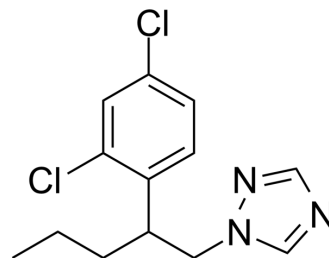


## Penconazole

<b>Cat. No.:</b>	HY-135761		
<b>CAS No.:</b>	66246-88-6		
<b>Molecular Formula:</b>	C <sub>13</sub> H <sub>15</sub> Cl <sub>2</sub> N <sub>3</sub>		
<b>Molecular Weight:</b>	284.18		
<b>Target:</b>	Fungal; Cholinesterase (ChE)		
<b>Pathway:</b>	Anti-infection; Neuronal Signaling		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : 100 mg/mL (351.89 mM; Need ultrasonic)

Concentration	Solvent	Mass	1 mg	5 mg	10 mg
			1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM		3.5189 mL	17.5945 mL	35.1890 mL
	5 mM		0.7038 mL	3.5189 mL	7.0378 mL
	10 mM		0.3519 mL	1.7594 mL	3.5189 mL

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

#### In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.5 mg/mL (8.80 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)  
Solubility: 2.5 mg/mL (8.80 mM); Suspended solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 90% corn oil  
Solubility: ≥ 2.5 mg/mL (8.80 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Penconazole is a typical triazole fungicide, and mainly applied on apples, grapes, and vegetables to control powdery mildew. Penconazole inhibits sterol biosynthesis in fungi. Penconazole decrease AChE activity in the cerebrum and cerebellum of rats<sup>[1][2]</sup>.

#### In Vivo

Penconazole (67 mg/kg; i.p.; every 2 days during 9 days) induces oxidative stress in rat cerebrum and cerebellum tissues<sup>[2]</sup>. Penconazole has the ability to induce oxidative damage in the brain of adult rats, as evidenced by an increase of lipid peroxidation and protein oxidation, in addition to the perturbations in the enzymatic and nonenzymatic antioxidant status.

Penconazole also affects the cholinergic system, activities of membrane-bound ATPases, and brain histoarchitecture. Penconazole is a potential neurotoxicant pesticide that exerts its neurotoxic effects via the generation of oxidative stress. Penconazole causes a significant inhibition of AChE activity in the cerebrum (11%) and cerebellum (25%) of adult rats<sup>[2]</sup>. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Twelve male Wistar rats <sup>[2]</sup>
Dosage:	67 mg/kg
Administration:	I.p.; every 2 days during 9 days
Result:	A significant increase was obtained in the absolute and relative weights of the cerebrum and cerebellum, respectively.

## REFERENCES

[1]. Husak VV, et al. Acute exposure to the penconazole-containing fungicide Topas partially augments antioxidant potential in goldfish tissues. *Comp Biochem Physiol C Toxicol Pharmacol.* 2017;193:1-8.

[2]. Chaâbane M, et al. Penconazole alters redox status, cholinergic function, and membrane-bound ATPases in the cerebrum and cerebellum of adult rats. *Hum Exp Toxicol.* 2017;36(8):854-866.

**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA