# Neticonazole hydrochloride

**Cat. No.:** HY-128365

**CAS No.:** 130773-02-3

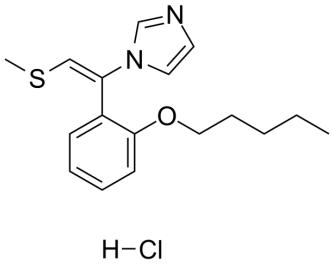
**Molecular Formula:** $C_{17}H_{23}ClN_2OS$

**Molecular Weight:** 338.9

**Target:** Fungal

**Pathway:** Anti-infection

**Storage:** 4°C, sealed storage, away from moisture
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)




## SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 250 mg/mL (737.68 mM; Need ultrasonic)
$H_2O$ : ≥ 100 mg/mL (295.07 mM)
* "≥" means soluble, but saturation unknown.

**Preparing Stock Solutions**

| Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|
| 1 mM | 2.9507 mL | 14.7536 mL | 29.5072 mL |
| 5 mM | 0.5901 mL | 2.9507 mL | 5.9014 mL |
| 10 mM | 0.2951 mL | 1.4754 mL | 2.9507 mL |

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

**In Vivo**

1. Add each solvent one by one: PBS
   Solubility: 100 mg/mL (295.07 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 6.25 mg/mL (18.44 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 6.25 mg/mL (18.44 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 6.25 mg/mL (18.44 mM); Clear solution

## BIOLOGICAL ACTIVITY

**Description**

Neticonazole hydrochloride is an imidazole derivative and a potent and long-acting antifungal agent. Neticonazole hydrochloride 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 hydrochloride 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].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

| | |
|---|---|
| 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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