*For the use only of a Registered Medical Practitioner or a Hospital or a Laboratory*

# CRIXAN®

## (Clarithromycin Tablets USP) & (Clarithromycin for Oral Suspension)

**COMPOSITION**

**CRIXAN TABLETS 250 mg**
Each film-coated tablet contains
Clarithromycin USP 250mg

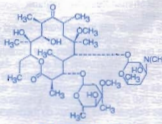
**CRIXAN TABLETS 500 mg**
Each film-coated tablet contains
Clarithromycin USP 500mg

**CRIXAN SUSPENSION 125mg/5ml**
When constituted as directed,
each 5 ml of the constituted suspension contains:
Clarithromycin 125 mg

**CRIXAN SUSPENSION 250mg/5ml**
When constituted as directed,
each 5 ml of the constituted suspension contains:
Clarithromycin 250 mg

**DESCRIPTION**

*Clarithromycin is a semi-synthetic macrolide antibiotic. It is chemically designated as 6-O-methylerythromycin. The molecular formula for clarithromycin is $C_{38}H_{69}NO_{13}$, and its molecular weight is 747.96.*



**CLARITHROMYCIN**
**Structural formula**

**PHARMACOLOGY**[1,2,3]

- ***Mechanism of action***

Clarithromycin exerts its antibacterial action by binding to the 50S ribosomal sub-unit of susceptible bacteria and inhibits protein synthesis. The 14-hydroxy metabolite of clarithromycin also has antimicrobial activity.

- **Antimicrobial Activity**

Clarithromycin is active *in vitro* against a variety of aerobic and anaerobic gram-positive and gram-negative microorganisms as well as most *Mycobacterium avium* complex (MAC) microorganisms. Additionally, the 14-OH clarithromycin metabolite also has clinically significant antimicrobial activity. The 14-OH clarithromycin is twice as active against *Haemophilus influenzae* microorganisms as the parent compound.

Clarithromycin has been shown to be active against most strains of the following microorganisms both in vitro and in clinical infections.

***Aerobic Gram-positive Microorganisms:*** *Staphylococcus aureus, Streptococcus pneumoniae, Streptococcus pyrogenes.*

***Aerobic Gram-negative Microorganisms:*** *Haemophilus influenzae, Moraxella catarrhalis.*

***Other Microorganisms:*** *Mycoplasma pneumoniae, Chlamydia pneumoniae* (TWAR).

***Mycobacteria:*** *Mycobacterium avium* complex (MAC) consisting of: *Mycobacterium avium, Mycobacterium intracellulare.*

Beta-lactamase production should have no effect on clarithromycin activity.

***Note:*** Most strains of methicillin-resistant and oxacillin-resistant staphylococci are resistant to clarithromycin.

***Helicobacter:*** *Helicobacter pylori.*

The following *in vitro* data are available, but their clinical significance is unknown. Clarithromycin exhibits *in vitro* activity against most strains of the following microorganisms; however, the safety and effectiveness of clarithromycin in treating clinical infections due to these microorganisms have not been established in adequate and well-controlled clinical trials.

***Aerobic Gram-positive Microorganisms:*** *Streptococcus agalactiae,* Streptococci (Groups C, F, G), Viridans group streptococci.

***Aerobic Gram-negative Microorganisms:*** *Bordetella pertussis, Legionella pneumophila, Pasteurella multocida.*

***Anaerobic Gram-positive Microorganisms:*** *Clostridium perfringens, Peptococcus niger, Propionibacterium acnes.*

***Anaerobic Gram-negative Microorganisms:*** *Prevotella melaninogenica* (formerly *Bacteriodes melaninogenicus*).

- **Pharmacokinetics**

Clarithromycin is rapidly absorbed from the gastrointestinal tract after oral administration. When 250-mg doses of clarithromycin suspension were administered to fasting healthy adult subjects, peak plasma concentrations were attained around 3 hours after dosing. Steady-state peak plasma concentrations were attained in 2 to 3 days and were approximately 2 μg/mL for clarithromycin and 0.7 μg/mL for 14-OH clarithromycin when 250-mg doses of the clarithromycin suspension were administered every 12 hours. Food does slightly delay the onset of absorption of clarithromycin and formation of the 14-hydroxymetabolite.

