Units
The second International Standard Preparation (1964) of bacitracin zinc contains 74 units/mg.

Adverse Effects and Precautions
Systemic bacitracin may produce severe nephrotoxicity, resulting in renal failure due to tubular and glomerular necrosis. Renal function should be determined before, and daily during, therapy. Fluid intake and urinary output should be maintained to avoid kidney toxicity. If renal toxicity occurs, bacitracin should be stopped. Use with other nephrotoxic drugs should be avoided (see Interactions, below).

Nausea and vomiting may occur, as well as pain at the site of injection. Hypersensitivity reactions, including rashes and anaphylaxis, have occurred with both systemic, and more rarely with topical, use.

Interactions
Additive nephrotoxicity would be anticipated if bacitracin were given systemically with other nephrotoxic drugs, particularly colistin, kanamycin, neomycin, polymyxin B, and streptomycin; such use should be avoided.. Bacitracin is reported to enhance the neuromuscular blocking action of certain drugs, such as neuromuscular blockers and anaesthetics, if given during surgery or postoperatively.

Antimicrobial Action
Bacitracin interferes with bacterial cell wall synthesis by blocking the function of the lipid carrier molecule that transfers cell wall subunits across the cell membrane. It is active against many Gram-positive bacteria including staphylococci, streptococci (particularly group A streptococci), corynebacteria, and clostridia. It is also active against *Actinomyces*, *Treponema pallidum*, and some Gram-negative species such as *Neisseria* and *Haemophilus influenzae*, although most Gram-negative organisms are resistant.

Acquired bacterial resistance to bacitracin rarely occurs, but resistant strains of staphylococci have been detected.

Pharmacokinetics
Bacitracin is not appreciably absorbed from the gastrointestinal tract or from intact or denuded skin, wounds, or mucous membranes; however, systemic absorption has been reported after peritoneal lavage. It is rapidly absorbed when given by intramuscular injection. Bacitracin readily diffuses into pleural and ascitic fluids but little passes into the CSF. About 10 to 40% of a single injected dose is excreted slowly by glomerular filtration and appears in the urine within 24 hours.

Uses and Administration
Bacitracin and bacitracin zinc are applied **topically** (as a cream, ointment, dusting powder, or ophthalmic ointment), often with other antibacterials such as neomycin and polymyxin B, and sometimes with corticosteroids, in the treatment of local infections due to susceptible organisms. Typical concentrations of bacitracin or bacitracin zinc in such products are 250 to 500 units/g. Absorption from open wounds and from the bladder or peritoneal cavity may lead to adverse effects, although the dose-limiting toxicity of combined preparations is considered to be due to neomycin.

Parenteral use of bacitracin is usually avoided because of nephrotoxicity but it may be given intramuscularly for the treatment of infants with staphylococcal pneumonia and empyema due to susceptible organisms. For details of doses, see below.

Bacitracin has been given **orally** in the treatment of antibiotic-associated colitis due to *Clostridium difficile*.

Administration in children. In the USA, bacitracin may be given intramuscularly for the treatment of infants with staphylococcal pneumonia and empyema due to susceptible organisms. Infants weighing less than 2.5 kg may be given a dose of 900 units/kg daily in 2 or 3 divided doses; those weighing more than 2.5 kg may be given 1000 units/kg daily in 2 or 3 divided doses.

Preparations
BP 2008: Polymyxin and Bacitracin Eye Ointment;
USP 31: Bacitracin and Polymyxin B Sulfate Topical Aerosol; Bacitracin for Injection; Bacitracin Ointment; Bacitracin Ophthalmic Ointment; Bacitracin Zinc and Polymyxin B Sulfate Ointment; Bacitracin Zinc and Polymyxin B Sulfate Ophthalmic Ointment; Bacitracin Zinc Ointment; Neomycin and Polymyxin B Sulfates and Bacitracin Ointment; Neomycin and Polymyxin B Sulfates and Bacitracin Ophthalmic Ointment; Neomycin and Polymyxin B Sulfates and Bacitracin Zinc Ointment; Neomycin and Polymyxin B Sulfates and Bacitracin Zinc Ophthalmic Ointment; Neomycin and Polymyxin B Sulfates, Bacitracin Zinc, and Hydrocortisone Acetate Ophthalmic Ointment; Neomycin and Polymyxin B Sulfates, Bacitracin Zinc, and Hydrocortisone Ointment; Neomycin and Polymyxin B Sulfates, Bacitracin Zinc, and Hydrocortisone Ophthalmic Ointment; Neomycin and Polymyxin B Sulfates, Bacitracin Zinc, and Lidocaine Ointment; Neomycin and Polymyxin B Sulfates, Bacitracin, and Hydrocortisone Acetate Ointment; Neomycin and Polymyxin B Sulfates, Bacitracin, and Hydrocortisone Acetate Ophthalmic Ointment; Neomycin and Polymyxin B Sulfates, Bacitracin, and Lidocaine Ointment; Neomycin Sulfate and Bacitracin Ointment; Neomycin Sulfate and Bacitracin Zinc Ointment; Polymyxin B Sulfate and Bacitracin Zinc Topical Aerosol; Polymyxin B Sulfate and Bacitracin Zinc Topical Powder.

