used for prophylaxis in areas of high risk or where multidrug resistance exists, and can be used prophylactically for up to 2 years.

For treatment and postexposure prophylaxis of inhalation anthrax, a 60-day course of treatment with oral doses of 100 mg twice daily may be used; one or two other antibacterials should also be given. Although unlicensed, the same regimen is recommended by UK and US public health authorities for the treatment of gastrointestinal anthrax. In the treatment of cutaneous anthrax (also unlicensed), a 7- to 10-day course of treatment with an oral dose of doxycycline 100 mg twice daily is recommended; treatment may need to be extended to 60 days if infection is due to aerosol exposure. If there are signs of systemic involvement, extensive oedema, or lesions on the head and neck, intravenous therapy and a multidrug approach is recommended.

In the treatment of acne, an oral dose of 50 mg daily for 6 to 12 weeks may be adequate, although the *BNF* advocates a dose of 100 mg daily. It is also given in low doses of 40 mg once daily as a modified-release preparation for the treatment of inflammatory lesions associated with rosacea in adults.

Doxycycline may be given orally in low doses of 20 mg twice daily for 3 months as an adjunct to supragingival and subgingival scaling and root planing to adults with periodontitis. For chronic periodontitis, a modified-release subgingival gel containing doxycycline hyclate 10% (released over 7 days) has been inserted into the periodontal pocket.

For details of doses in children and adolescents, see below.

Administration. ***SUBANTIMICROBIAL DOSES.*** Doxycycline is given in doses of 20 mg orally twice daily, which are not sufficient to achieve antimicrobial concentrations in the body, as an adjunct in the treatment of periodontal disease. The benefits of treatment are believed to be due to its ability to downregulate the actions of matrix metalloproteinases, enzymes involved in the breakdown of collagen and which play a key role in the inflammatory and destructive processes of periodontitis.[1] Similar subantimicrobial doses have been investigated, and produced apparent benefit, in patients with acne or rosacea;[2] there was no evidence that even quite prolonged therapy at these doses influenced the development of antibiotic resistance in bacterial flora. A low-dose modified-release preparation containing doxycycline 40 mg is available in some countries for the treatment of inflammatory lesions associated with rosacea.

1. Preshaw PM, *et al.* Subantimicrobial dose doxycycline as adjunctive treatment for periodontitis: a review. *J Clin Periodontol* 2004; **31:** 697–707.
2. Del Rosso JQ. A status report on the use of subantimicrobial-dose doxycycline: a review of the biologic and antimicrobial effects of the tetracyclines. *Cutis* 2004; **74:** 118–122.

Administration in children. In children, the effects on teeth should be considered and tetracyclines only used when absolutely essential. In the UK, doxycycline is licensed for use in children aged 12 years and over; the usual adult dose (see above) may be given orally. However, in the USA, it may be given to children over 8 years old; those weighing 45 kg or less may be given usual oral or intravenous doses of 4.4 mg/kg on the first day (as a single dose or in divided doses), followed by 2.2 mg/kg daily and those weighing over 45 kg may be given the usual adult dose (see above).

In the USA, doxycycline is licensed in children over 8 years old for prophylaxis of chloroquine-resistant falciparum malaria in areas of high risk or where multidrug resistance exists. The recommended oral dose is 2 mg/kg (to a maximum of 100 mg) once daily.

US[1] public health authorities suggest that doxycycline may be given to children under 8 years old for the treatment of inhalation, gastrointestinal, or cutaneous anthrax, and for postexposure prophylaxis of inhalation anthrax. For the treatment and postexposure prophylaxis of inhalation anthrax, a 60-day course of treatment with initial intravenous doses of 2.2 mg/kg (to a maximum of 100 mg) twice daily followed by the same dose given orally is recommended; the same regimen is also recommended for the treatment of gastrointestinal anthrax. As with the adult regimens, one or two other antibacterials should also be given. In the treatment of cutaneous anthrax, a 7- to 10-day course of treatment with an oral dose of 2.2 mg/kg twice daily is recommended; treatment may need to be extended to 60 days if infection is due to aerosol exposure. In the UK[2] public health authorities only recommend doxycycline for those older than 8 years old and weighing over 45 kg who may be given the usual adult dose (see above).