In nonfasting healthy human subjects (males and females), peak plasma concentrations are attained within 2 to 3 hours after oral dosing. Steady-state peak plasma clarithromycin concentrations are attained within 3 days and are approximately 1 to 2 μg/mL with a 250-mg dose administered every 12 hours and 3 to 4 μg/mL with a 500-mg dose administered every 8 to 12 hours.

Results of *in vitro* studies show that the protein binding of clarithromycin in human plasma averages about 70 % at concentrations of 0.45 - 4.5 g/mL. A decrease in binding to 41% at 45.0 g/mL suggests that the binding sites might become saturated, but this only occurs at concentrations far in excess of therapeutic drug levels.

Clarithromycin levels in all tissues, except the central nervous system, are several times higher than the circulating drug levels. The highest concentrations are found in the liver and lung tissue, where the tissue to plasma ratios reached 10 to 20.

Elimination half-lives of the parent drug and metabolite are approximately 5.3 and 7.7 hours respectively. The apparent half-lives of both clarithromycin and its hydroxylated metabolite tend to be longer at higher doses.

Urinary excretion accounted for approximately 40% of the clarithromycin dose. Faecal elimination accounts for approximately 30%.

*Pharmacokinetics in special populations*

*Geriatric:* In a steady-state study in which healthy elderly subjects (age 65 to 81 years old) were given 500 mg every 12 hours, the maximum serum concentrations and area under the curves of clarithromycin and 14-OH clarithromycin were increased compared to those achieved in healthy young adults. These changes in pharmacokinetics parallel known age-related decreases in renal function.

*Paediatric:* In children requiring antibiotic therapy, administration of 7.5 mg/kg q12h doses of clarithromycin as the suspension generally resulted in steady-state peak plasma concentrations of 3 to 7 μg/mL for clarithromycin and 1 to 2 μg/mL for 14-OH clarithromycin. Clarithromycin penetrates into the middle ear fluid of children with secretory otitis media.

In HIV-infected children taking 15 mg/kg every 12 hours, steady-state clarithromycin peak concentrations generally ranged from 6 to 15 μg/mL.

*Renal Impairment:* The pharmacokinetics of clarithromycin is also altered in subjects with impaired renal function.

*Hepatic Impairment:* The steady-state concentrations of clarithromycin in subjects with impaired hepatic function do not differ from those in normal subjects; however, the 14-OH clarithromycin concentrations are lower in the hepatically impaired subjects. The decreased formation of 14-OH clarithromycin is at least partially offset by an increase in renal clearance.

of clarithromycin in the subjects with impaired hepatic function when compared to healthy

renal function. However, in the presence of severe renal impairment with or without coexisting hepatic impairment, decreased dosage or prolonged dosing intervals may be appropriate.

Clarithromycin in combination with ranitidine bismuth citrate therapy is not recommended in patients with creatinine clearance less than 25 ml/min.

Clarithromycin in combination with ranitidine bismuth citrate should not be used in patients with a history of acute porphyria.

- **Warnings**

Pseudomembranous colitis has been reported with nearly all antibacterial agents, including clarithromycin, and may range in severity from mild to life threatening. Therefore, it is important to consider this diagnosis in patients who present with diarrhea subsequent to the administration of antibacterial agents. Treatment with antibacterial agents alters the normal flora of the colon and may permit overgrowth of clostridia. Studies indicate that a toxin produced by *Clostridium difficile* is a primary cause of "antibiotic-associated colitis". After the diagnosis of pseudomembranous colitis has been established, therapeutic measures should be initiated. Mild cases of pseudomembranous colitis usually respond to discontinuation of the drug alone. In moderate to severe cases, consideration should be given to management with fluids and electrolytes, protein supplementation, and treatment with an antibacterial drug clinically effective against *Clostridium difficile* colitis.

- **Contraindications**

**CRIXAN** (clarithromycin) is contraindicated in patients with a known hypersensitivity to clarithromycin, erythromycin, or any of the macrolide antibiotics.

Concomitant administration of clarithromycin with cisapride, pimozide, or terfenadine is contraindicated.

- **Pregnancy**

*Pregnancy Category C:* There are no adequate and well-controlled studies in pregnant women. Clarithromycin should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus. If pregnancy occurs while taking this drug, the patient should be apprised of the potential hazard to the fetus. Clarithromycin has demonstrated adverse effects of pregnancy outcome and/or embryo-fetal development in monkeys, rats, mice, and rabbits at doses that produced plasma levels 2 to 17 times the serum levels achieved in humans treated at the maximum recommended human doses.

