## **Product** Data Sheet

# Amorolfine hydrochloride

Cat. No.:HY-B0238CAS No.:78613-38-4Molecular Formula: $C_{21}H_{36}CINO$ Molecular Weight:353.97

Target: Fungal; Antibiotic
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: 12.5 mg/mL (35.31 mM; Need ultrasonic) H<sub>2</sub>O: 3.33 mg/mL (9.41 mM; Need ultrasonic)

| Preparing<br>Stock Solutions | Solvent Mass<br>Concentration | 1 mg      | 5 mg       | 10 mg      |
|------------------------------|-------------------------------|-----------|------------|------------|
|                              | 1 mM                          | 2.8251 mL | 14.1255 mL | 28.2510 mL |
|                              | 5 mM                          | 0.5650 mL | 2.8251 mL  | 5.6502 mL  |
|                              | 10 mM                         | 0.2825 mL | 1.4125 mL  | 2.8251 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: ≥ 1.25 mg/mL (3.53 mM); Clear solution
- 2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE- $\beta$ -CD in saline) Solubility:  $\geq$  1.25 mg/mL (3.53 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 1.25 mg/mL (3.53 mM); Clear solution

### **BIOLOGICAL ACTIVITY**

Description

Amorolfine (Ro 14-4767/002) hydrochloride is a potent anti-fungal agent. Amorolfine hydrochloride inhibits ergosterol biosynthesis. Amorolfine hydrochloride has the potential for the research of Neoscytalidium dimidiatum onychomycosis<sup>[1]</sup>

[2].

In Vitro

Amorolfine hydrochloride acts primarily by inhibiting ergosterol biosynthesis, a component of fungal cell membrane, and possesses both fungistatic and fungicidal activity<sup>[1]</sup>.

Amorolfine hydrochloride (0-128 mg/l) (2-7 days) shows anti-fungal activity for Dermatophyte fungi, Filamentous fungi, Pathogenic yeasts, Dimorphic fungi, Dematiaceous fungi $^{[1]}$ .

Amorolfine hydrochloride shows anti-fungal activity with 90% killing corresponding concentrations of 3, 3, 10 and 100 mg/L for Trichophyton mentagrophytes, C. albicans, Histoplasma capsulatum, Cryptococcus neoformans, respectively<sup>[1]</sup>.

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

In Vivo

Amorolfine hydrochloride (0.01%-1%; Intravaginal application; twice daily for 3 days) shows anti-fungal activity in rats with vaginal candidiasis<sup>[1]</sup>.

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

Animal Model:

Rats (vaginal candidiasis)<sup>[1]</sup>

| Animal Model:   | Rats (vaginal candidiasis) $^{[1]}$   |  |
|-----------------|---|--|
| Dosage:         | 0.01%-1%  |  |
| Administration: | Intravaginal application; twice daily for 3 days  |  |
| Result:         | Produced a dose dependent log reduction in cell count; a concentration of 1 % cleared the vagina of C. albicans completely. |  |

#### **REFERENCES**

[1]. Haria M, et al. Amorolfine. A review of its pharmacological properties and therapeutic potential in the treatment of onychomycosis and other superficial fungal infections. Drugs. 1995 Jan;49(1):103-20.

[2]. Bunyaratavej S, et al. Efficacy of 5% amorolfine nail lacquer in Neoscytalidium dimidiatum onychomycosis. J Dermatolog Treat. 2016 Aug;27(4):359-63.

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

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