1. CDC. Notice to readers: update: interim recommendations for antimicrobial prophylaxis for children and breastfeeding mothers and treatment of children with anthrax. *MMWR* 2001; **50:** 1014–16. Also available at: http://www.cdc.gov/mmwr/PDF/wk/mm5045.pdf (accessed 25/04/07)
2. Health Protection Agency. Guidelines for action in the event of a deliberate release: anthrax. Version 5.9, 16 April 2007. Available at: http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1194947401128 (accessed 11/08/08)

Lymphatic filariasis. Filaria have been shown to contain *Wolbachia* endobacteria which are essential for larval development and adult worm fertility and viability. This symbiotic dependency has provided a new approach in the treatment of individuals with lymphatic filariasis (p.137). A double-blind, randomised, placebo-controlled study[1] of 72 patients infected with *Wuchereria bancrofti* found that those given oral doxycycline 200 mg daily for 8 weeks had a significant reduction in the number of adult worms at 14 months; ultrasonography detected adult worms in 22% of those given doxycycline and in 88% of those given placebo. Microfilaraemia was almost completely eliminated at 8 to 14 months follow-up.

See also Onchocerciasis, below.

1. Taylor MJ, *et al.* Macrofilaricidal activity after doxycycline treatment of Wuchereria bancrofti: a double-blind, randomised placebo-controlled trial. *Lancet* 2005; **365:** 2116–21.

Musculoskeletal and joint disorders. For reference to the use of doxycycline in the management of various musculoskeletal and joint disorders, see under Tetracycline, p.350.

Onchocerciasis. As in lymphatic filariasis (above), *Onchocerca volvulus* worms rely on a symbiotic relationship with *Wolbachia* endobacteria, and this has provided a new approach in the treatment of individuals with onchocerciasis (p.137). A 4-month controlled clinical study[1] of 35 patients with onchocerciasis found that those given oral doxycycline 100 mg daily for 6 weeks showed a trend toward more frequent degeneration or death of adult worms and suppressed embryonic development at early stages for the duration of the study period. A subsequent study[2] of 88 patients found that embryogenesis was interrupted for at least 18 months in those given a single standard dose of ivermectin (150 micrograms/kg) plus oral doxycycline 100 mg daily for 6 weeks compared to those given only the standard dose of ivermectin.

1. Hoerauf A, *et al.* Endosymbiotic bacteria in worms as targets for a novel chemotherapy in filariasis. *Lancet* 2000; **355:** 1242–3.
2. Hoerauf A, *et al.* Depletion of wolbachia endobacteria in Onchocerca volvulus by doxycycline and microfilaridermia after ivermectin treatment. *Lancet* 2001; **357:** 1415–16.

Preparations

BP 2008: Dispersible Doxycycline Tablets; Doxycycline Capsules;
USP 31: Doxycycline Calcium Oral Suspension; Doxycycline Capsules; Doxycycline for Injection; Doxycycline for Oral Suspension; Doxycycline Hyclate Capsules; Doxycycline Hyclate Delayed-release Capsules; Doxycycline Hyclate Tablets.

