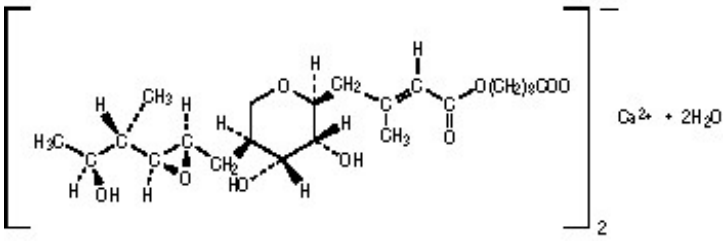
BACTROBAN - mupirocin calcium cream
Physicians Total Care, Inc.

BACTROBAN CREAM®
(mupirocin calcium cream, 2%)
For Dermatologic Use

DESCRIPTION

BACTROBAN CREAM (mupirocin calcium cream, 2%) contains the dihydrate crystalline calcium hemi-salt of the antibiotic mupirocin. Chemically, it is (α*E*,2*S*,3*R*,4*R*,5*S*)-5-[(2*S*,3*S*,4*S*,5*S*)-2,3-Epoxy-5-hydroxy-4-methylhexyl]tetrahydro-3,4-dihydroxy-β-methyl-2*H*-pyran-2-crotonic acid, ester with 9-hydroxynonanoic acid, calcium salt (2:1), dihydrate.

The molecular formula of mupirocin calcium is $(C_{26}H_{43}O_9)_2Ca \cdot 2H_2O$, and the molecular weight is 1075.3. The molecular weight of mupirocin free acid is 500.6. The structural formula of mupirocin calcium is:



BACTROBAN CREAM is a white cream that contains 2.15% w/w mupirocin calcium (equivalent to 2.0% mupirocin free acid) in an oil and water-based emulsion. The inactive ingredients are benzyl alcohol, cetomacrogol 1000, cetyl alcohol, mineral oil, phenoxyethanol, purified water, stearyl alcohol, and xanthan gum.

CLINICAL PHARMACOLOGY

Pharmacokinetics

Systemic absorption of mupirocin through intact human skin is minimal. The systemic absorption of mupirocin was studied following application of BACTROBAN CREAM 3 times daily for 5 days to various skin lesions (>10 cm in length or 100 cm^2 in area) in 16 adults (aged 29 to 60 years) and 10 children (aged 3 to 12 years). Some systemic absorption was observed as evidenced by the detection of the metabolite, monic acid, in urine. Data from this study indicated more frequent occurrence of percutaneous absorption in children (90% of patients) compared to adults (44% of patients); however, the observed urinary concentrations in children (0.07 - 1.3 mcg/mL [1 pediatric patient had no detectable level]) are within the observed range (0.08 - 10.03 mcg/mL [9 adults had no detectable level]) in the adult population. In general, the degree of percutaneous absorption following multiple dosing appears to be minimal in adults and children. Any mupirocin reaching the systemic circulation is rapidly metabolized, predominantly to inactive monic acid, which is eliminated by renal excretion.

Microbiology

Mupirocin is an antibacterial agent produced by fermentation using the organism *Pseudomonas fluorescens*. It is active against a wide range of gram-positive bacteria including methicillin-resistant *Staphylococcus aureus* (MRSA). It is also active against certain gram-negative bacteria. Mupirocin inhibits bacterial protein synthesis by reversibly and specifically binding to bacterial isoleucyl transfer-RNA synthetase. Due to this unique mode of action, mupirocin demonstrates no in vitro cross-resistance

with other classes of antimicrobial agents.

Resistance occurs rarely; however, when mupirocin resistance does occur, it appears to result from the production of a modified isoleucyl-tRNA synthetase. High-level plasmid-mediated resistance (MIC >1024 mcg/mL) has been reported in some strains of *Staphylococcus aureus* and coagulase-negative staphylococci.

Mupirocin is bactericidal at concentrations achieved by topical application. The minimum bactericidal concentration (MBC) against relevant pathogens is generally 8-fold to 30-fold higher than the minimum inhibitory concentration (MIC). In addition, mupirocin is highly protein bound (>97%), and the effect of wound secretions on the MICs of mupirocin has not been determined.

