Print Date: May 18th 2012

Certificate of Analysis

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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: $C_{17}H_{19}N_3 \cdot ¼H_2O$

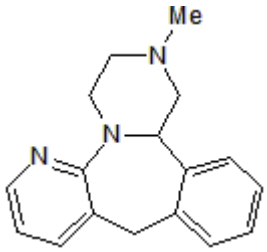
Batch Molecular Weight: 269.86

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_f = 0.24 (Dichloromethane:Methanol:Acetic acid [9:1:0.1])

HPLC: Shows 100% purity

^{1}H NMR: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	75.66	7.28	15.57
Found	75.36	7.35	15.56

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Description:

Antidepressant agent; potent 5-HT_2, 5-HT_3 and histamine H_1 receptor antagonist and moderately potent α_2-adrenoceptor antagonist (pK_i values are 8.05, ~ 8.1, 9.3 and 6.95 respectively). Enhances noradrenalin (NA) release in rat brain via inhibition of α_2-adrenergic autoreceptors and displays only weak affinity for monoamine transporters (pK_i 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:

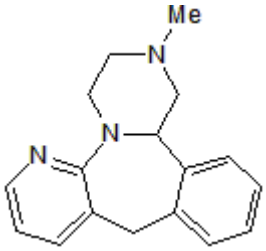
Batch Molecular Formula: $C_{17}H_{19}N_3.¼H_2O$

Batch Molecular Weight: 269.86

Physical Appearance: White solid

Minimum Purity: >99%

Batch Molecular Structure:



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.

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-HT3 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, mirtazepine, mianserin and idazoxan. J.Pharmacol.Exp.Ther. ***277*** 852. PMID: 8627567.