Proprietary Preparations (details are given in Part 3)
Arg.: Asolmicina.dox; Atridox; Ciclidoxan; Doxibiot; Granudoxy; Verboril; Vibramicina; ***Austral.:*** Doryx; Doxsig; Doxy; Doxyhexal; Doxylin; Frakas; Vibra-Tabs; Vibramycin; ***Austria:*** Aliudox; Dotur; Doxal; Doxybene; Doxyderm; Doxydyn; Doxyhexal; Doxylan; Doxystad; Supracyclin; Vibramycin; Vibravenos; ***Belg.:*** Docdoxycy; Doxylets; Doxytab; Vibramycine; Vibratab; ***Braz.:*** Ciclisan; Clordox; Doxilina†; Neo Doxicilin; Protectina; Uni Doxiciclin; Vibramicina; ***Canad.:*** Apo-Doxy; Doxycin; Doxytec†; Novo-Doxylin; Vibra-Tabs; ***Chile:*** Doryx; Doxithal; Sigadoxin; Vibramicina; ***Cz.:*** Apo-Doxy†; Deoxymykoin; Doxybene; Doxyhexal; Helvedoclyn†; Unidox†; ***Denm.:*** Atridox†; Vibradox; Vibramycin†; ***Fin.:*** Apodoxin; Atridox†; Doxyklin; Doximed; Doximycin; Doxitin; ***Fr.:*** Doxy; Doxygram; Doxylis; Doxypalu; Granudoxy; Spanor; Tolexine; Vibramycine N; ***Ger.:*** Aknefug Doxy; Antodox; Atridox; Azudoxat†; Clinofug D†; Doxakne; Doxy; Doxy Komb; Doxy M; Doxy-Diolan†; Doxy-HP; Doxy-N-Tablinen; Doxy-Puren†; Doxy-Wolff; Doxyderma; Doxydoc; Doxyhexal; Doxymerck; Doxymono; Jenacyclin†; Mespafin; Neodox†; Sigadoxin†; Supracyclin; Vibramycin†; Vibravenos†; ***Gr.:*** Atridox; Impalamycin; Microvibrate; Novimax; Otosal; Relyomycin; Smilitene; Vibramycin; Vibravenos†; Vibravenosa†; ***Hong Kong:*** Amermycin; Doxitab; Doxy†; Doxymycin; Medomycin; Remycin†; Vibramycin; Wanmycin; Zadorin†; ***Hung.:*** Doxypharm; Doxyprotect; Huma-Doxylin; Tenutan; Vibramycin†; ***India:*** Biodoxi; Doxicip; Doxy; Doxypal-DR; Geeox; Lenteclin; Solomycin; Vibazine†; ***Indon.:*** Dotur; Doxacin; Doxicor; Doxin; Dumoxin; Interdoxin; Siclidon; Viadoxin; Vibramycin; ***Irl.:*** By-Mycin; Periostat; Vibramycin; ***Israel:*** Doxibiotic; Doxy; Doxylin; Doxytrim; Periostat; Vibramycin; ***Ital.:*** Bassado; Miraclin; ***Malaysia:*** Bronmycin†; Doline; Doxacyne†; Doxy†; Doxycillin; Doxymycin; Medomycin; Vibramycin; Wanmycin†; Zadorin†; ***Mex.:*** Apociclina†; Bioximicina; Domiken; Kenciclen; Periosan; Vibramicina; Vivradoxil; ***Neth.:*** Atridox; Doxy; Doxy-Dagra†; Doxymycin†; Periostat; Unidox; Vibra-S†; Vibramycin; ***Norw.:*** Doryx†; Doxylin; Doxysol†; Dumoxin; Vibramycin; ***NZ:*** Atridox†; Doxine; Doxy; ***Philipp.:*** Cytragen; Doxicon; Doxin; Doxylyn; Harvellin; Vibramycin; ***Pol.:*** Dotur; Doxicin; Doxyratio M; Supracyclin; Unidox; ***Port.:*** Actidox; Atridox; Biocin†; Doxytrex; Periostat; Pluridoxina; Sigadoxin; Vibramicina; ***Rus.:*** Apo-Doxy (Апо-докси)†; Doxal (Доксал)†; Medomycin (Медомицин); Unidox (Юнидокс); Vibramycin (Вибрамицин); ***S.Afr.:*** Cyclidox; Doximal; Doxitab; Doxyclin; Doxycyl; Doxyhexal; Doxymycin; Dumoxin; Noritet; Randoclin†; Vibramycin; ***Singapore:*** Apo-Doxy; Bronmycin; Doryx†; Doxilin†; Doxine; Doxycap; Doxyline; Doxymycin; Medomycin; Remycin†; Tetradox; Vibramycin; Wanmycin; ***Spain:*** Docosyl†; Dosil; Doxiclat; Doxicrisol; Doxinate†; Doxiten Bio; Mededoxi; Peledox; Proderma; Retens; Rexilen; Vibracina; Vibravenosa; ***Swed.:*** Atridox; Doryx†; Doxyferm; Vibramycin; ***Switz.:*** Atridox; Diocimex; Doxy-basan†; Doxycline; Doxylag; Doxysol; Periostat; Rudocycline; Sigadoxin†; Supracycline; Tasmacyclin Akne; Vibramycine; Vibraveineuse; Zadorine; ***Thai.:*** Amermycin; Bronmycin; Docline; Docyl; Doxin; Doxy; Doxy-P†; Doxycline; Doxylcap; Doxylin; Dumoxin†; Madoxy; Medomycin; Medoxin; Poli-Cycline; Servidoxyne; Siadocin; Tetradox; Torymycin; Veemycin; Vibramycin; ***Turk.:*** Doksin; Monodoks; Tetradox; ***UAE:*** DuraDox; ***UK:*** Atridox; Demix†; Doxylar; Periostat; Vibramycin; ***USA:*** Adoxa; Alodox; Atridox; Doryx; Monodox; Oracea; Oraxyl; Periostat; Vibra-Tabs; Vibramycin; ***Venez.:*** Doxiclival; Tremesal; Vibrafesa†; Vibramicina C.