Proprietary Preparations (details are given in Part 3)

Austria: Rhinocillin B†; ***Canad.:*** Baciguent; Baciject; Bacitin; ***USA:*** Ak-Tracin†; Baci-IM; ***Venez.:*** Baciderm.

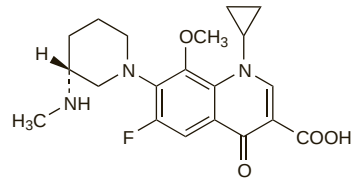
Multi-ingredient: ***Arg.:*** Biotaer an Caramelos; Biotaer Gamma†; Biotaer Nebulizable; Biotaer Ultrason Nebulizable†; Butimerin; Carnot Colutorio; Cicatrex; Nebapol B†; ***Austral.:*** Cicatrin; Nemdyn; Neosporin; ***Austria:*** Baneocin; Cicatrex; Eucillin; Nebacetin; ***Belg.:*** Nebacetine; Neobacitracine; ***Braz.:*** Anaseptil; Antiseptin†; Bacidermina; Bacigen; Bacinantrat†; Bacineo†; Bactoderm; Belcetin†; Cicatrene; Cicatrizan†; Cutiderm; Dermacetin-Ped†; Dermase; Epicitrin; Ferid; Kindcetin; Nebacetin; Nebaciderme; Nebacimed; Nebacitrin†; Nebactrina†; Nebalon†; Neobacina†; Neobacipan†; Neocetrin; Neotop; Neotricin; Polysporin; Pomacetin†; Rinogerol†; Teutomicin; ***Canad.:*** Antibiotique Onguent; Bacimyxin; Band-Aid Antibiotic; Bioderm; Cicatrin; Cortimyxin; Cortisporin; Johnson & Johnson First Aid Ointment†; Neosporin; Neotopic†; Optimyxin; Ozonol Antibiotic Plus; Polycidin†; Polyderm; Polysporin; Polysporin Complete Antibiotic; Polysporin Triple Antibiotic; Polytopic; ***Chile:*** Bacitopic Compuesto; Bacitopic†; Banedif; Banedif Oftalmico; Banedif Oftalmico con Prednisolona; Biodexin†; Dermabiotico; Grifoftal†; Monticina; Nasomin; Oftabiotico; Pensulan; Polvos Antibioticos†; Rinobanedif; Unguento Dermico Antibiotico; ***Cz.:*** Framykoin; Ophthalmo-Framykoin; Ophthalmo-Framykoin Compositum; Pamycon; ***Fin.:*** Bacibact; ***Fr.:*** Bacicoline; Collunovar†; Oropivalone Bacitracine†; ***Ger.:*** Anginomycin†; Bivacyn†; Cicatrex†; Nebacetin; Neobac; Polyspectran; Polyspectran HC; ***Gr.:*** Apobacyn; Lysopaine; Nebacetin; Sopain-Plus; Vioplex-T; ***Hong Kong:*** Bacimycin; Bivacyn; Nebacetin†; Neosporin†; PMS-Baximycin†; Polyfax†; Prednitracin†; ***Hung.:*** Baneocin; Bivacyn; ***India:*** Nebasulf; Neosporin; Neosporin-H; ***Indon.:*** Nebacetin; Netracin; Scanderma Plus; Tracetin; ***Irl.:*** Cicatrin; Polyfax; ***Israel:*** Bamyxin; ***Ital.:*** Bimixin; Cicatrene; Enterostop; Orobicin; ***Malaysia:*** Bacitracin-N; Baneocin; ***Mex.:*** Nebacetina; Neosporin; Polixin; Tribiot; ***Neth.:*** Bacicoline-B; ***Norw.:*** Bacimycin; ***Philipp.:*** BNP Ointment; Terramycin Plus; Trimycin; Trimycin-H; ***Pol.:*** Baneocin; Bivacyn; Multibiotic; Neotopic; Tribiotic; ***Port.:*** Baciderma; Bacitracina Zimaia; Bacitracina-Neo†; Cicatrin; Davimicina†; Dermimade Bacitracina†; Dermobiotico†; Dimicina; Distop; Oralbiotico†; Polisulfade; ***Rus.:*** Baneocin (Банеоцин); ***S.Afr.:*** Cicatrin; Neosporin†; Polysporin; ***Singapore:*** Baneocin; Batramycin; Fast Powder; Polybamycin; ***Spain:*** Bacisporin; Banedif; Dermisone Tri Antibiotic; Dermo Hubber; Edifaringen; Lizipaina; Neo Bacitrin; Oxidermiol Enzima†; Phonal; Pomada Antibiotica; Rinobanedif; Tulgrasum Antibiotico; ***Switz.:*** Bacimycin; Baneopol; Batramycine; Cicatrex; Lysopaine; Nebacetin; Neotracin; Oro-Pivalone; Prednitracin†; ***Thai.:*** Bacal; Banocin; Basina; Biochin†; Genquin; Izac†; Medcin; My-B; Mybacin; Mybacin Dermic; ***Turk.:*** Thiocilline; ***UK:*** Cicatrin†; Polyfax; ***USA:*** Ak-Poly-Bac; Ak-Spore; Betadine First Aid Antibiotics + Moisturizer; Betadine Plus First Aid Antibiotics & Pain Reliever; Cortimycin; Cortisporin†; Lanabiotic†; Mycitracin†; Neocin; Neosporin + Pain Relief; Neosporin†; Neotricin HC; Ocu-Spor-B; Ocutricin; Polycin-B; Polymycin; Polysporin†; Polytracin; Spectrocin Plus†; Tri-Biozene; ***Venez.:*** Dermabiotic.

