

Certificate of Analysis

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Product Name: Clemizole hydrochloride

Catalog No.: 5371

Batch No.: 1

CAS Number: 1163-36-6

IUPAC Name: 1-[(4-Chlorophenyl)methyl]-2-(1-pyrrolidinylmethyl)-1*H*-benzimidazole hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₉H₂₀ClN₃ · HCl

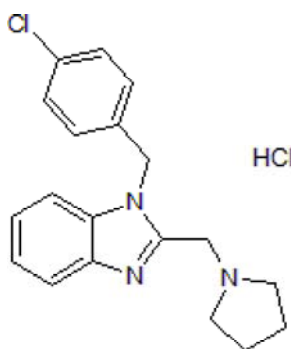
Batch Molecular Weight: 362.3

Physical Appearance: White solid

Solubility: water to 20 mM
DMSO to 50 mM

Storage: Desiccate at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.3% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

| | Carbon Hydrogen Nitrogen | | |
|-------------|--------------------------|------|-------|
| Theoretical | 62.99 | 5.84 | 11.6 |
| Found | 63 | 5.92 | 11.55 |

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

bio-techne.com

info@bio-techne.com

techsupport@bio-techne.com

North America

Tel: (800) 343 7475

China

info.cn@bio-techne.com

Tel: +86 (21) 52380373

Europe Middle East Africa

Tel: +44 (0)1235 529449

Rest of World

www.tocris.com/distributors

Tel: +1 612 379 2956

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CAS Number: 1163-36-6

IUPAC Name: 1-[(4-Chlorophenyl)methyl]-2-(1-pyrrolidinylmethyl)-1*H*-benzimidazole hydrochloride

Description:

TRPC5 channel blocker (IC₅₀ values are 1.1, 6.4, 9.1, 11.3 and 26.5 μ M for TRPC5, TRPC4, TRPC3, TRPC6 and TRPC7 respectively). Exhibits minimal effect on TRPM3, TRPM8 and TRPV1-4 channels. Also histamine H₁ receptor antagonist and anticonvulsant in zebrafish Dravet syndrome model.

Physical and Chemical Properties:

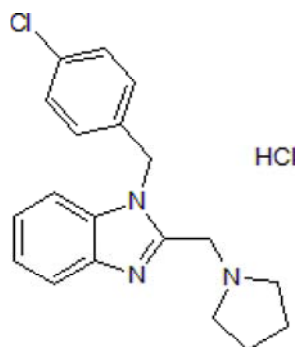
Batch Molecular Formula: C₁₉H₂₀ClN₃. HCl

Batch Molecular Weight: 362.3

Physical Appearance: White solid

Minimum Purity: ≥99%

Batch Molecular Structure:



Storage: Desiccate at RT

Solubility & Usage Info:

water to 20 mM

DMSO to 50 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.

Other Information:

INFORMATION FOR CUSTOMERS IN THE UK ONLY

This product is a Schedule 1 Home Office controlled substance and customers in the UK are required to hold the relevant licence or be exempt from restrictions in order to purchase and possess this material.

References:

Richter *et al* (2014) Clemizole hydrochloride is a novel and potent inhibitor of transient receptor potential channel TRPC5. *Mol.Pharm.* **86** 514. PMID: 25140002.

Baraban *et al* (2013) Drug screening in *Scn1a* zebrafish mutant identifies clemizole as a potential Dravet syndrome treatment. *Nat.Comm.* **4** 2410. PMID: 24002024.

Aguilar *et al* (1986) Pharmacological investigation into the effects of histamine and histamine analogues on guinea-pig and rat colon *in vitro*. *Br.J.Pharmacol.* **88** 501. PMID: 3742147.

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