Butoconazole nitrate

Cat. No.: HY-B0293

CAS No.: 64872-77-1

Molecular Formula: $C_{19}H_{18}Cl_3N_3O_3S$

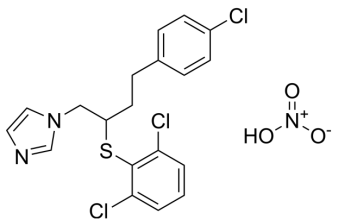
Molecular Weight: 474.79

Target: Fungal

Pathway: Anti-infection

Storage: 4°C, sealed storage, away from moisture

* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (210.62 mM)

H_2O : < 0.1 mg/mL (insoluble)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Concentration \ Solvent \ Mass	1 mg	5 mg	10 mg
1 mM	2.1062 mL	10.5310 mL	21.0619 mL
5 mM	0.4212 mL	2.1062 mL	4.2124 mL
10 mM	0.2106 mL	1.0531 mL	2.1062 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (5.27 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.27 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.27 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Butoconazole nitrate (RS 35887), an imidazole antifungal agent, is active against Candida spp. and effective against vaginal infections due to Candida albicans. Butoconazole nitrate is presumed to function as other imidazole derivatives via inhibition of steroid synthesis[1][2].

In Vitro

Imidazoles generally inhibit the conversion of lanosterol to ergosterol, resulting in a change in fungal cell membrane lipid composition. This structural change alters cell permeability and, ultimately, results in the osmotic disruption or growth inhibition of the fungal cell[1].

	MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Anik ST, et al. Extreme vertexes design in formulation development: solubility of butoconazole nitrate in a multicomponent system. J Pharm Sci. 1981;70(8):897-900.

[2]. Pharmacology refers to the chemical makeup and behavior of GYNAZOLE 1 (butoconazole nitrate cream).

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