Mupirocin has been shown to be active against most strains of *S. aureus* and *Streptococcus pyogenes*, both in vitro and in clinical studies. (See INDICATIONS AND USAGE.) The following in vitro data are available, BUT THEIR CLINICAL SIGNIFICANCE IS UNKNOWN. Mupirocin is active against most strains of *Staphylococcus epidermidis* and *Staphylococcus saprophyticus*.

INDICATIONS AND USAGE

BACTROBAN CREAM is indicated for the treatment of secondarily infected traumatic skin lesions (up to 10 cm in length or 100 cm^2 in area) due to susceptible strains of *S. aureus* and *S. pyogenes*.

CONTRAINDICATIONS

BACTROBAN CREAM is contraindicated in patients with known hypersensitivity to any of the constituents of the product.

WARNINGS

Avoid contact with the eyes.

In the event of a sensitization or severe local irritation from BACTROBAN CREAM, usage should be discontinued, and appropriate alternative therapy for the infection instituted.

PRECAUTIONS

General

As with other antibacterial products, prolonged use may result in overgrowth of nonsusceptible microorganisms, including fungi. (See DOSAGE AND ADMINISTRATION.)

BACTROBAN CREAM is not formulated for use on mucosal surfaces.

Information for Patients

• Use this medication only as directed by your healthcare provider. It is for external use only. Avoid contact with the eyes.

• The treated area may be covered by gauze dressing if desired.

• Report to your healthcare provider any signs of local adverse reactions. The medication should be stopped and your healthcare provider contacted if irritation, severe itching, or rash occurs.

• If no improvement is seen in 3 to 5 days, contact your healthcare provider.

Drug Interactions

The effect of the concurrent application of topical mupirocin calcium cream and other topical products has not been studied.

Carcinogenesis, Mutagenesis, Impairment of Fertility

Long-term studies in animals to evaluate carcinogenic potential of mupirocin calcium have not been conducted.

Results of the following studies performed with mupirocin calcium or mupirocin sodium in vitro and in vivo did not indicate a potential for mutagenicity: Rat primary hepatocyte unscheduled DNA synthesis, sediment analysis for DNA strand breaks, *Salmonella* reversion test (Ames), *Escherichia coli* mutation assay, metaphase analysis of human lymphocytes, mouse lymphoma assay, and bone marrow micronuclei assay in mice.

Fertility studies were performed in rats with mupirocin administered subcutaneously at doses up to 49 times a human topical dose of 1 gram/day (approximately 20 mg mupirocin per day) on a mg/m^2 basis and revealed no evidence of impaired fertility from mupirocin sodium.

Pregnancy

Teratogenic Effects: Pregnancy Category B. Teratology studies have been performed in rats and rabbits with mupirocin administered subcutaneously at doses up to 78 and 154 times, respectively, a human topical dose of 1 gram/day (approximately 20 mg mupirocin per day) on a mg/m^2 basis and revealed no evidence of harm to the fetus due to mupirocin. 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 BACTROBAN CREAM is administered to a nursing woman.

Pediatric Use

The safety and effectiveness of BACTROBAN CREAM have been established in the age groups 3 months to 16 years. Use of BACTROBAN CREAM in these age groups is supported by evidence from adequate and well-controlled studies of BACTROBAN CREAM in adults with additional data from 93 pediatric patients studied as part of the pivotal trials in adults. (See CLINICAL STUDIES.)

Geriatric Use

In 2 well-controlled studies, 30 patients older than 65 years were treated with BACTROBAN CREAM. No overall difference in the efficacy or safety of BACTROBAN CREAM was observed in this patient population when compared to that observed in younger patients.

ADVERSE REACTIONS

In 2 randomized, double-blind, double-dummy trials, 339 patients were treated with topical BACTROBAN CREAM plus oral placebo. Adverse events thought to be possibly or probably drug-related occurred in 28 (8.3%) patients. The incidence of those events that were reported in at least 1% of patients enrolled in these trials were: Headache (1.7%), rash, and nausea (1.1% each).

Other adverse events thought to be possibly or probably drug-related which occurred in less than 1% of patients were: Abdominal pain, burning at application site, cellulitis, dermatitis, dizziness, pruritus, secondary wound infection, and ulcerative stomatitis.

