# Losartan Potassium

# Losartfix

50 mg Film-Coated Tablet

Angiotensin II Antagonist

℞

**FORMULATION**
Each film-coated tablet contains:
Losartan Potassium USP ..... 50 mg

**PRODUCT DESCRIPTION**
White to off white, round, biconvex film-caoted tablet

**PHARMACODYNAMICS**
Losartan is an orally active, non-peptide angiotensin II receptor antagonist. Losartan and its active metabolite block the vasoconstrictor and aldosterone-secreting effects of angiotensin II selectively blocking the binding of angiotensin II to the AT, receptor found in many tissues (e.g., vascular smooth muscle, adrenal gland).

**PHARMACOKINETICS**
Losartan is readily absorbed from the gastrointestinal tract following oral administration with an oral bioavailability of about 33%. It undergoes first pass metabolism to form an active carboxylic acid metabolite E-3174, which has greater pharmacological activity than Losartan and some inactive metabolites. Peak plasma concentrations of Losartan and E-3174 occur about 1 hour and 3 to 4 hours, respectively, after an oral dose. Both Losartan and E-3174 are more than 98% bound to plasma proteins.
Losartan is excreted in the urine and in faeces via bile, as unchanged drug and metabolites. Following oral dosing about 35% of the dose is excreted in the urine and about 60% in the faeces. The terminal elimination half-lives of Losartan and E-3174 are about 1.5 to 2.5 hours and 3 to 9 hours respectively.

**INDICATION**
Used in the management of hypertension.

**DOSAGE AND ADMINISTRATION**
Losartan is given orally as the potassium salt. The maximum hypotensive effect is achieved in about 3 to 6 weeks after starting the treatment.
- In hypertension the usual dose of Losartan Potassium is 50 mg once daily if necessary, increased to 100 mg daily as a single dose or in two divided doses.
- An initial dose of 25 mg once daily should be given to patients with intravascular fluid depletion.
- Children weighing 20-50 kg is 25 mg once daily. Children aged 6 years and over may be given initial dose of 700 mcg/kg once daily with a maximum of 50 mg adjusted according to response.
- In diabetic nephropathy, Losartan Potassium is given in an initial dose of 50 mg daily, increased to 100 mg once daily depending on the blood pressure. Or as prescribed by the physician.

**CONTRAINDICATIONS**
Hypersensitivity to Losartan or any of the components of this product.

**WARNINGS AND PRECAUTIONS**
**Hypersensitivity**

***Angioedema.*** Patients with a history of angioedema (swelling of the face, lips, throat, and/or tongue) should be closely monitored.

Hypotension and Electrolyte/Fluid Imbalance
Symptomatic hypotension, especially after the first dose and after increasing of the dose, may occur in patients who are volume- and/or sodium-depleted by vigorous diuretic therapy, dietary salt restriction, diarrhoea or vomiting. These conditions should be corrected prior to administration of losartan, or a lower starting dose should be used. This also applies to children 6 to 18 years of age.

Electrolyte imbalances
Electrolyte imbalances are common in patients with renal impairment, with or without diabetes, and should be addressed. In a clinical study conducted in type 2 diabetic patients with nephropathy, the incidence of hyperkalaemia was higher in the group treated with losartan as compared to the placebo group. Therefore, the plasma concentrations of potassium as well as creatinine clearance values should be closely monitored, especially patients with heart failure and a creatinine clearance between 30-50 ml/min should be closely monitored.

The concomitant use of potassium-sparing diuretics, potassium supplements, potassium-containing salt substitutes, or other drugs that may increase serum potassium (e.g., trimethoprim-containing products) with losartan is not recommended.

Hepatic impairment
Based on pharmacokinetic data which demonstrate significantly increased plasma concentrations of losartan in cirrhotic patients, a lower dose should be considered for patients with a history of hepatic impairment. There is no therapeutic experience with losartan in patients with severe hepatic impairment. Therefore losartan must not be administered in patients with severe hepatic impairment.

Losartan is not recommended in children with hepatic impairment.