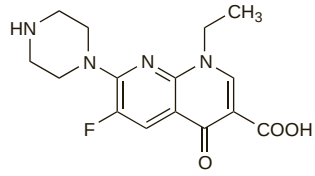
Multi-ingredient: ***Cz.:*** Doxycyclin Al Comp; ***Ger.:*** Ambrodoxy; Ambroxol AL comp; Ambroxol comp; Amdox-Puren†; Azudoxat comp†; Doxam; Doximucol; Doxy Comp; Doxy Lindoxyl; Doxy Plus; Doxy-Wolff Mucolyt†; Doxysolvat†; Jenabroxol comp†; Sigamuc†; Terelit†; ***Spain:*** Dosil Enzimatico; Doxiten Enzimatico; Pulmotropic.

Enoxacin *(BAN, USAN, rINN)*

AT-2266; CI-919; Enoksasiini; Enoksasin; Énoxacine; Enoxacino; Enoxacinum; PD-107779. 1-Ethyl-6-fluoro-1,4-dihydro-4-oxo-7-(1-piperazinyl)-1,8-naphthyridine-3-carboxylic acid.

Эноксацин

$C_{15}H_{17}FN_4O_3$ = 320.3.
CAS — 74011-58-8.
ATC — J01MA04.
ATC Vet — QJ01MA04.



Pharmacopoeias. *Chin.* and *Jpn* include the sesquihydrate.

Adverse Effects and Precautions

As for Ciprofloxacin, p.244.

Reduced dosage may be needed in renal impairment—see Administration in Renal Impairment, under Uses and Administration, below.

Interactions

As for Ciprofloxacin, p.246.

Of the fluoroquinolones, enoxacin has been reported to cause the most marked interaction with theophylline (p.1143) and with caffeine (p.1117).

Antimicrobial Action

As for Ciprofloxacin, p.246, although enoxacin is generally less potent *in vitro*.

Pharmacokinetics

Peak plasma concentrations of 2 to 3 micrograms/mL occur 1 to 2 hours after a 400-mg oral dose of enoxacin. The plasma half-life is about 3 to 6 hours. Plasma protein binding ranges from 18 to 67%. Enoxacin appears to be widely distributed in the body and concentrations higher than those in plasma have been reported in tissues such as lung, kidney, and prostate. High concentrations are achieved in bile, but the extent of biliary excretion is not completely clear.

Enoxacin is eliminated from the body mainly by urinary excretion, but also by metabolism. The major metabolite, 3-oxo-enoxacin, has some antibacterial activity. Urinary excretion of enoxacin is by both tubular secretion and glomerular filtration and may be reduced by probenecid. High concentrations are achieved in the urine since about 60% of an oral dose of enoxacin appears unchanged in the urine within 24 hours; about 10% is recovered as 3-oxo-enoxacin. In renal impairment the half-life of enoxacin may be prolonged and the oxometabolite may accumulate.

Uses and Administration

Enoxacin is a fluoroquinolone antibacterial with actions and uses similar to those of ciprofloxacin (p.247). It is used mainly in the treatment of urinary-tract infections (p.199) and gonorrhoea (p.191).

For urinary-tract infections, enoxacin is given orally in doses of 200 to 400 mg twice daily.

For details of reduced doses in renal impairment, see below.

A single 400-mg dose is given for uncomplicated gonorrhoea.

◊ References.

1. Patel SS, Spencer CM. Enoxacin: a reappraisal of its clinical efficacy in the treatment of genitourinary tract infections. *Drugs* 1996; **51:** 137–60.

Administration in renal impairment. In renal impairment when the creatinine clearance is 30 mL/minute or less the urinary concentrations achieved may be too low to have a therapeutic effect in urinary-tract infections. In other infections, half the usual dose of enoxacin is recommended.

Preparations

Proprietary Preparations (details are given in Part 3)
Austria: Enoxor; ***Fr.:*** Enoxor; ***Ger.:*** Enoxor; ***Ital.:*** Bactidan; Enoxen; ***Jpn:*** Flumark; ***Port.:*** Vinone†; ***S.Afr.:*** Bactidron†; ***Turk.:*** Enoksetin; ***USA:*** Penetrex†.

