



Rx Only

## DESCRIPTION

Naftin<sup>®</sup> Gel, 1% contains the synthetic, broad-spectrum, antifungal agent naftifine hydrochloride. Naftin<sup>®</sup> Gel, 1% is for topical use only.

### Chemical Name:

(E)-N-Cinnamyl-N-methyl-1-naphthalenemethylamine hydrochloride.

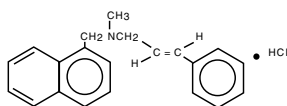
Naftifine hydrochloride has an empirical formula of  $C_{21}H_{21}N \bullet HCl$  and a molecular weight of 323.86.

### Contains:

**Active Ingredient:** Naftifine hydrochloride . . . . 1%

**Inactive Ingredients:** polysorbate 80, carbomer 934P, diisopropanolamine, edetate disodium, alcohol (52%/v/v) and purified water.

### Structural Formula



naftifine hydrochloride

## CLINICAL PHARMACOLOGY

Naftifine hydrochloride is a synthetic allylamine derivative. The following *in vitro* data are available, but their clinical significance is unknown. Naftifine hydrochloride has been shown to exhibit fungicidal activity *in vitro* against a broad spectrum of organisms, including *Trichophyton rubrum*, *Trichophyton mentagrophytes*, *Trichophyton tonsurans*, *Epidermophyton floccosum*, *Microsporum canis*, *Microsporum audouinii*, and *Microsporum gypseum*; and fungistatic activity against *Candida* species, including *Candida albicans*. Naftin<sup>®</sup> Gel, 1% has only been shown to be clinically effective against the disease entities listed in the INDICATIONS AND USAGE section.

Although the exact mechanism of action against fungi is not known, naftifine hydrochloride appears to interfere with sterol biosynthesis by inhibiting the enzyme squalene 2, 3-epoxidase. This inhibition of enzyme activity results in decreased amounts of sterols, especially ergosterol, and a corresponding accumulation of squalene in the cells.

**Pharmacokinetics:** *In vitro* and *in vivo* bioavailability studies have demonstrated that naftifine penetrates the stratum corneum in sufficient concentration to inhibit the growth of dermatophytes.

Following single topical applications of <sup>3</sup>H-labeled naftifine gel 1% to the skin of healthy subjects, up to 4.2% of the applied dose was absorbed. Naftifine and/or its metabolites are excreted via the urine and feces with a half-life of approximately two to three days.

## INDICATIONS AND USAGE

Naftin<sup>®</sup> Gel, 1% is indicated for the topical treatment of tinea pedis, tinea cruris and tinea corporis caused by the organisms *Trichophyton rubrum*, *Trichophyton mentagrophytes*, *Trichophyton tonsurans*\* and *Epidermophyton floccosum*.\*

\*Efficacy for this organism in this organ system was studied in fewer than 10 infections.

## CONTRAINDICATIONS

Naftin<sup>®</sup> Gel, 1% is contraindicated in individuals who have shown hypersensitivity to any of its components.

## WARNINGS

Naftin<sup>®</sup> Gel, 1% is for topical use only and not for ophthalmic use.

## PRECAUTIONS

**General:** Naftin® Gel, 1% is for external use only. If irritation or sensitivity develops with the use of Naftin® Gel, 1%, treatment should be discontinued and appropriate therapy instituted. Diagnosis of the disease should be confirmed either by direct microscopic examination of a mounting of infected tissue in a solution of potassium hydroxide or by culture on an appropriate medium.

**Information for patients:** The patient should be told to:

1. Avoid the use of occlusive dressings or wrappings unless otherwise directed by the physician.
2. Keep Naftin® Gel, 1% away from the eyes, nose, mouth and other mucous membranes.

**Carcinogenesis, mutagenesis, impairment of fertility:** Long-term studies to evaluate the carcinogenic potential of Naftin® Gel, 1% have not been performed. *In vitro* and animal studies have not demonstrated any mutagenic effect or effect on fertility.

**Pregnancy: Teratogenic Effects: Pregnancy Category B:** Reproduction studies have been performed in rats and rabbits (via oral administration) at doses 150 times or more than the topical human dose and have revealed no evidence of impaired fertility or harm to the fetus due to naftifine. There are, however, no adequate and well-controlled studies in pregnant women. Because animal reproduction studies are not always predictive of human response, this drug should be used during pregnancy only if clearly needed.

**Nursing mothers:** It is not known whether this drug is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when Naftin® Gel, 1% is administered to a nursing woman.

**Pediatric use:** Safety and effectiveness in pediatric patients have not been established.

## ADVERSE REACTIONS

During clinical trials with Naftin® Gel, 1%, the incidence of adverse reactions was as follows: burning/stinging (5.0%), itching (1.0%), erythema (0.5%), rash (0.5%), skin tenderness (0.5%).

## DOSAGE AND ADMINISTRATION

A sufficient quantity of Naftin® Gel, 1% should be gently massaged into the affected and surrounding skin areas twice a day in the morning and evening. The hands should be washed after application. If no clinical improvement is seen after four weeks of treatment with Naftin® Gel, 1%, the patient should be re-evaluated.

## HOW SUPPLIED

Naftin® (naftifine hydrochloride) 1% Gel is supplied in collapsible tubes in the following sizes:

20g – NDC 0259-4770-20

40g – NDC 0259-4770-40

60g – NDC 0259-4770-60

**Note:** Store at room temperature.



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Manufactured for: Merz Pharmaceuticals, Greensboro, NC 27410