Renal impairment
As a consequence of inhibiting the renin-angiotensin system, changes in renal function including renal failure have been reported (in particular, in patients whose renal function is dependent on the renin-angiotensin-aldosterone system such as those with severe cardiac insufficiency or pre-existing renal dysfunction). As with other medicinal products that affect the renin-angiotensin-aldosterone system, increases in blood urea and serum creatinine have also been reported in patients with bilateral renal artery stenosis or stenosis of the artery to a solitary kidney; these changes in renal function may be reversible upon discontinuation of therapy. Losartan should be used with caution in patients with bilateral renal artery stenosis or stenosis of the artery to a solitary kidney.

*Use in paediatric patients with renal impairment*
Losartan is not recommended in children with glomerular filtration rate < 30 ml/min/1.73 m2 as no data are available.
Renal function should be regularly monitored during treatment with losartan as it may deteriorate. This applies particularly when losartan is given in the presence of other conditions (fever, dehydration) likely to impair renal function.
Concomitant use of losartan and ACE-inhibitors has shown to impair renal function. Therefore, concomitant use is not recommended.

Renal transplantation
There is no experience in patients with recent kidney transplantation.

Primary hyperaldosteronism
Patients with primary aldosteronism generally will not respond to antihypertensive medicinal products acting through inhibition of the renin-angiotensin system. Therefore, the use of losar tan is not recommended.

Coronary heart disease and cerebrovascular disease
As with any antihypertensive agents, excessive blood pressure decrease in patients with ischaemic cardiovascular and cerebrovascular disease could result in a myocardial infarction or stroke.

Heart failure
In patients with heart failure, with or without renal impairment, there is - as with other medicinal products acting on the renin-angiotensin system - a risk of severe arterial hypotension, and (often acute) renal impairment.

There is no sufficient therapeutic experience with losartan in patients with heart failure and concomitant severe renal impairment, in patients with severe heart failure (NYHA class IV) as well as in patients with heart failure and symptomatic life-threatening cardiac arrhythmias. Therefore, losartan should be used with caution in these patient groups. The combination of losartan with a beta-blocker should be used with caution.

Aortic and mitral valve stenosis, obstructive hypertrophic cardiomyopathy
As with other vasodilators, special caution is indicated in patients suffering from aortic or mitral stenosis, or obstructive hypertrophic cardiomyopathy.

Excipients
This medicinal product contains lactose. Patients with rare hereditary problems of galactose intolerance, the Lapp lactase deficiency or glucose-galactose malabsorption should not take this medicine.

Pregnancy
Losartan should not be initiated during pregnancy. Unless continued losartan therapy is considered essential, patients planning pregnancy should be changed to alternative anti-hypertensive treatments which have an established safety profile for use in pregnancy. When pregnancy is diagnosed, treatment with losartan should be stopped immediately, and, if appropriate, alternative therapy should be started.

Other warnings and precautions
As observed for angiotensin converting enzyme inhibitors, losartan and the other angiotensin antagonists are apparently less effective in lowering blood pressure in black people than in non-blacks, possibly because of higher prevalence of low-renin states in the black hypertensive population.

Dual blockade of the renin-angiotensin-aldosterone system (RAAS)
There is evidence that the concomitant use of ACE-inhibitors, angiotensin II receptor blockers or aliskiren increases the risk of hypotension, hyperkalaemia, and decreased renal function (including acute renal failure). Dual blockade of RAAS through the combined use of ACE-inhibitors, angiotensin II receptor blockers or aliskiren is therefore not recommended.

If dual blockade therapy is considered absolutely necessary, this should only occur under specialist supervision and subject to frequent close monitoring of renal function, electrolytes and blood pressure.

ACE-inhibitors and angiotensin II receptor blockers should not be used concomitantly in patients with diabetic nephropathy.

- Losartan is contraindicated in pregnancy and in breast feeding.
- It should be used with caution in patients with renal artery stenosis.
- Patients with volume depletion may experience hypotension.
- Since hyperkalemia may occur, serum-potassium concentrations should be monitored, especially in the elderly and patients with renal impairment.

**PREGNANCY AND LACTATION**
**Pregnancy**
The use of losartan is not recommended during the first trimester of pregnancy. The use of losartan is contraindicated during the 2nd and 3rd trimester of pregnancy.

