

Certificate of Analysis

Product Name: Medetomidine hydrochloride

Catalog No.: 2023

Batch No.: 1

CAS Number: 86347-15-1

IUPAC Name: 4-[1-(2,3-Dimethylphenyl)ethyl]-1*H*-imidazole hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₃H₁₆N₂·HCl·½H₂O

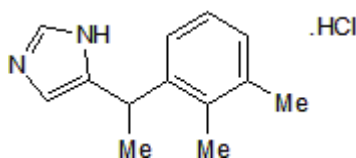
Batch Molecular Weight: 245.75

Physical Appearance: White solid

Solubility: water to 100 mM
ethanol to 100 mM
DMSO to 100 mM

Storage: Desiccate at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

TLC: R_f = 0.45 (Dichloromethane:Methanol:Ammonia soln. [9:1:0.1])

Melting Point: At 96°C

HPLC: Shows 100% purity

¹H NMR: Consistent with structure

	Carbon Hydrogen Nitrogen		
	Carbon	Hydrogen	Nitrogen
Theoretical	63.54	7.38	11.4
Found	63.6	7.39	11.39

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

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Description:

Potent, highly selective α_2 -adrenoceptor agonist (K_i values are 1.08 and 1750 nM for α_2 - and α_1 -adrenoceptors respectively). Displays greater selectivity over α_1 -adrenoceptors than clonidine and UK 14,304 (1620-, 220- and 300-fold respectively). Inhibits twitch response in electrically stimulated mouse vas deferens ($pD_2 = 9.0$). Active in vivo; displays hypotensive, bradycardic, sedative, anxiolytic, hypothermic and analgesic effects.

Physical and Chemical Properties:

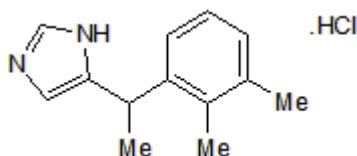
Batch Molecular Formula: $C_{13}H_{16}N_2 \cdot HCl \cdot \frac{1}{2}H_2O$

Batch Molecular Weight: 245.75

Physical Appearance: White solid

Minimum Purity: >99%

Batch Molecular Structure:



Storage: Desiccate at RT

Solubility & Usage Info:

water to 100 mM
ethanol to 100 mM
DMSO to 100 mM

CAUTION - This product is hygroscopic and we recommend that it is desiccated upon arrival.

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:

Savola et al (1986) Evidence for medetomidine as a selective and potent agonist at alpha 2-adrenoceptors. *J.Aut.Pharmacol.* **6** 275.

Virtanen et al (1988) Characterization of the selectivity, specificity and potency of medetomidine as an α_2 -adrenoceptor agonist. *Eur.J.Pharmacol.* **150** 9. PMID: 2900154.

Scheinin et al (1989) Medetomidine - a novel α_2 -adrenoceptor agonist: a review of its pharmacodynamic effects. *Prog.Neuro-Psychopharm.Biol.Psychiat.* **13** 635.

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