

Certificate of Analysis

Product Name: (S)-Duloxetine hydrochloride

Catalog No.: 4798

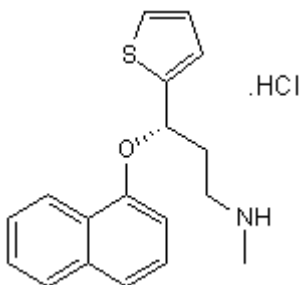
Batch No.: 1

CAS Number: 136434-34-9

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

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₈H₁₉NOS.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 99.6% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Optical Rotation: [α]_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 |

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

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Description:

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:

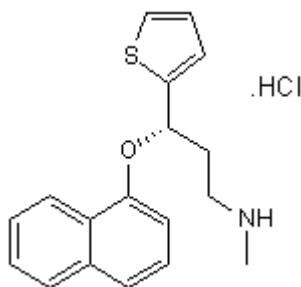
Batch Molecular Formula: $C_{18}H_{19}NOS.HCl$

Batch Molecular Weight: 333.88

Physical Appearance: Off-white solid

Minimum Purity: >99%

Batch Molecular Structure:



References:

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

Kasamo *et al* (1996) 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** 278. PMID: 8613930.

Storage: Store at RT

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. Our standard recommendations are:

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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