

SUMMARY OF PRODUCT CHARACTERISTICS

1 TRADE NAME OF THE MEDICINAL PRODUCT

Ampicillin 500mg Capsules **and** Ampitrin

2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Each Capsule contains 500 mg of ampicillin as ampicillin trihydrate Ph. Eur

3 PHARMACEUTICAL FORM

Capsules

4 CLINICAL PARTICULARS

4.1 Therapeutic Indications

Ampicillin is a broad-spectrum penicillin, indicated for the treatment of a wide range of bacterial infections caused by Ampicillin-Sensitive organisms. Such indications include infections of the upper and lower respiratory tract, genito-urinary tract and the gastro-intestinal tract. Specific indications include ear and soft tissue infections and gonorrhoea.

4.2 Posology and method of administration

Usual adult dosage

Ear, nose and throat infections:	250 mg four times a day
Bronchitis:	Routine therapy: 250 mg four times daily High dose therapy: 1 g four times daily
Pneumonia:	500 mg four times daily
Urinary tract infections:	500 mg three times daily
Gastro-intestinal infections:	500 - 750 mg three to four times daily
Enteric fevers:	Acute: 1-2 g four times daily for two weeks Carriers: 1-2 g four times daily for four to 12 weeks
Gonorrhoea:	2 g orally with 1 g probenecid as a single dose. Repeated doses are recommended for the treatment of females.

Usual dosage for the elderly:

As for adults; reduced doses may be required in those with impaired renal function.

Usual children's dosage (under 10 years):

Half adult routine dosage.

All recommended dosages are a guide only. In severe infections the above dosages may be increased at the direction of the physician. Ampicillin should be given a half to one hour before meals.

Consideration should be given to official guidance on the appropriate use of antibacterial agents. Consult local or national prescribing guidelines for antibiotic use before prescribing. Where possible, use only where antibiotic sensitivity is known or suspected.

Renal Impairment:

In severe renal impairment (i.e., creatinine clearance <10 mL/min) reduction in dose or extension of the dose interval should be considered. In patients undergoing dialysis, an additional dose should be administered after dialysis.

For oral administration only

4.3 Contraindications

Use in patients with hypersensitivity to penicillins, or ampicillin, cephalosporins or any of the excipients.

4.4 Special warning and special precautions for use

Before initiating therapy with ampicillin, careful enquiry should be made concerning previous hypersensitivity reactions to beta-lactam antibiotics.

Serious and occasionally fatal hypersensitivity reactions (anaphylaxis) have been reported in patients receiving beta-lactam antibiotics. Although anaphylaxis is more frequent following parenteral therapy, it has occurred in patients on oral penicillins. These reactions are more likely to occur in individuals with a history of beta-lactam hypersensitivity.

Prolonged use of an anti-infective may occasionally result in the development of super-infection due to organisms resistant to that anti-infective e.g. *Candida* or *Pseudomonas*.

Care should be taken with patients with renal impairment and dose adjustment may be required (see section 4.2).

Ampicillin should be avoided Erythematous rashes are common in glandular fever, cytomegalovirus (CMV), and/or acute and chronic lymphatic leukaemia and possibly HIV as erythematous rashes are more common..

Care is necessary when treating spirochaete infections particularly Syphilis.

4.5 Interaction with other medicaments and other form of interaction

Ampicillin may reduce the efficacy of oral contraceptives and patients should be warned accordingly.

Uricosurics: excretion of penicillin is decreased, giving an increased risk of toxicity e.g. Probenecid and sulfinpyrazon.

Allopurinol increases ampicillin induced skin reactions.

Anti-coagulants: INR can be altered by the administration of Ampicillin while on Warfarin and Phenindione.

Vaccines: The efficacy of Oral Typhoid Vaccine may be reduced when ampicillin is coadministered

Cytotoxics: the excretion of methotrexate is reduced.

Chloroquine: absorption of ampicillin is reduced when taken concomitantly with chloroquine.

There may be interaction between other bacteriostatic antibacterials such as erythromycin, chloramphenicol and tetracycline may interfere with the bactericidal action of ampicillin.

As probenecid prolongs the half-life of this penicillin, it may be used therapeutically for this purpose.

Ampicillin may interfere with some diagnostic tests e.g. tests for urinary glucose using copper sulphate; direct anti-globulin (Coombs' test) and some tests for urinary or serum proteins. Tests using bacteria, e.g. the Guthrie test for phenylketonuria using *Bacillus Subtilis* organisms, could also be affected while patients are taking penicillins.

4.6 Pregnancy and lactation

Pregnancy:

Animal studies with ampicillin have shown no teratogenic effects. The product has been in extensive clinical use since 1961 and its use in human pregnancy has been well documented in clinical studies. When antibiotic therapy is required during pregnancy, ampicillin may be considered appropriate.

