F2695), a norepinephrine-preferring SNRI: Profile in vitro and in models of depression and anxiety. *Neuropharmacology* **70**, 338-347 (2013).

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