In a supportive study in the treatment of secondarily infected eczema, 82 patients were treated with BACTROBAN CREAM. The incidence of adverse events thought to be possibly or probably drug-related was as follows: Nausea (4.9%), headache, and burning at application site (3.6% each), pruritus (2.4%) and 1 report each of abdominal pain, bleeding secondary to eczema, pain secondary to eczema, hives, dry skin, and rash.

OVERDOSAGE

Intravenous infusions of 252 mg, as well as single oral doses of 500 mg of mupirocin, have been well tolerated in healthy adult subjects. There is no information regarding overdose of BACTROBAN CREAM.

DOSAGE AND ADMINISTRATION

A small amount of BACTROBAN CREAM should be applied to the affected area 3 times daily for 10 days. The area treated may be covered with gauze dressing if desired. Patients not showing a clinical response within 3 to 5 days should be re-evaluated.

CLINICAL STUDIES

The efficacy of topical BACTROBAN CREAM for the treatment of secondarily infected traumatic skin lesions (e.g., lacerations, sutured wounds, and abrasions not more than 10 cm in length or 100 cm^2 in total area) was compared to that of oral cephalexin in 2 randomized, double-blind, double-dummy clinical trials. Clinical efficacy rates at follow-up in the per protocol populations (adults and pediatric patients included) were 96.1% for BACTROBAN CREAM (n = 231) and 93.1% for oral cephalexin (n = 219). Pathogen eradication rates at follow-up in the per protocol populations were 100% for both BACTROBAN CREAM and oral cephalexin.

Pediatrics: There were 93 pediatric patients aged 2 weeks to 16 years enrolled per protocol in the secondarily infected skin lesion studies, although only 3 were less than 2 years of age in the population treated with BACTROBAN CREAM. Patients were randomized to either 10 days of topical BACTROBAN CREAM 3 times daily or 10 days of oral cephalexin (250 mg 4 times daily for patients >40 kg or 25 mg/kg/day oral suspension in 4 divided doses for patients ≤40 kg). Clinical efficacy at follow-up (7 to 12 days post-therapy) in the per protocol populations was 97.7% (43/44) for BACTROBAN CREAM and 93.9% (46/49) for cephalexin. Only 1 adverse event (headache) was thought to be possibly or probably related to drug therapy with BACTROBAN CREAM in the intent-to-treat pediatric population of 70 children (1.4%).

HOW SUPPLIED

BACTROBAN CREAM is supplied in 15-gram and 30-gram tubes.

NDC 54868-4642-1 (15-gram tube)

NDC 54868-4642-0 (30-gram tube)

Store at or below 25°C (77°F). Do not freeze.

GlaxoSmithKline

Research Triangle Park, NC 27709

BACTROBAN CREAM is a registered trademark of GlaxoSmithKline.

May 2005 BB:L7B

Relabeling of "Additional Barcode Label" by:
Physicians Total Care, Inc.
Tulsa, OK 74146

Principal Display Panel

BACTROBAN CREAM®

MUPIROCIN CALCIUM CREAM 2%

15 grams (Net Wt.)

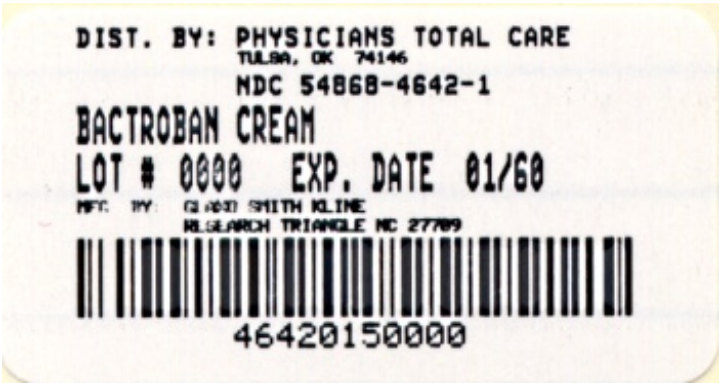
R_x only

Store at or below 25ºC (77ºF). Do not freeze.

Each gram contains 21.5 mg mupirocin calcium in a mineral oil cream base.

