

## Certificate of Analysis

**Product Name:** Mirtazapine

**Catalog No.:** 2018

**Batch No.:** 2

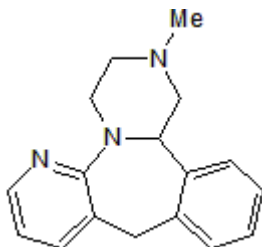
CAS Number: 85650-52-8

EC Number: 288-060-6

IUPAC Name: 1,2,3,4,10,14b-Hexahydro-2-methylpyrazino[2,1-a]pyrido[2,3-c][2]benzazepine

### 1. PHYSICAL AND CHEMICAL PROPERTIES

**Batch Molecular Formula:** C<sub>17</sub>H<sub>19</sub>N<sub>3</sub>·¼H<sub>2</sub>O  
**Batch Molecular Weight:** 269.86  
**Physical Appearance:** White solid  
**Solubility:** ethanol to 50 mM  
 DMSO to 20 mM  
**Storage:** Store at RT  
**Batch Molecular Structure:**



### 2. ANALYTICAL DATA

**TLC:** R<sub>f</sub> = 0.24 (Dichloromethane:Methanol:Acetic acid [9:1:0.1])  
**HPLC:** Shows 100% purity  
**<sup>1</sup>H NMR:** Consistent with structure  
**Microanalysis:**

	Carbon Hydrogen Nitrogen		
Theoretical	75.66	7.28	15.57
Found	75.36	7.35	15.56

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

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**Description:**

Antidepressant agent; potent 5-HT<sub>2</sub>, 5-HT<sub>3</sub> and histamine H<sub>1</sub> receptor antagonist and moderately potent α<sub>2</sub>-adrenoceptor antagonist (pK<sub>i</sub> values are 8.05, ~ 8.1, 9.3 and 6.95 respectively). Enhances noradrenalin (NA) release in rat brain via inhibition of α<sub>2</sub>-adrenergic autoreceptors and displays only weak affinity for monoamine transporters (pK<sub>i</sub> values are 5.6, < 5 and < 5.1 for inhibition of NA, dopamine and 5-HT uptake respectively). Increases hippocampal NA and 5-HT levels in rats following systemic administration in vivo.

**Physical and Chemical Properties:**

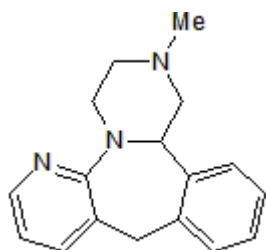
Batch Molecular Formula: C<sub>17</sub>H<sub>19</sub>N<sub>3</sub>·¼H<sub>2</sub>O

Batch Molecular Weight: 269.86

Physical Appearance: White solid

**Minimum Purity:** >99%

**Batch Molecular Structure:**



**References:**

**de Boer et al** (1988) Neurochemical and autonomic pharmacological profiles of the 6-aza-analogue of mianserin, ORG 3770 and its enantiomers. *Neuropharmacology* **27** 399. PMID: 3419539.

**Kooyman et al** (1994) Interaction between enantiomers of mianserin and ORG3770 at 5-HT<sub>3</sub> receptors in cultured mouse neuroblastoma cells. *Neuropharmacology* **33** 501. PMID: 7984289.

**de Boer et al** (1996) Differences in modulation of noradrenergic and serotonergic transmission by the alpha-2 adrenoceptor antagonists, mirtazapine, mianserin and idazoxan. *J.Pharmacol.Exp.Ther.* **277** 852. PMID: 8627567.

**Storage:** Store at RT

**Solubility & Usage Info:**

ethanol to 50 mM

DMSO to 20 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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