

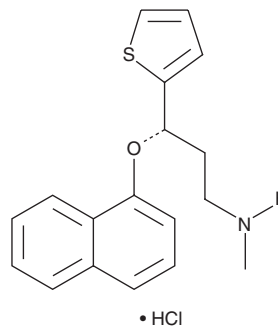
PRODUCT INFORMATION



(S)-Duloxetine (hydrochloride)

Item No. 14317

CAS Registry No.: 136434-34-9
Formal Name: N-methyl-γS-(1-naphthalenyloxy)-2-thiophenepropanamine, monohydrochloride
Synonym: LY248686
MF: C₁₈H₁₉NOS • HCl
FW: 333.9
Purity: ≥98%
UV/Vis.: λ_{max}: 217, 291 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years



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

Laboratory Procedures

(S)-Duloxetine (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the (S)-duloxetine (hydrochloride) in the solvent of choice. (S)-Duloxetine (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 (S)-duloxetine (hydrochloride) in these solvents is approximately 20, 25, and 30 mg/ml, respectively.

(S)-Duloxetine (hydrochloride) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, (S)-duloxetine (hydrochloride) should first be dissolved in DMF and then diluted with the aqueous buffer of choice. (S)-Duloxetine (hydrochloride) has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

(S)-Duloxetine is a potent inhibitor of serotonin and norepinephrine reuptake ($K_{iS} = 4.6$ and 15.6 nM, respectively, for rat synaptosomes).¹ It also inhibits dopamine reuptake ($K_i = 369$ nM). (S)-Duloxetine suppresses spontaneous firing activity *in vivo* in the dorsal raphe and locus coeruleus ($ED_{50S} = 99$ and 475 μg/kg, respectively).² It also decreases immobility time and increases latency to first immobility in the forced swim test in mice when administered at doses of 16 and 32 mg/kg.³ Formulations containing (S)-duloxetine have been used in the treatment of major depressive disorder, generalized anxiety disorder, chronic neuropathic and musculoskeletal pain, and fibromyalgia.

References

1. Wong, D.T., Bymaster, F.P., Mayle, D.A., *et al.* LY248686, a new inhibitor of serotonin and norepinephrine uptake. *Neuropsychopharmacology* **8(1)**, 23-33 (1993).
2. Kasamo, K., Blier, P., and De Montigny, C. Blockade of the serotonin and norepinephrine uptake processes by duloxetine: *In vitro* and *in vivo* studies in the rat brain. *J. Pharmacol. Exp. Ther.* **277(1)**, 278-286 (1996).
3. Castagné, V., Porsolt, R.D., and Moser, P. Use of latency to immobility improves detection of antidepressant-like activity in the behavioral despair test in the mouse. *Eur. J. Pharmacol.* **616(1-3)**, 128-133 (2009).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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