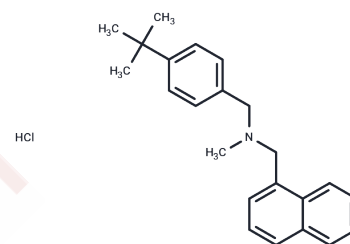


## Butenafine hydrochloride

## Chemical Properties

CAS No. :	101827-46-7
Formula:	C <sub>23</sub> H <sub>27</sub> N·HCl
Molecular Weight:	353.93
Storage:	Powder: -20°C for 3 years   In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



## Biological Description

Description	Butenafine hydrochloride (KP363 Hydrochloride) is a synthetic benzylamine antifungal, inhibiting the synthesis of sterols by inhibiting squalene epoxidase.
Targets(IC50)	Antibiotic,Antifungal
In vitro	Butenafine HCl shows minimum inhibitory concentrations ranging from 0.03-1.0 µg/mL against 30 isolates representing different dermatophyte species. Butenafine shows limited activity against <i>C. albicans</i> and no activity against <i>M. furfur</i> against 10 isolates of two species of yeasts. Butenafine HCl shows activity against β-hemolytic <i>Streptococcus</i> Group A and <i>Corynebacterium</i> but failed to inhibit <i>S. aureus</i> against 25 isolates representing different Gram-positive bacteria species. Butenafine fails to show activity against any of the Gram-negative strains tested. [1] Butenafine interferes with fungal ergosterol biosynthesis by inhibiting the conversion of squalene into squalene epoxide which is catalyzed by squalene epoxidase. Butenafine shows activity against KD-04 and KD-305 with minimum inhibitory concentrations of 12 ng/mL. [2]
In vivo	Butenafine (1%, once daily) shows excellent efficacy against dermatophytosis in male hartley strain guinea pigs, and the effect is superior to those of naftifine, tolnaftate, clotrimazole, and bifonazole. Butenafine (1%) exhibits excellent prophylactic efficacy against experimental <i>T. mentagrophytes</i> infection when apply once at 24 or 48 h before infection. [2] After 16 weeks, 80% of patients using medicated cream incorporating 2% butenafine HCl are cured, as opposed to none in the placebo group. Four patients in the active treatment group experience subjective mild inflammation without discontinuing treatment. During follow-up, no relapse occurs in cured patients and no improvement is seen in medication-resistant and placebo participants. [3] Butenafine (1% cream) applied once daily for 4 weeks results in an effective clinical response and mycologic cure of tinea pedis during treatment in patients with positive fungal cultures. [4] Butenafine hydrochloride (1% cream) alone is extremely effective for the treatment of hyperkeratotic-type tinea pedis patients. [5]

## Solubility Information

Solubility	DMSO: 45 mg/mL (127.14 mM),Sonication is recommended. Ethanol: 65 mg/mL (183.65 mM),Sonication is recommended. H2O: < 1 mg/mL (insoluble or slightly soluble),
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## A DRUG SCREENING EXPERT

Solubility	(< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (5.65 mM),Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

### Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.8254 mL	14.1271 mL	28.2542 mL
5 mM	0.5651 mL	2.8254 mL	5.6508 mL
10 mM	0.2825 mL	1.4127 mL	2.8254 mL
50 mM	0.0565 mL	0.2825 mL	0.5651 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

### Reference

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Arika T, et al. Antimicrob Agents Chemother, 1990, 34(11), 2250-2253.  
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