- **Lactation**

It is not known whether clarithromycin is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when clarithromycin is administered to a nursing woman. It is known that clarithromycin is excreted in the milk of lactating animals and that other drugs of this class are excreted in human milk. Preweaned rats, exposed indirectly via consumption of milk from dams treated with 150 mg/kg/day for 3 weeks, were not adversely affected, despite data indicating higher drug levels in milk than in plasma.

- **Paediatrics**

Safety and effectiveness of clarithromycin in paediatric patients under 6 months of age have not been established. The safety of clarithromycin has not been studied in MAC patients under the age of 20 months.

- **Geriatrics**

In clinical trials, elderly patients did not have an increased incidence of adverse events when compared to younger patients (see also *Pharmacokinetics in Special Populations*).

- **Carcinogenicity/Mutagenicity/Impairment of Fertility**

Long-term studies in animals have not been performed to evaluate the carcinogenic potential of clarithromycin.

The following *in vitro* mutagenicity tests have been conducted with clarithromycin: *Salmonella*/Mammalian Microsomes Test, Bacterial Induced Mutation Frequency Test, *In Vitro* Chromosome Aberration Test, Rat Hepatocyte DNA Synthesis Assay, Mouse Lymphoma Assay, Mouse Dominant Lethal Study, Mouse Micronucleus Test. All tests had negative results except the *in vitro* chromosome aberration test, which was weakly positive in one test and negative in another. In addition, a bacterial reverse-mutation test (Ames Test) has been performed on clarithromycin metabolites with negative results.

Fertility and reproduction studies have shown that daily doses of up to 160 mg/kg/day (1.3 times the recommended maximum human dose based on mg/m$^2$) to male and female rats caused no adverse effects on the estrous cycle, fertility, parturition, or number and viability of offspring. Plasma levels in rats after 150 mg/kg/day were 2 times the human serum levels.

- **Drug Interactions**

Clarithromycin use in patients who are receiving theophylline may be associated with an increase of serum theophylline concentrations. Monitoring of serum theophylline concentrations should be considered for patients receiving high doses of theophylline or with baseline concentrations in the upper therapeutic range. In two studies in which theophylline was administered with clarithromycin (a theophylline sustained-release formulation was dosed at either 6.5 mg/kg or 12 mg/kg together with 250 or 500 mg q12h clarithromycin), the steady-state levels of $C_{max}$, $C_{min}$, and the area under the serum concentration time curve (AUC) of theophylline increased about 20%.

Concomitant administration of single doses of clarithromycin and carbamazepine has been shown to result in increased plasma concentrations of carbamazepine. Blood level monitoring of carbamazepine may be considered.

When clarithromycin and terfenadine were coadministered, plasma concentrations of the active acid metabolite of terfenadine were threefold higher, on average, than the values observed when terfenadine was administered alone. The pharmacokinetics of clarithromycin and the 14-hydroxy-clarithromycin were not significantly affected by coadministration of terfenadine once clarithromycin reached steady-state conditions. Concomitant administration of clarithromycin with terfenadine is contraindicated. (see \) "CI" **Contraindications.**)

Clarithromycin 500 mg every 8 hours was given in combination with omeprazole 40 mg daily to healthy adult subjects. The steady-state plasma concentrations of omeprazole were increased ($C_{max}$, $AUC_{0-24}$, and $T_{\frac{1}{2}}$ increases of 30%, 89%, and 34%, respectively), by the concomitant administration of clarithromycin. The mean 24-hour gastric pH value was 5.2 when omeprazole was administered alone and 5.7 when co-administered with clarithromycin. Co-administration of clarithromycin with ranitidine bismuth citrate resulted in increased plasma ranitidine concentrations (57%), increased plasma bismuth trough concentrations (48%), and increased 14-hydroxy-clarithromycin plasma concentrations (31%). These effects are clinically insignificant.

Simultaneous oral administration of clarithromycin and zidovudine to HIV-infected adult patients resulted in decreased steady-state zidovudine concentrations. When 500 mg of clarithromycin were administered twice daily, steady-state zidovudine AUC was reduced by a mean of 12%. Individual values ranged from a decrease of 34% to an increase of 14%. When clarithromycin was administered two to four hours prior to oral zidovudine, the steady-state zidovudine $C_{max}$ was increased by approximately 2-fold, whereas the AUC was unaffected.

