

Certificate of Analysis

www.tocris.com

Product Name: Medetomidine hydrochloride

Catalog No.: 5160

Batch No.: 1

CAS Number: 86347-15-1

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

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₃H₁₆N₂.HCl.¼H₂O

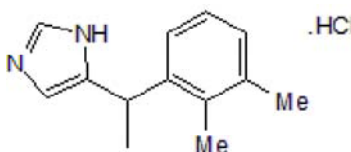
Batch Molecular Weight: 241.24

Physical Appearance: White solid

Solubility: water to 100 mM
DMSO to 100 mM

Storage: Desiccate at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.8% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon Hydrogen Nitrogen		
Theoretical	64.73	7.31	11.61
Found	64.58	7.17	11.67

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

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CAS Number: 86347-15-1

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

Description:

Medetomidine hydrochloride is a 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. Active Isomer also available. Please see product specific page on www.tocris.com for full description.

Physical and Chemical Properties:

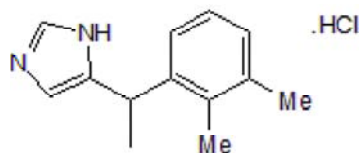
Batch Molecular Formula: $C_{13}H_{16}N_2 \cdot HCl \cdot \frac{1}{4}H_2O$

Batch Molecular Weight: 241.24

Physical Appearance: White solid

Minimum Purity: $\geq 99\%$

Batch Molecular Structure:



References:

Scheinin et al (1989) Medetomidine - a novel α_2 -adrenoceptor agonist: a review of its pharmacodynamic effects. *Prog.Neuro-Psychopharm.Biol.Psychiat.* **13** 635. PMID: 2571177.

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.

Savola et al (1986) Evidence for medetomidine as a selective and potent agonist at alpha 2-adrenoceptors. *J.Aut.Pharmacol.* **6** 275. PMID: 2880852.

Storage: Desiccate at RT

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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