Imazalil

Cat. No.: HY-B1134

CAS No.: 35554-44-0

Molecular Formula: $C_{14}H_{14}Cl_2N_2O$

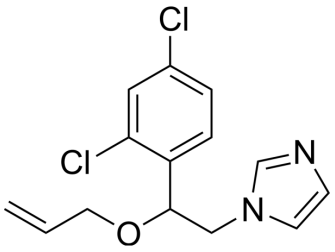
Molecular Weight: 297.18

Target: Fungal

Pathway: Anti-infection

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (336.50 mM)

H_2O : 20 mg/mL (67.30 mM; Need ultrasonic)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Mass / Solvent / Concentration	1 mg	5 mg	10 mg
1 mM	3.3650 mL	16.8248 mL	33.6496 mL
5 mM	0.6730 mL	3.3650 mL	6.7299 mL
10 mM	0.3365 mL	1.6825 mL	3.3650 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (8.41 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (8.41 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (8.41 mM); Clear solution
4. Add each solvent one by one: PBS
   Solubility: 1 mg/mL (3.36 mM); Suspended solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Imazalil (Enilconazole) is a fungicide. Imazalil has oral activity and strongly activates mPXR but not mCAR in mouse liver. Imazalil is commonly used to protect various agricultural crops against fungal attack. Imazalil induces developmental abnormalities, gut microbiota dysbiosis, and hepatic metabolism disorder[1][2][3].

In Vitro

Imazalil (Enilconazole; 3, 10, 30 μM; for 6 h) significantly suppressed IL-17 mRNAs[1].
imazalil (1, 3, 10, 30, 100 μM; for 24 h) dose-dependently induces the reporter gene expression only in mPXR-expressed HepG2 cells[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

RT-PCR[1]

Cell Line:	EL4 cells
Concentration:	3, 10, 30 μM
Incubation Time:	6 h
Result:	Significantly suppressed IL-17 mRNAs.

In Vivo

Imazalil (Enilconazole; 25-100 mg/kg; ip) significantly increases hepatic Cyp3a11 mRNA levels in a dose-dependent manner [2].
Imazalil (75 mg/kg; ip; twice; once a day) combined with TCPOBOP (3 mg/kg) much greatly increased the number of Ki-67-positive nuclei and Mcm2 mRNA levels compared to its single treatment. Imazalil accelerates hepatocyte proliferation mediated by TCPOBOP treatment in mice[2].
Imazalil (0.1, 0.5, or 2.5 mg/kg in drinking water for 15 weeks) induces oxidative stress and caused the disorders of bile acid metabolism in male adult C57BL/6 mice [3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	IMZ Male C57BL/6N mice[2]
Dosage:	25, 50, 75, 100 mg/kg
Administration:	Intraperitoneally; single dose
Result:	Significantly increased hepatic Cyp3a11 mRNA levels in a dose-dependent manner.

CUSTOMER VALIDATION

- Anal Chem. 2019 May 7;91(9):6051-6056.

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REFERENCES

[1]. Hiroyuki Kojima, et al. Inhibitory effects of azole-type fungicides on interleukin-17 gene expression via retinoic acid receptor-related orphan receptors α and γ. Toxicol Appl Pharmacol. 2012 Mar 15;259(3):338-45.

[2]. Shohei Yoshimaru, et al. Acceleration of murine hepatocyte proliferation by imazalil through the activation of nuclear receptor PXR. J Toxicol Sci. 2018;43(7):443-450.

[3]. Cuiyuan Jin, et al. Chronic exposure of mice to low doses of imazalil induces hepatotoxicity at the physiological, biochemical, and transcriptomic levels. Environ Toxicol. 2018 Jun;33(6):650-658.

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

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