Simultaneous administration of clarithromycin and didanosine to HIV-infected adult patients resulted in no statistically significant change in didanosine pharmacokinetics.

Concomitant administration of fluconazole 200 mg daily and clarithromycin 500 mg twice daily to 21 healthy volunteers led to increases in the mean steady-state clarithromycin $C_{max}$ and AUC of 33% and 18%, respectively. Steady-state concentrations of 14-OH clarithromycin were not significantly affected by concomitant administration of fluconazole.

Concomitant administration of clarithromycin and ritonavir resulted in a 77% increase in clarithromycin AUC and a 100% decrease in the AUC of 14-OH clarithromycin. Clarithromycin may be administered without dosage adjustment to patients with normal renal function taking ritonavir. However, for patients with renal impairment, the following dosage adjustments should be considered. For patients with $CL_{CR}$ 30 to 60 mg/min, the dose of clarithromycin should be reduced by 50%. For patients with $CL_{CR}$ < 30 ml/min, the dose of clarithromycin should be decreased by 75%.

Spontaneous reports in the post-marketing period suggest that concomitant administration of clarithromycin and oral anticoagulants may potentiate the effects of the oral anticoagulants. Prothrombin times should be carefully monitored while patients are receiving clarithromycin and oral anticoagulants simultaneously.

Elevated digoxin serum concentrations in patients receiving clarithromycin and digoxin concomitantly have also been reported in post-marketing surveillance. Some patients have shown clinical signs consistent with digoxin toxicity, including potentially fatal arrhythmias. Serum digoxin levels should be carefully monitored while patients are receiving digoxin and clarithromycin simultaneously.

The following drug interactions, other than increased serum concentrations of carbamazepine

subjects.

**INDICATIONS**[1,2]

**CRIXAN** (clarithromycin) is indicated for treatment of following infections caused by susceptible organisms:

Lower respiratory tract infections for example, acute and chronic bronchitis, acute bacterial exacerbation of chronic bronchitis and pneumonia.

Upper respiratory tract infections for example, sinusitis and pharyngitis.

Acute otitis media in children

Disseminated mycobacterial infections due to *Mycobacterium avium*, or *Mycobacterium intracellulare*

*Note:* Clarithromycin is appropriate for initial therapy in community acquired respiratory infections and has been shown to be active *in vitro* against common and atypical respiratory pathogens (see **Antimicrobial Activity**).

**CRIXAN** is indicated in skin and soft tissue infections of mild to moderate severity.

**CRIXAN** in the presence of acid suppression effected by omeprazole or lansoprazole is indicated for the eradication of *H. pylori* in patients with duodenal ulcers.

**CRIXAN** is also indicated for the prevention of disseminated *Mycobacterium avium* complex (MAC) disease in patients with advanced HIV infection.

**DOSAGE AND ADMINISTRATION**[1,2]

**CRIXAN** may be given with or without food.

***Patients with respiratory tract/skin and soft tissue infections***

*Adults and children over the age of 12 years:* The usual dose is 250 mg twice daily for 7 days although this may be increased to 500mg twice daily for up to 14 days in severe infections.

*Children below 12 years:* The usual recommended daily dosage is 15 mg/kg/day divided q12h for 10 days. Doses up to 500mg twice a day have been used in the treatment of severe infections. The usual duration of treatment is for 5 to 10 days depending on the pathogen involved and the severity of the condition.

**Paediatric Dosage Guidelines Based on Body Weight**

| Weight | Dose | Dosing Calculated on 7.5 mg/kg q12h | |
|---|---|---|---|
| (kg) | (q12h) | CRIXAN 125 mg/5ml | CRIXAN 250 mg/5 ml |
| 9 | 62.5 mg | 2.5 mL q12h | 1.25 mL q12h |
| 17 | 125 mg | 5 mL q12h | 2.5 mL q12h |
| 25 | 187.5 mg | 7.5 mL q12h | 3.75 mL q12h |
| 33 | 250 mg | 10 mL q12h | 5 mL q12h |

***H. pylori* Eradication to Reduce the Risk of Duodenal Ulcer Recurrence**

*Triple therapy: clarithromycin/lansoprazole/amoxicillin*

The recommended adult dose is 500 mg clarithromycin, 30 mg lansoprazole, and 1 gram amoxicillin, all given twice daily (q12h) for 10 or 14 days.

