

## Certificate of Analysis

**Product Name:** Amitriptyline hydrochloride

**Catalog No.:** 4456

**Batch No.:** 1

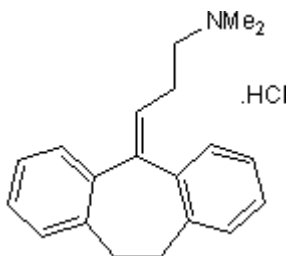
CAS Number: 549-18-8

EC Number: 208-964-6

IUPAC Name: 3-(10,11-Dihydro-5*H*-dibenzo[*a,d*]cyclohepten-5-ylidene)-*N,N*-dimethyl-1-propanamine hydrochloride

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>20</sub>H<sub>23</sub>N.HCl  
**Batch Molecular Weight:** 313.86  
**Physical Appearance:** White solid  
**Solubility:** water to 100 mM  
DMSO to 100 mM  
ethanol to 100 mM  
**Storage:** Desiccate at RT  
**Batch Molecular Structure:**



### 2. ANALYTICAL DATA

**Melting Point:** Between 197 - 198°C  
**HPLC:** Shows 100% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	76.53	7.71	4.46
Found	76.44	7.74	4.56

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**Description:**

Inhibitor of serotonin and noradrenaline uptake; also activates  $\alpha_{2A}$ -adrenoceptors and antagonizes 5-HT<sub>2</sub> receptors. Displays antinociceptive activity. Tricyclic antidepressant (TCA). Also a TrkA/B agonist. Induces neurite outgrowth in PC12 cells.

**Physical and Chemical Properties:**

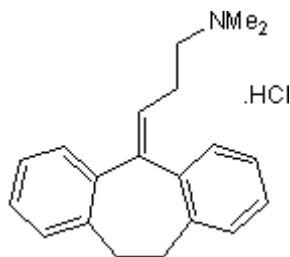
Batch Molecular Formula: C<sub>20</sub>H<sub>23</sub>N.HCl

Batch Molecular Weight: 313.86

Physical Appearance: White solid

**Minimum Purity:** >99%

**Batch Molecular Structure:**



**Storage:** Desiccate at RT

**Solubility & Usage Info:**

water to 100 mM  
DMSO to 100 mM  
ethanol 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.

**References:**

**Sawynok et al** (2001) Antidepressants as analgesics: an overview of central and peripheral mechanisms of action. *J.Psychiatry Neurosci.* **26** 21. PMID: 11212590.

**Ghelardini et al** (2000) Antinociception induced by amitriptyline and imipramine is mediated by  $\alpha_{2A}$ -adrenoceptors. *Jpn.J.Pharmacol.* **82** 130. PMID: 10877531.

**Sanchez and Hyttel** (1999) Comparison of the effects of antidepressants and their metabolites on reuptake of biogenic amines and on receptor binding. *Cell.Mol.Neurobiol.* **19** 467. PMID: 10379421.

**Merck Index** **12** 85.

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