

# Bacampicillin

## Antibiotic Class:

Penicillin (aminopenicillin)

## Antimicrobial Spectrum:

Gram positive bacteria: *Streptococcus spp.*, *Enterococcus*, *Listeria monocytogenes*

Gram negative bacteria: *H. influenzae*, *E. coli*, *Proteus mirabilis*, *Salmonella spp.*, *Shigella spp.*

## Mechanism of Action:

Exerts bactericidal activity via inhibition of bacterial cell wall synthesis by binding one or more of the penicillin binding proteins (PBPs). Exerts bacterial autolytic effect by inhibition of certain PBPs related to the activation of a bacterial autolytic process.

## Pharmacodynamics

Penicillins produce time-dependent killing

## Pharmacokinetics:

Oral bioavailability: 98%; Total protein binding: 17 to 20%; Metabolism: Rapidly hydrolyzed to ampicillin (active metabolite); extensive metabolism in intestinal wall; Excretion: predominant renal excretion (73%); Volume of distribution: 27 L

## Adverse Effects:

Hematologic: anemia, thrombocytopenia, neutropenia, agranulocytosis

CNS: seizures

Renal: nephrotoxicity

Hepatic: transient increases in transaminases

Other: Jarisch-Herxheimer Reaction (fever, chills, sweating, tachycardia, hyperventilation, flushing, and myalgia)

## Dosage:

Adult:  $\geq 25$  kg: Upper respiratory tract infections, Urinary tract infections, skin infections:  
400 mg q12h; treat for a minimum of 48-72 hours after the patient becomes asymptomatic

Severe infections:

800 mg q12h; treat for a minimum of 48-72 hours after the patient becomes asymptomatic

Pediatric: Upper respiratory tract infections, Urinary tract infections, skin infections:  
25 mg/kg/day in two divided doses q12h; treat for a minimum of 48-72 hours after the patient becomes asymptomatic

Severe infections:

50 mg/kg/day in two divided doses q12h; treat for a minimum of 48-72 hours after the patient becomes asymptomatic

Disease state based dosing:

Renal failure: CrCl  $> 50$  mL/min: dosing interval is every 6 hours

CrCl 10 to 50 mL/min: dosing interval is every 6 to 12 hours

CrCl  $< 10$  mL/min: dosing interval is every 12 to 24 hours

Hepatic failure: No dosing adjustment necessary

**Contraindications/Warnings/Precautions:**

Contraindications: Anaphylaxis to bacampicillin or other penicillins

Precautions:

- Cephalosporin hypersensitivity
- Patients with mononucleosis are more likely to develop a skin rash

**Drug Interactions:**

Contraceptives - decreased contraceptive effectiveness

Live Typhoid Vaccine - decreased immunological response to the typhoid vaccine

Probenecid - increased bacampicillin levels

**Pregnancy:**

Category B: No evidence of risk in humans but studies inadequate.

**Monitoring Requirements:**

Therapeutic: Culture and sensitivities, signs and symptoms of infection

Toxic: Periodic CBC, urinalysis, BUN, SCr, AST and ALT

**Brand names/Manufacturer:**

- ALBAXIN (Pharmacia Upjohn - ITALY)
- AMBACAMP (Pharmacia - GERMANY)
- AMBAXIN (PHARMACIA & UPJOHN – UK)
- AMBAXIN (Pharmacia Upjohn - UK)
- AMBAXINO (Pharmacia - SPAIN)
- AMPIBAC (CT - ITALY)
- AMPLIBAC (Schwarz - ITALY)
- BACACIL (Rottapharm - ITALY)
- BACACIL (Mack – SWITZERLAND)
- BACAGEN (Boniscontro & Gazzone - ITALY)
- BACAMPICIN (Pharmacia Upjohn – PORTUGAL, MEXICO)
- BACAMPICINE (Pharmacia - FRANCE)
- BACAMPICIN (Upjohn – NETHERLANDS, SWITZERLAND, BELGIUM)
- BACASINT (Piam - ITALY)
- BACATTIV (Uno - ITALY)
- BACILLIN (Lafare - ITALY)
- BACOCIL (Pfizer - BELGIUM)
- BAKAM (De Salute - ITALY)
- CAMPIXEN (IBI - ITALY)
- LEKOBACYN (Lek - SLOVENIA)
- PENBACCIN (Pharmaniaga - MALAYSIA)
- PENGLOBE (AstraZeneca - FRANCE, ITALY, SPAIN, SWEDEN, AUSTRIA, MEXICO, THAILAND, MALAYSIA, THAILAND, HUNGARY, CZECH REPUBLIC, CANADA, DENMARK, NETHERLANDS, HONG KONG, SINGAPORE)
- POLIBIOTIC (Ecobi - ITALY)
- REBACIL (Lisapharma - ITALY)
- SPECTROBID (Roerig - USA)
- VELBACIL (Farmasierra - SPAIN)
- WINNIPEG (Selvi - ITALY)