Epidemiological evidence regarding the risk of teratogenicity following exposure to ACE inhibitors during the first trimester of pregnancy has not been conclusive; however a small increase in risk cannot be excluded. Whilst there is no controlled epidemiological data on the risk with Angiotensin II Receptor Inhibitors (AIIRAs), similar risks may exist for this class of medicinal products. Unless continued AIIRA therapy is considered essential, patients planning pregnancy should be changed to alternative anti-hypertensive treatments which have an established safety profile for use in pregnancy. When pregnancy is diagnosed, treatment with losartan should be stopped immediately and, if appropriate, alternative therapy should be started.

Exposure to AIIRA therapy during the second and third trimesters is known to induce human foetotoxicity (decreased renal function, oligohydramnios, skull ossification retardation) and neonatal toxicity (renal failure, hypotension, hyperkalaemia).

Should exposure to losartan have occurred from the second trimester of pregnancy, ultrasound check of renal function and skull is recommended.

Infants whose mothers have taken losartan should be closely observed for hypotension.

**Breastfeeding**
Because no information is available regarding the use of losartan during breastfeeding, losartan is not recommended and alternative treatments with better established safety profiles during breastfeeding are preferable, especially while nursing a new-born or preterm infant.

**INTERACTIONS**
- The antihypertensive effects of Losartan may be potentiated by drugs or other agents that lower blood pressure.
- NSAIDs should be used with caution in patients taking Losartan as the risk of renal impairment may be increased.
- NSAIDs may also attenuate the hypotensive effect of Losartan.
- Losartan and some other angiotensin II receptor antagonist are metabolised by cytochrome P450 isoenzyme and interactions may occur with drugs that affect these enzymes.

**ADVERSE EFFECTS**
- Adverse effects of Losartan have been reported to be usually mild and transient and include dizziness and dose related orthostatic hypotension.
- Impaired renal function and rarely rash, angioedema and raised alanine aminotransferase may occur.
- Hyperkalemia, Myalgia and Arthralgia also include in side effects.
- Other adverse effects with angiotensin II receptor antagonist includes respiratory tract disorders, back pain, gastro-intestinal disturbances, fatigue, neutropenia and rhabdomyolysis.

**OVERDOSE AND TREATMENT**
Symptoms of intoxication
Limited data are available with regard to overdose in humans. The most likely manifestation of overdose would be hypotension and tachycardia. Bradycardia could occur from parasympathetic (vagal) stimulation.

Treatment of intoxication
If symptomatic hypotension should occur, supportive treatment should be instituted.

Measures are depending on the time of medicinal product intake and kind and severity of symptoms. Stabilisation of the cardiovascular system should be given priority. After oral intake, the administration of a sufficient dose of activated charcoal is indicated. Afterwards, close monitoring of the vital parameters should be performed. Vital parameters should be corrected if necessary.

Neither losartan nor the active metabolite can be removed by haemodialysis.

**CAUTION**
Foods, Drugs, Devices, and Cosmetics Act prohibits dispensing without prescription.

For suspected adverse drug reaction, report to the FDA: www.fda.gov.ph.
Seek medical attention immediately at the first sign of any adverse drug reaction.

**STORAGE CONDITION**
Store at temperatures not exceeding 30°C.

KEEP ALL MEDICINES OUT OF CHILDREN'S REACH.

**AVAILABILITY**
Alu-Alu Blister Pack x 10's (Box of 60's & 100's )

**DRP-5960-04**
**Date of First Authorization:** December 27, 2021
**Date of Last Revision of Package Insert:** August 12, 2024

Manufactured by:
**Windlas Biotech Private Limited (Plant-1)**
40/1, Mohabewala Industrial Area, SBI Road
Dehradun, 248110, Uttarakhand, India

Manufactured for:
**Mankind Pharma Ltd.**
208, Okhla Industrial Estate Phase-3,
New Delhi-110020, India

Imported by:
**Ambica International Corporation**
No. 9 Amsterdam Extension, Merville Park Subd.,
Parañaque, Metro Manila
Distributed by:
**AGB Pharmaceutical Trading and Consultancy Corporation**
3270-C Armstrong Rd., Kalayaan, Brgy. 201, Pasay, Metro Manila

EMR8TPDGDGPH74802