

Certificate of Analysis

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Product Name: (S)-Duloxetine hydrochloride

Catalog No.: 4798

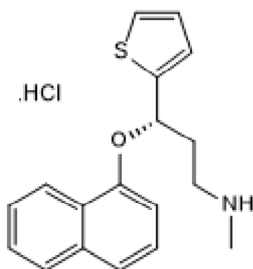
Batch No.: 4

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:	White solid
Solubility:	water to 10 mM with gentle warming DMSO to 100 mM
Storage:	Store at +4°C
Batch Molecular Structure:	



2. ANALYTICAL DATA

HPLC:	Shows 100.0 % purity
¹H NMR:	Consistent with structure
Mass Spectrum:	Consistent with structure
Optical Rotation:	[α] _D = +118 (Concentration = 1, Solvent = Methanol)
Microanalysis:	

Carbon Hydrogen Nitrogen

Theoretical	64.75	6.04	4.2
Found	64.59	6.06	4.22

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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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:

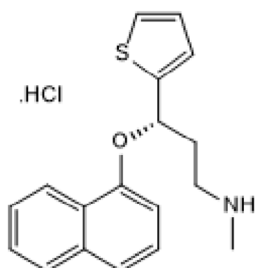
Batch Molecular Formula: $C_{18}H_{19}NOS.HCl$.

Batch Molecular Weight: 333.88

Physical Appearance: White solid

Minimum Purity: ≥98%

Batch Molecular Structure:



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.

Storage: Store at +4°C. 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.

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