*Triple therapy: clarithromycin/omeprazole/amoxicillin*

The recommended adult dose is 500 mg clarithromycin, 20 mg omeprazole, and 1 gram amoxicillin, all given twice daily (q12h) for 10 days. In patients with an ulcer present at the time of initiation of therapy, an additional 18 days of omeprazole 20 mg once daily is recommended for ulcer healing and symptom relief.

*Triple Therapy: clarithromycin/lansoprazole/metronidazole*

The recommended adult dose is 500mg clarithromycin, lansoprazole 30mg and metronidazole 400mg all given twice daily (q12h) for 7 days.

*Dual therapy: clarithromycin/omeprazole*

The recommended adult dose is 500 mg clarithromycin given three times daily (q8h) and 40 mg omeprazole given once daily (qAM) for 14 days. An additional 14 days of omeprazole 20 mg once daily is recommended for ulcer healing and symptom relief.

*Dual therapy: clarithromycin /ranitidine bismuth citrate*

The recommended adult dose is 500 mg clarithromycin given twice daily (q12h) or three times daily (q8h) and 400 mg ranitidine bismuth citrate given twice daily (q12h) for 14 days. An additional 14 days of 400 mg twice daily is recommended for ulcer healing and symptom relief. Clarithromycin and ranitidine bismuth citrate combination therapy is not recommended in patients with creatinine clearance less than 25 mL/min.

***Dosage adjustments:***

Clarithromycin may be administered without dosage adjustment in the presence of hepatic impairment if there is normal renal function. However, in the presence of severe renal impairment ($CR_{Cl}$ < 30 mL/min), with or without coexisting hepatic impairment, the dose should be halved or the dosing interval doubled.

***Mycobacterial infections:***

*Prophylaxis:* The recommended dose of clarithromycin for the prevention of disseminated *Mycobacterium avium* disease is 500 mg b.i.d. In children, the recommended dose is 7.5 mg/kg b.i.d. up to 500 mg b.i.d. No studies of clarithromycin for MAC prophylaxis have been performed in paediatric populations and the doses recommended for prophylaxis are derived from MAC treatment studies in children. Dosing recommendations for children are in the table above.

*Treatment:* Clarithromycin is recommended as the primary agent for the treatment of disseminated infection due to *Mycobacterium avium* complex. Clarithromycin should be used in combination with other antimycobacterial drugs that have shown *in vitro* activity against MAC or clinical benefit in MAC treatment. The recommended dose for mycobacterial infections in adults is 500 mg b.i.d. In children, the recommended dose is 7.5 mg/kg b.i.d. up to 500 mg b.i.d.

Clarithromycin therapy should continue for life if clinical and mycobacterial improvements are observed.

**PRECAUTIONS**[1,2]

- **General**

Clarithromycin is principally excreted via the liver and kidney. Clarithromycin may be administered without dosage adjustment to patients with hepatic impairment and normal

and active acid metabolite in ferrokinetics, have not been reported in clinical trials of clarithromycin; however, they have been observed with erythromycin products and/or with clarithromycin in post-marketing experience:

Concurrent use of erythromycin or clarithromycin and ergotamine or dihydroergotamine has been associated in some patients with acute ergot toxicity characterized by severe peripheral vasospasm and dysesthesia.

Erythromycin has been reported to decrease the clearance of triazolam and, thus, may increase the pharmacologic effect of triazolam. There have been post-marketing reports of drug interactions and CNS effects (*e.g.*, somnolence and confusion) with the concomitant use of clarithromycin and triazolam.

There have been reports of an interaction between erythromycin and astemizole resulting in QT prolongation and torsades de pointes. Concomitant administration of erythromycin and astemizole is contraindicated. Because clarithromycin is also metabolized by cytochrome P450, concomitant administration of clarithromycin with astemizole is not recommended.

As with other macrolides, clarithromycin has been reported to increase concentrations of HMG-CoA reductase inhibitors (*e.g.*, lovastatin and simvastatin), through inhibition of cytochrome P450 metabolism of these drugs. Rare reports of rhabdomyolysis have been reported in patients taking these drugs concomitantly.

