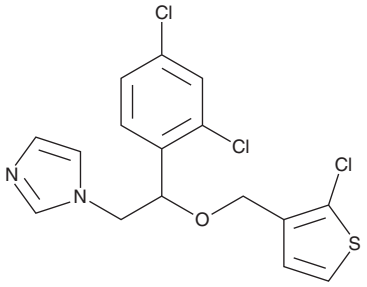
PRODUCT INFORMATION

Tioconazole

Item No. 26069

CAS Registry No.:	65899-73-2
Formal Name:	1-[2-[(2-chloro-3-thienyl)methoxy]-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole
Synonym:	(±)-Tioconazole
MF:	$C_{16}H_{13}Cl_3N_2OS$
FW:	387.7
Purity:	≥95%
UV/Vis.:	λ_{max}: 221 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Tioconazole is supplied as a crystalline solid. A stock solution may be made by dissolving the tioconazole in the solvent of choice, which should be purged with an inert gas. Tioconazole is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of tioconazole in ethanol is approximately 33 mg/ml and approximately 25 mg/ml in DMSO and DMF.

Tioconazole is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, tioconazole should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Tioconazole has a solubility of approximately 0.25 mg/ml in a 1:3 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Tioconazole is an imidazole antifungal that inhibits the growth of various fungi, including *C. albicans*, *C. neoformans*, *A. fumigatus*, and *T. rubrum* (MICs = 4.7, 0.1, 5.7, and 0.5 µg/ml, respectively).[1,2] It inhibits C-14 demethylation of sterols in a cell-free *C. albicans* homogenate (IC_{50} = 50-80 nM).[3] Tioconazole (2% w/v cream) reduces the number of viable *Candida* cells recovered from the vagina in a mouse model of vaginal candidiasis.[4] Formulations containing tioconazole have been used in the treatment of vaginal yeast infections.

References

1. Fromtling, R.A. Overview of medically important antifungal azole derivatives. *Clin. Microbiol. Rev.* **1(2)**, 187-217 (1988).
2. Jevons, S., Gymer, G.E., Brammer, K.W., *et al.* Antifungal activity of tioconazole (UK-20,349), a new imidazole derivative. *Antimicrob. Agents Chemother.* **15(4)**, 597-602 (1979).
3. Marriott, M.S. Inhibition of sterol biosynthesis in *Candida albicans* by imidazole-containing antifungals. *J. Gen. Microbiol.* **117(1)**, 253-255 (1980).
4. Marriott, M.S., Brammer, K.W., Faccini, J., *et al*. Tioconazole, a new broad-spectrum antifungal agent: Preclinical studies related to vaginal candidiasis. *Gynakol. Rundsch* **23(Suppl 1)**, 1-11 (1983).

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