bio-techne
TOCRIS

Print Date: Mar 19th 2025

Certificate of Analysis

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Product Name: **(S)-Duloxetine hydrochloride** **Catalog No.: 4798** **Batch No.: 1**

CAS Number: 136434-34-9

IUPAC Name: (+)-(*S*)-*N*-Methyl-3-(1-naphthyloxy)-3-(2-thienyl)propanamine hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{18}H_{19}NOS.HCl$

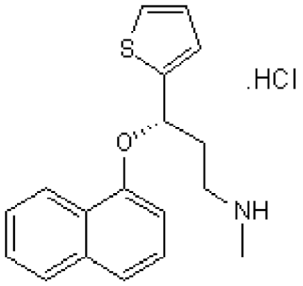
Batch Molecular Weight: 333.88

Physical Appearance: Off-white solid

Solubility: water to 10 mM with gentle warming
DMSO to 100 mM

Storage: Store at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 96.1% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Optical Rotation: $[\alpha]_D$ = +117.8 (Concentration = 1, Solvent = Methanol)

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	64.75	6.04	4.2
Found	64.65	6.01	4.37

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Description:

(S)-Duloxetine hydrochloride is a high affinity, competitive 5-HT and noradrenaline (NA) re-uptake inhibitor (K_i values are 8.5 and 45 nM for 5-HT and NA reuptake respectively in cortical synaptosomes; IC_{50} values are 28 and 46 nM for 5-HT and NA reuptake respectively in rat hippocampal slices). Also blocks dopamine reuptake (K_i = 300 nM in striatal synaptosomes). Exhibits antidepressant and anxiolytic effects. Orally bioavailable.

Physical and Chemical Properties:

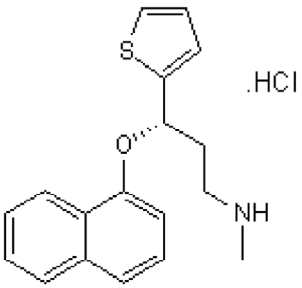
Batch Molecular Formula: $C_{18}H_{19}NOS.HCl$

Batch Molecular Weight: 333.88

Physical Appearance: Off-white solid

Minimum Purity: ≥99%

Batch Molecular Structure:



Storage: Store at RT. This product is packaged under an inert atmosphere.

Solubility & Usage Info:

water to 10 mM with gentle warming
DMSO to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Kasamo *et al* (1996) Blockade of the serotonin and NE uptake processes by duloxetine: in vitro and in vivo studies in the rat brain. J.Pharmacol.Exp.Ther. ***277*** 278. PMID: 8613930.

Wong *et al* (1988) LY227942, an inhibitor of serotonin and NE uptake: biochemical pharmacology of a potential antidepressant drug. Life Sci. ***43*** 2049. PMID: 2850421.

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