Neticonazole

Cat. No.: HY-106541

CAS No.: 130726-68-0

Molecular Formula: $C_{17}H_{22}N_2OS$

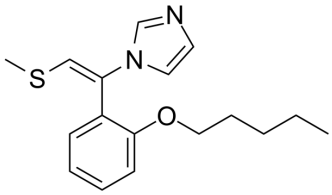
Molecular Weight: 302.43

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 : 250 mg/mL (826.64 mM; Need ultrasonic)

1M HCl : 100 mg/mL (330.66 mM; ultrasonic and adjust pH to 1 with HCl)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.3066 mL	16.5328 mL	33.0655 mL
5 mM	0.6613 mL	3.3066 mL	6.6131 mL
10 mM	0.3307 mL	1.6533 mL	3.3066 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 6.25 mg/mL (20.67 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 6.25 mg/mL (20.67 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Neticonazole is an imidazole derivative and a potent and long-acting antifungal agent. Neticonazole has anti-infection and anti-cancer effects[1][2][3].

IC_{50} & Target

Fungal [1]

In Vitro

Neticonazole (10 μM; 48 hours; C4-2B cells) treatment decreases the levels of both Alix and Rab27a, and significantly decreases nSMase2 levels. Neticonazole causes a significant inhibition in p-ERK levels[2].
Neticonazole (0-10 μM) exhibits a potent and dose-dependent inhibition of exosome release from C4-2B cells[2].
Neticonazole is also an orally active exosome biogenesis and secretion inhibitor[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis[2]

Cell Line:	C4-2B cells
Concentration:	10 μM
Incubation Time:	48 hours
Result:	Decreased the levels of both Alix and Rab27a, and significantly decreased nSMase2 levels.

In Vivo

Neticonazole (1-100 ng/kg; oral gavage; daily; for 15 days; male C57BL/6 mice) treatment significantly improves the survival of intestinal dysbacteriosis (IDB) mice with colorectal cancer (CRC) xenograft tumors, likely through increasing apoptosis of CRC xenograft tumor cells[3].

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Animal Model:	Male C57BL/6 mice (8 weeks old) given ampicillin, neomycin, metronidazole and vancomycin, and injected with SW480 cells[3]
Dosage:	1 ng/kg, 10 ng/kg and 100 ng/kg
Administration:	Oral gavage; daily; for 15 days
Result:	Significantly improved the survival of IDB mice with CRC xenograft tumors.

REFERENCES

[1]. Tsuboi R, et al. Hyperkeratotic chronic tinea pedis treated with neticonazole cream. Neticonazole Study Group. Int J Dermatol. 1996 May;35(5):371-3.

[2]. Datta A, et al. High-throughput screening identified selective inhibitors of exosome biogenesis and secretion: A drug repurposing strategy for advanced cancer. Sci Rep. 2018 May 25;8(1):8161.

[3]. Gu L, et al. The exosome secretion inhibitor neticonazole suppresses intestinal dysbacteriosis-induced tumorigenesis of colorectal cancer. Invest New Drugs. 2020 Apr;38(2):221-228.

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