Dosage: For dermatologic use only. Apply a small amount of cream to the affected area three times daily for 10 days. Patients not showing clinical response within 3 to 5 days should be re-evaluated.

See accompanying prescribing information.



Bactroban® Cream

Read all of this leaflet carefully before you start using this medicine.
• Keep this leaflet. You may need to read it again.
• If you have any further questions, ask your doctor, nurse or pharmacist.
• This medicine has been prescribed for you. Do not pass it on to others. It may harm them, even if their symptoms are the same as yours.
• If any of the side effects get serious, or if you notice any side effects not listed in this leaflet, please tell your doctor, nurse or pharmacist.

In this leaflet:

1 What Bactroban is and what it is used for
2 Before you use Bactroban
3 How to use Bactroban
4 Possible side effects
5 How to store Bactroban
6 Further information

1 What Bactroban is and what it is used for
Bactroban Cream (called 'Bactroban' in this leaflet) contains a medicine called mupirocin calcium. Bactroban is an antibiotic cream.
It is used:
• to treat infections on your skin in small cuts, wounds or on scraped skin.
• to kill bacteria causing infections on your skin called '*Staphylococcus aureus*' and '*Streptococcus pyogens*'
• this cream is for external use on your skin only.

2 Before you use Bactroban

Do not use Bactroban if:

• you are allergic (hypersensitive) to mupirocin calcium, mupirocin or any of the other ingredients of Bactroban (listed in Section 6)

• the patient is less than 1 year old.

If you are not sure if this applies to you, do not use this medicine. Talk to your doctor, nurse or pharmacist before using Bactroban.

Using other medicines

Please tell your doctor, nurse or pharmacist if you are taking or have recently taken any other medicines. This includes medicines obtained without a prescription, including herbal medicines.

Pregnancy and breast-feeding

Do not use Bactroban if you are pregnant, might become pregnant or are breast-feeding. Talk to your doctor, nurse or pharmacist for advice before using any medicine, if you are pregnant or breastfeeding.

Important information about some of the ingredients of Bactroban

Bactroban contains cetyl alcohol and stearyl alcohol. These ingredients may cause skin reactions where you apply the cream. See also Section 4.

3 How to use Bactroban

Always use Bactroban exactly as your doctor has told you. You should check with your doctor, nurse or pharmacist if you are not sure.

Take special care with Bactroban

• Do not use Bactroban in your eyes. If you are using Bactroban on your face, be careful not to use it in or near your eyes or nose.

• Do not put Bactroban into your mouth or swallow it.

• If a cracked nipple is being treated, the cream must be thoroughly washed off prior to breast-feeding.

Using this medicine

Do not mix Bactroban with any other external cream or ointment medicines on the infected area of your skin as this may reduce the effectiveness of Bactroban.

You usually apply Bactroban on your skin up to 3 times a day.

1. Wash and dry your hands.
2. Place a small amount of Bactroban on a clean cotton wool pad or gauze swab.
3. Apply the cream to the infected area of your skin.
4. You can cover the treated area with a plaster or other suitable dressing, unless your doctor has told you to leave it uncovered.
5. Replace the cap on the tube and wash your hands.

How long should you use Bactroban for?

Use Bactroban for as long as your doctor has told you. If you are not sure, ask your doctor, nurse or pharmacist. The bacteria are normally cleared from your skin within 10 days of starting treatment. Do not use for more than 10 days.

If your skin condition does not improve within 3 to 5 days, see your doctor.

A yeast infection of moist areas of the body may develop if Bactroban is used for a long time. On the skin this looks like bright red spots which may be very itchy. On occasion small pustules may be present in the middle.

If this occurs, tell your doctor, pharmacist or nurse.

If you use more Bactroban than you should

• If you use more Bactroban than you should, speak to your doctor, nurse or pharmacist for advice.

• If you swallow Bactroban, contact your doctor immediately and indicate what and how much you have swallowed.

If you forget to use Bactroban

• If you forget to apply Bactroban, apply it as soon as you remember.

• If your next dose is due within an hour, skip the missed dose.
• Do not use a double dose to make up for a forgotten dose.
If you stop using Bactroban too early, not all the bacteria may have been killed or they may continue to grow. Ask your doctor, nurse or pharmacist when to stop using the cream.
If you have any further questions on the use of this product, ask your doctor, nurse or pharmacist.