Enrofloxacin *(BAN, USAN, rINN)*

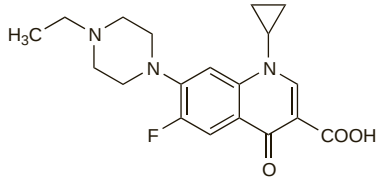
Bay-Vp-2674; Enrofloksasiini; Enrofloxacine; Enrofloxacino; Enrofloxacinum. 1-Cyclopropyl-7-(4-ethylpiperazin-1-yl)-6-fluoro-1,4-dihydro-4-oxoquinoline-3-carboxylic acid.

Энрофлоксацин

$C_{19}H_{22}FN_3O_3$ = 359.4.

CAS — 93106-60-6.

ATC Vet — QJ01MA90.



Profile

Enrofloxacin is a fluoroquinolone antibacterial that is used in veterinary practice.

Ertapenem Sodium *(BANM, USAN, rINNM)*

Ertapenem sódico; Ertapénem Sodique; L-749345; MK-826; MK-0826; Natrii Ertapenemum; ZD-4433. Sodium (4*R*,5*S*,6*S*)-3-({(3*S*,5*S*)-5-[(*m*-Carboxyphenyl)carbamoyl]-3-pyrrolidinyl}thio)-6-[(1*R*)-1-hydroxyethyl]-4-methyl-7-oxo-1-azabicyclo[3.2.0]hept-2-ene-2-carboxylate.

Натрий Эртапенем

$C_{22}H_{24}N_3NaO_7S$ = 497.5.

CAS — 153832-46-3 (ertapenem); 153832-38-3 (ertapenem disodium); 153773-82-1 (ertapenem sodium).

ATC — J01DH03.

ATC Vet — QJ01DH03.

Incompatibility and stability. References.

1. McQuade MS, *et al.* Stability and compatibility of reconstituted ertapenem with commonly used iv infusion and coinfusion solutions. *Am J Health-Syst Pharm* 2004; **61:** 38–45.

Adverse Effects and Precautions

As for Imipenem, p.286.

Ertapenem is more stable to renal dehydropeptidase I than imipenem and use with cilastatin, which inhibits the enzyme, is not required.

Interactions

Probenecid inhibits the renal excretion of ertapenem thereby increasing its plasma concentrations and prolonging its elimination half-life.

Antiepileptics. For reports of decreased plasma-*valproate* concentrations (sometimes with loss of seizure control) attributed to ertapenem, see p.510.

Antimicrobial Action

As for Imipenem, p.287,

Ertapenem is reported to be slightly more active *in vitro* than imipenem but has a narrower spectrum of activity and is not active against *Acinetobacter* or *Pseudomonas aeruginosa*.

Pharmacokinetics

After intravenous infusion of ertapenem 1 g over 30 minutes, a mean plasma concentration of 155 micrograms/mL is attained, falling to 9 micrograms/mL after 12 hours and 1 microgram/mL after 24 hours. After the same dose intramuscularly, a plasma concentration of 67 micrograms/mL is achieved after 2 hours. Bioavailability after intramuscular injection is about 90%.

Ertapenem is more than 90% bound to plasma proteins. It is distributed into breast milk. The plasma half-life is about 4 hours in adults and 2.5 hours in infants and in children aged 3 months to 12 years; the half-life may be prolonged in patients with renal impairment.

Ertapenem is partially metabolised via hydrolysis of its beta-lactam ring by dehydropeptidase I to an open-ringed metabolite. About 80% of a dose is excreted in the urine as both unchanged drug and metabolite. About 10% is excreted in faeces.

Ertapenem is removed by haemodialysis.

Uses and Administration

Ertapenem is a carbapenem beta-lactam antibacterial with actions and uses similar to those of imipenem (p.287). It is more stable to renal dehydropeptidase I than imipenem and need not be given with an enzyme inhibitor such as cilastatin. It is used in the treatment of susceptible infections including intra-abdominal infections, acute gynaecological infections, urinary-tract infections, skin and skin structure infections (including diabetic foot infections), and community-acquired pneumonia. It is also used prophylactically in colorectal surgery. For details of these infections and their treatment, see under Choice of Antibacterial, p.162.

Ertapenem is given as the sodium salt, but doses are expressed in terms of the base; 1.04 g of ertapenem sodium is equivalent to about 1 g of ertapenem. For treatment, it is given by intravenous infusion over 30 minutes or by intramuscular injection, in a usual adult dose of 1 g once daily. For prophylaxis, a single 1- g dose is given intravenously 1 hour before the start of surgery. For details of reduced doses in renal impairment, see below.

