Product Data Sheet

Product Name: Hexaconazole ((-)-Hexaconazol)
Cat. No.: GC33479

Chemical Properties

Cas. No.	79983-71-4		
SMILES	ClC1=CC(Cl)=C(C(CCCC)(O)CN2N=CN=C2)C=C1		
Formula	$C_{14}H_{17}Cl_2N_3O$	M.Wt	314.21
Solubility	DMSO : ≥ 100 mg/mL (318.26 mM);Water : < 0.1 mg/mL (insoluble)	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure			

Background

Hexaconazole is a broad-spectrum triazole fungicide that inhibits ergosterol biosynthesis *via* inhibition of the cytochrome P450-dependent 14α-demethylation of lanosterol, which results in disruption of the fungal cell membrane and cell death.[1] It is fungicidal against the powdery mildews *B. graminis* and *S. cucurbitae* on cucumber plants in a concentration-dependent manner and is curative against powdery mildew on barley plants when used at a concentration of 6.7 mg/L.[2] It also inhibits growth of *R. bataticola* and *S. rolfsii* (ED_{50}s = 6.35 and 1.27 mg/L, respectively).[3] Exogenous application of hexaconazole (15 mg/L) to *M. chamomilla* plants improves water, proline, and protein contents as well as increases non-enzymatic and enzymatic antioxidant and apigenin-7-glucoside content during a water deficit stress tolerance test.[4] Hexaconazole inhibits the differentiation of mouse embryonic stem cells into cardiomyocytes (EC_{50} = 16.6 µM).[5] It also induces bone morphological defects in mouse fetuses when administered to pregnant adult females during gestation.

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1.Zarn, J.A., Brüschweiler, B.J., and Schlatter, J.R.Azole fungicides affect mammalian steroidogenesis by inhibiting sterol 14 α-demethylase and aromataseEnviron. Health Perspect.111(3)255-261(2003) 2.Tsuda, M., Itoh, H., and Kato, S.Evaluation of the systemic activity of simeconazole in comparison with that of other DMI fungicidesPest Manag. Sci.60(9)875-880(2004) 3.Shakil, N.A., Kumar, J., Pandey, A., et al.Synthesis and pesticidal activity of new N-alkyl-N-[1-(2-hydroxyphenyl) ethyl]aminesJ. Environ. Sci. Health B44(4)344-349(2009) 4.Hojati, M., Modarres-Sanavy, S.A.M., Ghanati, F., et al.Hexaconazole induces antioxidant protection and apigenin-7-glucoside accumulation in Matricaria chamomilla plants subjected to drought stressJ. Plant Physiol.168(8)782-791(2011) 5.de Jong, E.G., Barenys, M., Hermsen, S.A.B., et al.Comparison of the mouse embryonic stem cell test, the rat whole embryo culture and the zebrafish embryotoxicity test as alternative methods for developmental toxicity testing of six 1,2,4-triazolesToxicol. Appl. Pharmacol.253(2)103-111(2011)

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