Clotrimazole

Product Number  C 6019
Store at Room Temperature

Product Description
Molecular Formula:  C_{22}H_{17}N_{2}Cl
Molecular Weight:  344.8
CAS Number:  23593-75-1
Melting Point:  147-149 °C
λ_{max}:  261 nm
Synonyms:  1-(o-chloro-α,α-diphenylbenzyl)imidazole, 1-(o-chlorotrityl)imidazole, diphenyl-(2-chlorophenyl)-1imidazolylmethane

Clotrimazole is an imidazole derivative and antifungal compound which has similar antimicrobial action and activity to ketoconazole.2  Clotrimazole is known to block the Ca^{2+}-activated K^+ channels of intermediate conductance (IK channels) in erythrocytes.3  The inhibition of the canine isoform of the IK1 channel, as expressed in HEK293 or CHO cells, by clotrimazole has been investigated.4

Clotrimazole has been utilized in vitro on cultured human prostate cancer cells to counteract the proliferative effects of 1-ethyl-2-benzimidazolinone and riluzole.5  The upregulation of the ERG11 gene, which codes for the azole target enzyme lanosterol demethylase, in Candida species upon treatment with clotrimazole and other antibiotics has been studied.6

A concentration of 3 µg/ml of clotrimazole is generally effective for inhibiting many fungal species that are sensitive to clotrimazole.2  An investigation of various yeast strains and their susceptibility to clotrimazole and other antibiotics has been published.7  The effectiveness of clotrimazole against various Mycobacteria strains, with cytochrome P450 mono-oxygenases as specific molecular targets, has been studied.8  The susceptibility of several strains of Plasmodium falciparum to clotrimazole has been reported.9

Precautions and Disclaimer
For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions
This product is soluble in chloroform (50 mg/ml), yielding a clear, colorless solution. It has been reported to be soluble in alcohol, ethyl acetate, acetone, and dimethylformamide.1 2 The solubility of this product in DMSO has been reported to be 25 mM.9

References
1. The Merck Index, 12th ed., Entry# 2478.