For details of doses in infants and children, see below.

◊ Reviews.

1. Keating GM, Perry CM. Ertapenem: a review of its use in the treatment of bacterial infections. *Drugs* 2006; **65:** 2151–78.

Administration in children. The dose of ertapenem for children aged 3 months to 12 years is 15 mg/kg twice daily (up to a maximum of 1 g daily) given by intravenous infusion over 30 minutes; if appropriate, the intramuscular route may be used.

Administration in renal impairment. Doses of ertapenem should be reduced in patients with renal impairment according to creatinine clearance (CC) and the following data are based on US prescribing information:

- CC 30 mL or less per minute (including end-stage disease where CC is 10 mL or less per minute): 500 mg daily for adults
- haemodialysis: if the 500-mg dose is given in the 6-hour period before dialysis an additional 150 mg should be given after each session.

The UK product licence, however, states that in advanced renal insufficiency and haemodialysis there are inadequate data to make recommendations and that ertapenem should not be used in these patients.

Preparations

Proprietary Preparations (details are given in Part 3)
Arg.: Invanz; ***Austral.:*** Invanz; ***Austria:*** Invanz; ***Belg.:*** Invanz†; ***Braz.:*** Invanz; ***Canad.:*** Invanz; ***Chile:*** Invanz; ***Cz.:*** Invanz; ***Denm.:*** Invanz; ***Fin.:*** Invanz; ***Fr.:*** Invanz; ***Ger.:*** Invanz; ***Gr.:*** Invanz; ***Hong Kong:*** Invanz; ***Hung.:*** Invanz; ***Irl.:*** Invanz; ***Israel:*** Invanz; ***Ital.:*** Invanz; ***Malaysia:*** Invanz; ***Neth.:*** Invanz; ***NZ:*** Invanz; ***Philipp.:*** Invanz; ***Pol.:*** Invanz; ***Port.:*** Invanz; ***Rus.:*** Invanz (Инванз); ***S.Afr.:*** Invanz; ***Singapore:*** Invanz; ***Spain:*** Invanz; ***Swed.:*** Invanz; ***Thai.:*** Invanz; ***UK:*** Invanz; ***USA:*** Invanz; ***Venez.:*** Invanz.

Erythromycin *(BAN, rINN)*

Eritromicin; Eritromicina; Eritromicinas; Eritromisin; Érythromycine; Erythromycinum; Erytromycin; Erytromycyna; Erytromysiini. Erythromycin A is (2*R*,3*S*,4*S*,5*R*,6*R*,8*R*,10*R*,11*R*,12*S*,13*R*)-5-(3-amino-3,4,6-trideoxy-*N*,*N*-dimethyl-β-D-*xylo*-hexopyranosyloxy)-3-(2,6-dideoxy-3-*C*,3-*O*-dimethyl-α-L-*ribo*-hexopyranosyloxy)-13-ethyl-6,11,12-trihydroxy-2,4,6,8,10,12-hexamethyl-9-oxotridecan-13-olide.

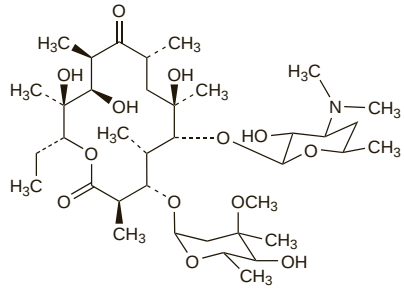
Эритромицин

$C_{37}H_{67}NO_{13}$ = 733.9.

CAS — 114-07-8.

ATC — D10AF02; J01FA01; S01AA17.

ATC Vet — QD10AF02; QJ01FA01; QJ51FA01; QS01AA17.



Pharmacopoeias. In *Chin.*, *Eur.* (see p.vii), *Int.*, *Jpn*, and *US*.
Ph. Eur. 6.2 (Erythromycin). It is produced by the growth of a strain of *Streptomyces erythreus* and is a mixture of macrolide antibiotics consisting largely of erythromycin A. It occurs as a white or slightly yellow powder or colourless or slightly yellow crystals; slightly hygroscopic. Slightly soluble in water but less soluble at higher temperatures; freely soluble in alcohol; soluble in methyl alcohol. Protect from light.
USP 31 (Erythromycin). It consists primarily of erythromycin A. A white or slightly yellow, odourless or practically odourless, crystalline powder. Soluble 1 in 1000 of water; soluble in alcohol, in chloroform, and in ether. Store in airtight containers.