Balofloxacin *(rINN)*

Balofloxacine; Balofloxacino; Balofloxacinum; Q-35. (±)-1-Cyclopropyl-6-fluoro-1,4-dihydro-8-methoxy-7-[3-(methylamino)piperidino]-4-oxo-3-quinolinecarboxylic acid.

Балофлоксацин

$C_{20}H_{24}FN_3O_4$ = 389.4.
CAS — 127294-70-6.



Profile
Balofloxacin is a fluoroquinolone antibacterial used in the treatment of urinary-tract infections.

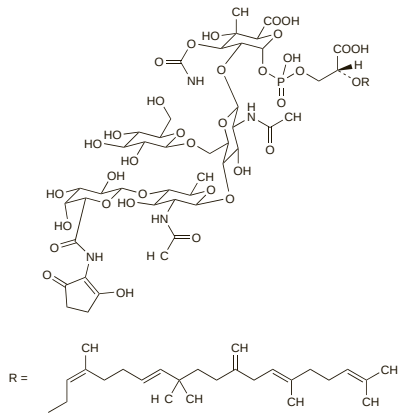
Preparations
Proprietary Preparations (details are given in Part 3)
Kor.: Q-Roxin.

Bambermycin *(BAN, pINN)*

Bambermicina; Bambermycine; Bambermycins *(USAN)*; Bambermycinum; Flavophospholipol.

Бамбермицин

$C_{69}H_{108}N_5O_{34}P$ = 1582.6 (moenomycin A).
CAS — 11015-37-5 (bambermycin); 76095-39-1 (moenomycin A).



(moenomycin A)

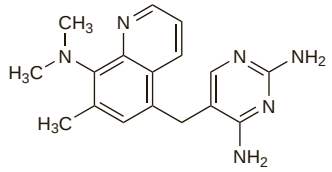
Profile
Bambermycin is an antibacterial complex containing mainly moenomycin A and moenomycin C and which may be obtained from cultures of *Streptomyces bambergiensis* or by other means. It is used as a growth promotor in veterinary practice.

Baquiloprim *(BAN, rINN)*

Bakiloprim; Bakiloprim; Baquiloprima; Baquiloprime; Baquiloprimum; 138OU. 5-(8-Dimethylamino-7-methyl-5-quinolylmethyl)pyrimidin-2,4-diyldiamine.

Бахилоприм

$C_{17}H_{20}N_6$ = 308.4.
CAS — 102280-35-3.



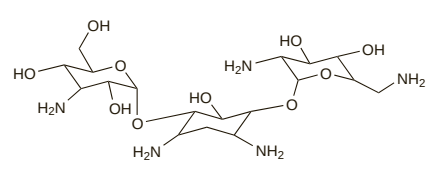
Profile
Baquiloprim is a diaminopyrimidine antibacterial used in veterinary medicine with sulfadimethoxine or sulfadimidine.

Bekanamycin Sulfate *(rINNM)*

Aminodeoxykanamycin Sulphate; Bekanamycin Sulphate; Békanamycine, Sulfate de; Bekanamycini Sulfas; Kanamycin B Sulphate; KDM; NK-1006; Sulfato de bekanamicina. 6-*O*-(3-Amino-3-deoxy-α-D-glucopyranosyl)-2-deoxy-4-*O*-(2,6-diamino-2,6-dideoxy-α-D-glucopyranosyl)-D-streptamine sulphate.

Беканамицина Сульфат

$C_{18}H_{37}N_5O_{10}.2H_2SO_4$ = 728.7.
CAS — 4696-76-8 (bekanamycin); 70550-99-1 (bekanamycin sulfate).



(bekanamycin)

Pharmacopoeias. In *Jpn.*

Profile
Bekanamycin is an aminoglycoside and is a congener of kanamycin. It has properties similar to those of gentamicin (p.282).