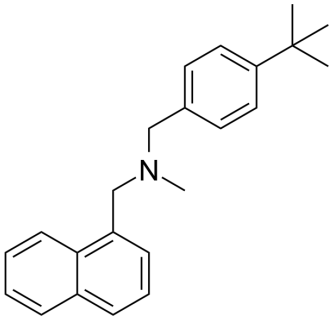
Butenafine

Cat. No.:	HY-114518
CAS No.:	101828-21-1
Molecular Formula:	$C_{23}H_{27}N$
Molecular Weight:	317.47
Target:	Fungal
Pathway:	Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Butenafine (KP363) is a potent and broad spectrum benzylamine antifungal agent[1]. Butenafine inhibits fungal ergosterol biosynthesis at the point of squalene epoxidation, leading to a deficiency of the fungal cell membranes. Butenafine is effective against dermatophytes infections, such as tinea pedis, tinea cruris, tinea versicolor[1][2].
IC_{50} & Target	IC50: antifungal[1]
In Vitro	Butenafine demonstrates comparable activity against the dermatophytes with a MIC range of 0.03-0.25 μg/ml. It displays limited activity against the yeast Candida albicans and no activity against Malassezia furfur[1]. Butenafine (25; 50 or 100 μM) eliminates the promastigote forms of L. amazonensis and L. braziliensis in a dose-dependent manner, and shows EC_{50} values of 34.10±3.76 μM and 81.25±10.24 μM, respectively, in peritoneal macrophages from BALB/c mice. Butenafine induces mild cytotoxicity in peritoneal macrophages from BALB/c mice with a CC_{50} of 97.88 μM[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Butenafine (subcutaneous administration; 1-100 mg/kg) to mice has no effect on the central and autonomic nervous systems. Topical administration of 0.3-3.0% butenafine solutions to guinea pigs also has no effect on the somatic nervous system[1]. In primary therapeutic studies on guinea pigs, Butenafine (1% topical application; 4-10 days; day 3 and 4 post-infection) exhibits a complete cure after 10 days in vivo-effect on dermatophytosis, T. mentagrophytes[1]. Butenafine (0.125, 0.25, 0.5 and 1.0% topical application; q.d. or b.i.d. for 10 days; day 4 post-infection) exhibits a 100% cure after 0.5% or 1% application and has no difference in efficacy between 1% q.d. and b.i.d. in vivo-effect on dermatophytosis, T. mentagrophytes[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Cell Death Dis. 2021 May 13;12(5):482.

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REFERENCES

[1]. Katrina Kokjohn, et al. Evaluation of in vitro activity of ciclopirox olamine, butenafine HCl and econazole nitrate against dermatophytes, yeasts and bacteria.Int J Dermatol. 2003 Sep;42 Suppl 1:11-7.

[2]. Adriana Bezerra-Souza, et al. The antifungal compound butenafine eliminates promastigote and amastigote forms of Leishmania (Leishmania) amazonensis and Leishmania (Viannia) braziliensis. 2016 Dec;65(6 Pt A):702-707.

[3]. Topical Antifungal Agent. Butenafine

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