Lactation:

During lactation, trace quantities of penicillins can be detected in breast milk. Adequate human and animal data on use of ampicillin during lactation are not available.

4.7 Effects on ability to drive and use machines

None stated

4.8 Undesirable effects

Side-effects, as with other penicillins, are uncommon and mainly of a mild and transitory nature.

Occasionally, gastro-intestinal disturbances, nausea, vomiting and diarrhoea or haemorrhagic colitis or pseudomembranous colitis may occur.

Erythematous maculo-papular rashes, sore mouth and sore, black, hairy tongue have occurred. Two types of rashes have been observed: an urticarial rash, which is usually indicative of true penicillin hypersensitivity and an erythematous rash which is generally specific to ampicillin. The latter is particularly seen in patients with infectious mononucleosis, cytomegalovirus, acute and chronic lymphatic leukaemia and possibly HIV. Erythema multiforme, Stevens Johnson syndrome and toxic epidermal necrolysis has been reported. If a rash occurs, treatment should be discontinued.

Angioedema and anaphylaxis (see section 4.4) have occasionally occurred.

Fever, joint pains, serum sickness-like symptoms have been reported.

There have been reports of haemolytic anaemia, thrombocytopenia, leucopenia, neutropenia and coagulation disorders. Prolongation of bleeding time and prothrombin time have also been reported rarely.

Particularly with high doses or in renal impairment, CNS toxicity including convulsions have occurred; with prolonged use paraesthesia.

Nephropathy and interstitial nephritis has been reported.

Hepatic effects: As with other beta-lactam antibiotics, hepatitis and cholestatic jaundice have been reported rarely. As with most other antibiotics, a moderate and transient increase in transaminases has been reported.

4.9 Overdosage

Gastrointestinal effects such as nausea, vomiting and diarrhoea may be evident and should be treated symptomatically.

Ampicillin may be removed from the circulation by haemodialysis.

5 PHARMACOLOGICAL PARTICULARS

5.1 Pharmacodynamic properties

ATC Code: J01CA01

Ampicillin is employed in the treatment of infections of the urinary tract due to gram-negative organisms, especially *Escherichia coli*, *Proteus mirabilis* and Enterococci resistant to Benzyl penicillin; it is used for the prophylaxis and the treatment of infections of the respiratory tract such as chronic bronchitis, pneumonia and bronchiectasis.

Because it is excreted in high concentration in the bile it has been used in the treatment of infections of the biliary and intestinal tracts caused by *E. coli*, *Salmonella* and *Shigellae*. Because of its low toxicity and broad anti-microbial spectrum, it has been added to fluids used for intraperitoneal dialysis to prevent the development of bacterial peritonitis.

5.2 Pharmacokinetic Properties

Ampicillin is relatively stable in the acid gastric secretion and is well-absorbed from the gastrointestinal tract after oral administration. Peak concentrations in serum are obtained in about 1 or 2 hours and are reported to range from 0.8 to 8.5ug per ml. About 20% is bound to plasma proteins in the circulation. It diffuses across the placenta and high concentrations are found in the cerebrospinal fluid when the meninges are infected. About 30% of an orally administered dose is excreted in the urine 6 to 8 hours; urinary concentrations range from 0.25 to 2.5mg per ml. A high concentration is reached in bile.

5.3 Preclinical Safety Data

Not applicable

6 PHARMACEUTICAL PARTICULARS

6.1 LIST OF EXCIPIENTS

Magnesium Stearate

Capsule shell

Black Iron Oxide E172

Titanium Dioxide E171

Patent Blue V E131

Quinoline Yellow E104

Erythrosine E127

6.2 INCOMPATIBILITIES

None stated

6.3 SHELF LIFE

36 months

6.4 SPECIAL PRECAUTIONS FOR STORAGE

Store below 25°C in a dry place.

6.5 NATURE AND CONTENTS OF CONTAINER

Polypropylene securitainer with polyethylene air-proof cap 15, 18, 20, 21, 28, 30, 50, 100 or 500 capsules

Or an

Opaque PVC/PVDC blister 250/40 with a 20 micron aluminium lidding foil containing 15, 18, 20, 21, 28, 30, 50, 100 or 500 capsules

6.6 INSTRUCTIONS FOR USE/HANDLING

No special instructions

7 MARKETING AUTHORIZATION HOLDER

Athlone Laboratories Limited,

Ballymurray,

Co. Roscommon,

Ireland

8 MARKETING AUTHORIZATION NUMBER

PL 6453/0008

9 DATE OF FIRST AUTHORIZATION/RENEWAL OF AUTHORIZATION

First granted 24/4/87. Renewed 24/4/92.

10 DATE OF PARTIAL REVISION OF TEXT

28 February 2012