The use of erythromycin and clarithromycin in patients concurrently taking drugs metabolized by the cytochrome P450 system may be associated with elevations in serum levels of these other drugs. There have been reports of interactions of erythromycin and/or clarithromycin with carbamazepine, cyclosporine, tacrolimus, hexobarbital, phenytoin, alfentanil, disopyramide, lovastatin, bromocriptine, valproate, terfenadine, cisapride, pimozide, rifabutin, and astemizole. Serum concentrations of drugs metabolized by the cytochrome P450 system should be monitored closely in patients concurrently receiving these drugs.

- **Adverse Effects**

Clarithromycin is generally well tolerated. Side effects include nausea, dyspepsia, diarrhoea, vomiting, abdominal pain and paraesthesia.. Stomatitis, glossitis, oral moniliа and tongue discolouration have been reported. Other side-effects include headache, arthralgia, myalgia and allergic reactions ranging from urticaria, mild skin eruptions and angioedema to anaphylaxis and rarely Stevens-Johnson syndrome / toxic epidermal necrolysis.

Reports of alteration of the sense of smell, usually in conjunction with taste perversion have also been received. There have been reports of tooth discolouration in patients treated with clarithromycin. Tooth discolouration is usually reversible with professional dental cleaning.

There have been reports of transient central nervous system side-effects including dizziness, vertigo, anxiety, insomnia, bad dreams, tinnitus, confusion, disorientation, hallucinations, psychosis and depersonalisation. There have been reports of hearing loss with clarithromycin which is usually reversible on withdrawal of therapy. Pseudomembranous colitis has been reported rarely with clarithromycin, and may range in severity from mild to life threatening.

There have been rare reports of hypoglycaemia, some of which have occurred in patients on concomitant oral hypoglycaemic agents or insulin. Isolated cases of leukopenia and thrombocytopenia have been reported.

As with other macrolides, hepatic dysfunction (which is usually reversible) including altered liver function tests hepatitis and cholestasis with or without jaundice, has been reported. Dysfunction may be severe and very rarely fatal hepatic failure has been reported.

Cases of increased serum creatinine, interstitial nephritis, renal failure, pancreatitis and convulsions have been reported rarely.

As with other macrolides, QT prolongation, ventricular tachycardia and Torsade de Pointes have been rarely reported with clarithromycin.

**OVERDOSAGE**[1]

Reports indicate that the ingestion of large amounts of clarithromycin can be expected to produce gastro-intestinal symptoms. One patient who had a history of bipolar disorder ingested 8 grams of clarithromycin and showed altered mental status, paranoid behaviour, hypokalaemia and hypoxaemia. Adverse reactions accompanying overdosage should be treated by gastric lavage and supportive measures. As with other macrolides, clarithromycin serum levels are not expected to be appreciably affected by haemodialysis or peritoneal dialysis.

**STORAGE**

Crixan Tablets – Store below 25°C, protected from moisture

Crixan Suspension - Store below 25°C. Do not refrigerate or freeze the constituted suspension. Keep the container tightly closed. Discard the unused portion after 14 days.

**KEEP ALL MEDICINES OUT OF REACH OF CHILDREN**

**SUPPLY**

Crixan Tablets 250 mg – Blister strip of 4's; 10's; box of 4's; 3x4's, 10's

Crixan Tablets 500 mg – Blister strip of 4's; 10's; box of 4's; 3x4's, 10's

Crixan Suspension 125mg/5ml: Bottle of 50 ml, 60 ml, 70 ml, 100 ml & 140 ml

Crixan Suspension 250mg/5ml: Bottle of 50 ml, 60 ml, 70 ml, 100 ml & 140 ml

***REFERENCES***


1. *Physicians' Desk Reference 2002; 56th Ed.: 403-411.*
2. *ABPI Compendium of Data Sheets and Summaries of Product Characteristics, KLARICID, Abbott Laboratories Ltd., UK. October' 2000.*


*Information compiled in October 2002.*


MADE IN INDIA

**RANBAXY**

LABORATORIES LIMITED

INDUSTRAIL AREA - 3

MADE IN INDIA

**RANBAXY**

LABORATORIES LIMITED

E-2, M.I.D.C., JEJURI - 412 303