Erythromycin Estolate *(BAN, USAN, rINNM)*

Eritromicin-esztolát; Eritromicino estolatas; Erythromycin Propionate Lauryl Sulfate; Erythromycin Propionate Lauryl Sulphate; Érythromycine, estolate d'; Erythromycin-estolát; Erythromycini estolas; Erytromycinestolat; Erytromycyny estolan; Erytromysiini-estolaatti; Estolato de eritromicina; Propionylerythromycin Lauryl Sulphate. Erythromycin 2′-propionate dodecyl sulphate.

Эритромицина Эстолат

$C_{40}H_{71}NO_{14}$,$C_{12}H_{26}O_4S$ = 1056.4.

CAS — 3521-62-8.

ATC — D10AF02; J01FA01; S01AA17.

ATC Vet — QD10AF02; QJ01FA01; QS01AA17.

Pharmacopoeias. In *Chin.*, *Eur.* (see p.vii), and *US*.
Ph. Eur. 6.2 (Erythromycin Estolate). A white or almost white, crystalline powder. Practically insoluble in water; freely soluble in alcohol; soluble in acetone; practically insoluble in dilute hydrochloric acid. Protect from light.
USP 31 (Erythromycin Estolate). A white, odourless or practically odourless, crystalline powder. It has a potency equivalent to not less than 600 micrograms of erythromycin per mg, calculated on the anhydrous basis. Practically insoluble in water; soluble 1 in 20 of alcohol, 1 in 15 of acetone, and 1 in 10 of chloroform. Store in airtight containers.

Erythromycin Ethyl Succinate *(BANM)*

Eritromicina, etilsuccinato de; Eritromicin-etilszukcinát; Eritromicino etilsukcinatas; Erythromycin Ethylsuccinate; Érythromycine, éthylsuccinate d'; Erythromycin-ethylsukcinát; Erythromycini ethylsuccinas; Erytromycinetylsuccinat; Erytromycyny etylobursztynian; Erytromysiinietyylisuksinaatti. Erythromycin 2′-(ethylsuccinate).

Эритромицина Этилсукцинат

$C_{43}H_{75}NO_{16}$ = 862.1.

CAS — 41342-53-4.

ATC — D10AF02; J01FA01; S01AA17.

ATC Vet — QD10AF02; QJ01FA01; QS01AA17.

NOTE. Compounded preparations of erythromycin ethyl succinate may be represented by the following names:

- Co-erynsulfisox (*PEN*)—erythromycin ethyl succinate and acetyl sulfafurazole.

Pharmacopoeias. In *Chin.*, *Eur.* (see p.vii), *Int.*, *Jpn*, and *US*.
Ph. Eur. 6.2 (Erythromycin Ethylsuccinate; Erythromycin Ethyl Succinate BP 2008). A white or almost white, hygroscopic crystalline powder. Practically insoluble in water; freely soluble in dehydrated alcohol, in acetone, and in methyl alcohol. Store in airtight containers. Protect from light.
USP 31 (Erythromycin Ethylsuccinate). A white or slightly yellow, odourless or practically odourless, crystalline powder. It has a potency equivalent to not less than 765 micrograms of erythromycin per mg, calculated on the anhydrous basis. Very slightly soluble in water; freely soluble in alcohol, in chloroform, and in macrogol 400. Store in airtight containers.

Erythromycin Gluceptate *(BANM, rINNM)*

Érythromycine, Gluceptate d'; Erythromycini Gluceptas; Gluceptato de eritromicina. Erythromycin glucoheptonate.

Эритромицина Глюцептат

$C_{37}H_{67}NO_{13}$,$C_7H_{14}O_8$ = 960.1.

CAS — 304-63-2; 23067-13-2.

ATC — D10AF02; J01FA01; S01AA17.

ATC Vet — QD10AF02; QJ01FA01; QS01AA17.

Pharmacopoeias. In *US*.
USP 31 (Sterile Erythromycin Gluceptate). It is erythromycin gluceptate suitable for parenteral use. It has a potency equivalent to not less than 600 micrograms of erythromycin per mg, calculated on the anhydrous basis. pH of a 2.5% solution in water is between 6.0 and 8.0.