4 Possible side effects
Like all medicines, Bactroban can cause side effects, not everybody gets them. The following side effects may happen with this medicine:
Common (these may affect between 1 and 100 people)
• Itching, redness, burning, rash, swelling, pain on your skin where Bactroban is applied.
Dryness and redness of the skin can also occur on other parts of your body.

If you develop a severe skin reaction or allergy:
• wipe off the cream
• stop using it and
• tell your doctor as soon as possible.
If any of the side effects gets serious, or if you notice any side effects not listed in this leaflet, please tell your doctor, nurse or pharmacist.

5 How to store Bactroban
• Keep out of the reach and sight of children.
• Do not store above 25°C. Do not freeze.
• Do not use Bactroban after the expiry date which is stated on the tube. The expiry date refers to the last day of that month.
• Do not use Bactroban if it looks different to normal.
• Medicines should not be disposed of via wastewater or household waste. Ask your pharmacist how to dispose of medicines no longer required. These measures will help to protect the environment.

6 Further information6 Further information
What Bactroban contains
• 1 g of cream contains 21.5 mg mupirocin calcium equivalent to 20 mg mupirocin.
• The other ingredients are xanthan gum, liquid paraffin, cetomacrogol 1000, stearyl alcohol, cetyl alcohol, phenoxyethanol, benzyl alcohol and purified water. See also section 2.

What Bactroban looks like and contents of the pack
• Bactroban is a smooth white cream.
• Bactroban is available in a 15 g tube.
Each tube comes in a carton.

Marketing Authorisation Holder and Manufacturer
Marketing authorisation holder
Beecham Group plc
Trading as GlaxoSmithKline UK
Stockley Park West
Uxbridge
Middlesex
UB11 1BT

Manufacturer
Glaxo Wellcome Operations
Harmire Road
Barnard Castle

Co Durham
DL12 8DT

Other formats
To listen to or request a copy of this leaflet in Braille, large print or audio please call, free of charge: 0800 198 5000 (UK Only)

Please be ready to give the following information:
Product name Bactroban Cream
Reference number 00038/0372
This is a service provided by the Royal
National Institute for the Blind.
Leaflet date: October 2007

BACTROBAN

mupirocin calcium cream

Product Information			
Product Type	HUMAN PRESCRIPTION DRUG	**Item Code (Source)**	NDC:54868-4642(NDC:0029-1527)
Route of Administration	TOPICAL		

Active Ingredient/Active Moiety		
Ingredient Name	**Basis of Strength**	**Strength**
MUPIROCIN CALCIUM (UNII: RG38I2P540) (MUPIROCIN - UNII:D0GX863OA5)	MUPIROCIN CALCIUM	20 mg in 1 g

Inactive Ingredients	
Ingredient Name	**Strength**
BENZYL ALCOHOL (UNII: LKG8494WBH)	
CETETH-20 (UNII: I835H2IHHX)	
CETYL ALCOHOL (UNII: 936JST6JCN)	
MINERAL OIL (UNII: T5L8T28FGP)	
PHENOXYETHANOL (UNII: HIE492ZZ3T)	
WATER (UNII: 059QF0KO0R)	
STEARYL ALCOHOL (UNII: 2KR89I4H1Y)	
XANTHAN GUM (UNII: TTV12P4NEE)	

Product Characteristics			
Color	white	**Score**	
Shape		**Size**	
Flavor		**Imprint Code**	
Contains			

Packaging

#	Item Code	Package Description	Marketing Start Date	Marketing End Date
1	NDC:54868-4642-1	1 in 1 CARTON		
1		15 g in 1 TUBE		
2	NDC:54868-4642-0	1 in 1 CARTON		
2		30 g in 1 TUBE		

Marketing Information

Marketing Category	Application Number or Monograph Citation	Marketing Start Date	Marketing End Date
NDA	NDA050746	07/12/2002	

Labeler - Physicians Total Care, Inc. (194123980)

Establishment

Name	Address	ID/FEI	Business Operations
Physicians Total Care, Inc.		194123980	relabel

Revised: 2/2007 Physicians Total Care, Inc.