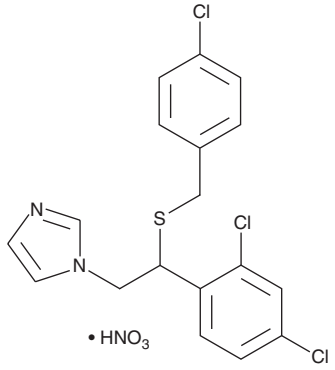
PRODUCT INFORMATION

Sulconazole (nitrate)

Item No. 23800



CAS Registry No.:	61318-91-0
Formal Name:	1-[2-[[(4-chlorophenyl)methyl]thio]-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole, mononitrate
Synonym:	RS 44872
MF:	$C_{18}H_{15}Cl_3N_2S \bullet HNO_3$
FW:	460.8
Purity:	≥95%
UV/Vis.:	λ_{max}: 219 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

Sulconazole (nitrate) is supplied as a crystalline solid. A stock solution may be made by dissolving the sulconazole (nitrate) in the solvent of choice, which should be purged with an inert gas. Sulconazole (nitrate) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of sulconazole (nitrate) in ethanol is approximately 0.1 mg/ml and approximately 25 mg/ml in DMSO and DMF.

Sulconazole (nitrate) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, sulconazole (nitrate) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Sulconazole (nitrate) has a solubility of approximately 0.33 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Sulconazole is an azole antifungal that is active against dermatophyte fungal species, including isolates of various *Candida* species.[1] It acts as a non-specific inhibitor of styrene metabolism by cytochrome P450 (CYP450) enzymes, with K_i values ranging from 0.008 to 3.5 µM against various CYP450 isoforms in human lymphoblast microsomes *in vitro*.[2,3] In rat spleen microsomes, it inhibits the activity of heme oxygenase 1 with an IC_{50} value of 1.1 µM.[4] Sulconazole inhibits DNA damage induced by the metabolism of styrene by bacterial CYP450cam with a K_i value of 204.2 µM in an electrochemical biosensor model.[2] Formulations containing sulconazole have been used for the treatment of fungal infections.

References

1. Odds, F.C., Webster, C.E., and Abbot, A.B. Antifungal relative inhibition factors: BAY 1–9139, bifonazole, butoconazole, isoconazole, itraconazole (R 51211), oxiconazole, Ro 14–4767/002, sulconazole, terconazole and vibunazole (BAY n-7133) compared *in vitro* with nine established antifungal agents. *J. Antimicrob. Chemother.* **14(2)**, 105-114 (1984).
2. Hull, D.O., Bajrami, B., Jansson, I., *et al.* Characterizing metabolic inhibition using electrochemical enzyme/DNA biosensors. *Anal. Chem.* **81(2)**, 716-724 (2009).
3. Zhang, W., Ramamoorthy, Y., Kilicarslan, T., *et al.* Inhibition of cytochromes P450 by antifungal imidazole derivatives. *Drug Metab. Dispos.* **30(3)**, 314-318 (2002).
4. Kinobe, R.T., Dercho, R.A., Vlahakis, J.Z., *et al.* Inhibition of the enzymatic activity of heme oxygenases by azole-based antifungal drugs. *J. Pharmacol. Exp. Ther.* **319(1)**, 277-284 (2006).

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