

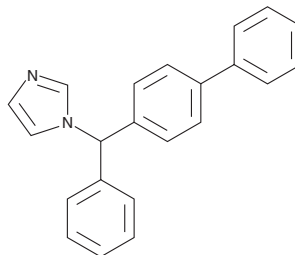
PRODUCT INFORMATION



Bifonazole

Item No. 18744

CAS Registry No.: 60628-96-8
Formal Name: 1-([1,1'-biphenyl]-4-ylphenylmethyl)-1H-imidazole
Synonyms: BAY-h 4502, (±)-Bifonazole
MF: C₂₂H₁₈N₂
FW: 310.4
Purity: ≥98%
UV/Vis.: λ_{max}: 254 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

Bifonazole is supplied as a crystalline solid. A stock solution may be made by dissolving the bifonazole in the solvent of choice, which should be purged with an inert gas. Bifonazole is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of bifonazole in these solvents is approximately 10, 16, and 25 mg/ml, respectively.

Bifonazole is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, bifonazole should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Bifonazole has a solubility of approximately 0.2 mg/ml in a 1:4 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Bifonazole is a topically-active imidazole antifungal compound that has broad spectrum activity *in vitro* against dermatophytes, molds, yeasts, dimorphic fungi, and some Gram-positive bacteria.^{1,2} It is effective in the treatment of experimental dermatophytic and *Candida* infections in animals.² Bifonazole is also a potent inhibitor of cytochrome P450 aromatase ($K_i = 68$ nM, $IC_{50} = 270$ nM), which catalyzes the biosynthesis of estrogens from androgens.³ When applied topically in animals, it demonstrates prolonged retention time in skin with minimal percutaneous absorption, thus minimizing its effect on aromatase.²

References

1. Lackner, T.E. and Clissold, S.P. Bifonazole. A review of its antimicrobial activity and therapeutic use in superficial mycoses. *Drugs* **38(2)**, 204-225 (1989).
2. Fromtling, R.A. Overview of medically important antifungal azole derivatives. *Clin. Microbiol. Rev.* **1(2)**, 187-217 (1988).
3. Egbuta, C., Lo, J., and Ghosh, D. Mechanism of inhibition of estrogen biosynthesis by azole fungicides. *Endocrinology* **155(12)**, 4622-4628 (2014).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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