

Product Name: Ketoconazole

Catalog No.: 1103

Batch No.: 2

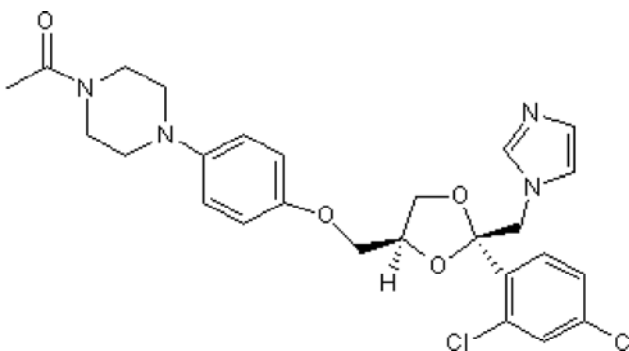
CAS Number: 65277-42-1

EC Number: 265-667-4

IUPAC Name: *cis*-1-Acetyl-4-[4-[[2-(2,4-dichlorophenyl)-2-(1*H*-imidazol-1-ylmethyl)-1,3-dioxolan-4-yl] methoxy]phenyl]piperazine

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₂₆H₂₈Cl₂N₄O₄
Batch Molecular Weight: 531.44
Physical Appearance: White solid
Solubility: ethanol to 50 mM
DMSO to 75 mM
Storage: Desiccate at +4°C
Batch Molecular Structure:



2. ANALYTICAL DATA

Melting Point: Between 148 - 150°C
HPLC: Shows 100% purity
¹H NMR: Consistent with structure
Mass Spectrum: Consistent with structure
Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	58.76	5.31	10.54
Found	58.82	5.32	10.57

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

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Description:

Inhibitor of cytochrome P450c17. Enhances the formation of myelin basic protein-positive oligodendrocytes from oligodendrocyte progenitor cells *in vitro* and promotes remyelination *in vivo*. Also an antifungal agent. Brain penetrant.

Physical and Chemical Properties:

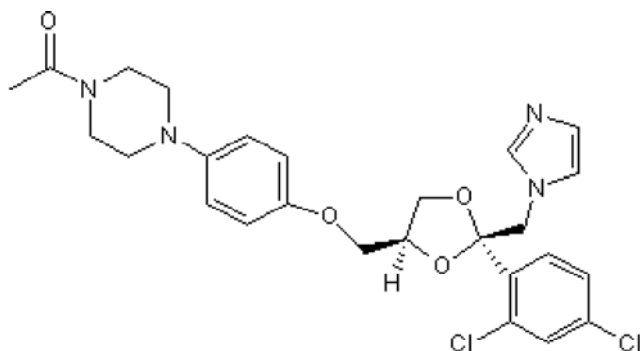
Batch Molecular Formula: C₂₆H₂₈Cl₂N₄O₄

Batch Molecular Weight: 531.44

Physical Appearance: White solid

Minimum Purity: >99%

Batch Molecular Structure:



Storage: Desiccate at +4°C

Solubility & Usage Info:

ethanol to 50 mM

DMSO to 75 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:

Hubler et al (2018) Accumulation of 8,9-unsaturated sterols drives oligodendrocyte formation and remyelination. *Nature*. PMID: 30046109.

Madhavan et al (2018) Induction of myelinating oligodendrocytes in human cortical spheroids. *Nat.Methods.* PMID: 30046099.

Dumaine et al (1998) Blockade of HERG and Kv1.5 by ketoconazole. *J.Pharmacol.Exp.Ther.* **286** 727. PMID: 9694927.

Kuhn-Velten et al (1992) Ketoconazole inhibition of the bifunctional cytochrome P450c17 does not affect androgen formation from the endogenous lyase substrate. *Biochem.Pharmacol.* **44** 2371. PMID: 1472102.

Ayub and Levell (1989) Inhibition of human adrenal steroidogenic enzymes *in vitro* by imidazole drugs including ketoconazole. *J.Steroid Biochem.* **32** 515. PMID: 2724954.

Merck Index **12** 5313.

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