

## Certificate of Analysis

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**Product Name:** Anpirtoline hydrochloride

**Catalog No.:** 0703

**Batch No.:** 6

CAS Number: 99201-87-3

IUPAC Name: 6-Chloro-2-[piperidinyl-4-thio]pyridine hydrochloride

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>10</sub>H<sub>13</sub>ClN<sub>2</sub>S.HCl

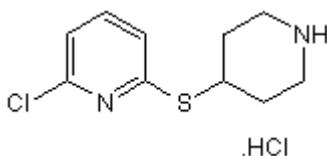
**Batch Molecular Weight:** 265.2

**Physical Appearance:** White solid

**Solubility:** water to 100 mM  
DMSO to 100 mM

**Storage:** Desiccate at +4°C

**Batch Molecular Structure:**



### 2. ANALYTICAL DATA

**TLC:** R<sub>f</sub> = 0.2 (Dichloromethane:Methanol:Acetic acid [9:1:0.1])

**HPLC:** Shows 99.9% purity

**<sup>1</sup>H NMR:** Consistent with structure

**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	45.29	5.32	10.56
Found	45.32	5.28	10.41

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**Description:**

Highly potent 5-HT<sub>1B</sub> receptor agonist (K<sub>i</sub> values are 28, 150 and 1490 nM at 5-HT<sub>1B</sub>, 5-HT<sub>1A</sub> and 5-HT<sub>2</sub> receptors respectively). Decreases central serotonin synthesis and attenuates aggressive behavior in vivo. Also acts as an antagonist at 5-HT<sub>3</sub> receptors (K<sub>i</sub> = 29.5 nM) and is brain penetrant.

**Physical and Chemical Properties:**

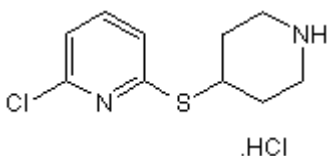
Batch Molecular Formula: C<sub>10</sub>H<sub>13</sub>ClN<sub>2</sub>S.HCl

Batch Molecular Weight: 265.2

Physical Appearance: White solid

**Minimum Purity:** >99%

**Batch Molecular Structure:**



**References:**

**Swedberg et al** (1992) D-16949 (anpirtoline): a novel serotonergic (5-HT<sub>1B</sub>) psychotherapeutic agent assessed by its discriminative effect in the rat. *J.Pharmacol.Exp.Ther.* **263** 1015. PMID: 1335050.

**Göthert et al** (1995) 5HT<sub>3</sub> receptor antagonism by anpirtoline, a mixed 5HT<sub>1</sub> receptor agonist/5HT<sub>3</sub> receptor antagonist. *Br.J.Pharmacol.* **114** 269. PMID: 7881726.

**Almeida and Miczek** (2002) Aggression escalates by social instigation or by discontinuation of reinforcement ("frustration") in mice: inhibition by anpirtoline: a 5-HT<sub>1B</sub> receptor agonist. *Neuropsychopharmacology* **27** 171. PMID: 12093591.

**Watanabe et al** (2006) Effects of anpirtoline on regional serotonin synthesis in the rat brain: an autoradiographic study. *Nucl.Med.Biol.* **33** 325. PMID: 16631081.

**Storage:** Desiccate at +4°C

**Solubility & Usage Info:**

water to 100 mM  
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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