

Ramipril Cas No. : 87333-19-5

This drug belongs to a group of medications called ACE inhibitors. It is used to treat high blood pressure (hypertension). It works by relaxing blood vessels, causing them to widen. Lowering high blood pressure helps prevent strokes, heart attacks and kidney problems.

Active Pharmaceuticals Ingredients Manufacturers



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Taj Pharmaceuticals Ltd.

Ramipril

CAS No. : 87333-19-5

**Systematic (IUPAC) name**

(2S,3aS,6aS)-1-[(2S)-2-[[[(2S)-1-ethoxy-1-oxo-4-phenylbutan-2-yl]amino}propanoyl]-octahydrocyclopenta[b]pyrrole-2-carboxylic acid

Identifiers

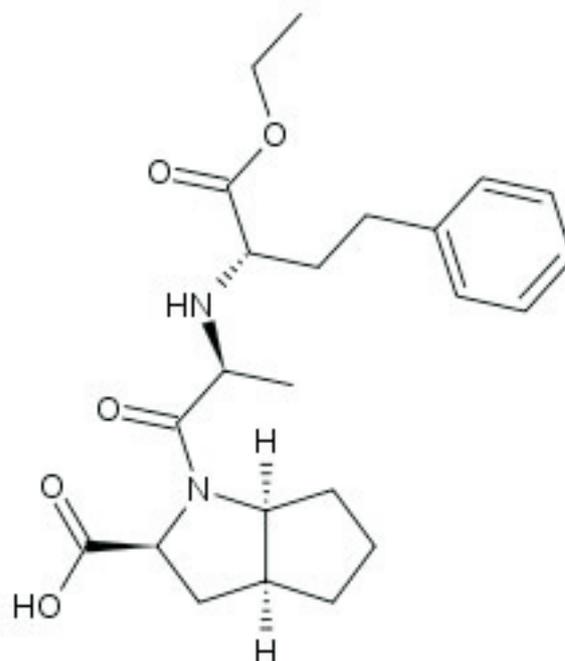
CAS number 87333-19-5
ATC code C09AA05
PubChem 5362129
DrugBank APRD00009
ChemSpider 4514937

Chemical data

Formula C₂₃H₃₂N₂O₅
Mol. mass 416.511 g/mol
SMILES eMolecules & PubChem

Pharmacokinetic data

Bioavailability 28%
Protein binding 73% (ramipril)
56% (ramiprilat)
Metabolism Hepatic, to ramiprilat
Half life 2 to 4 hours
Excretion Renal (60%) and fecal (40%)



Ramipril is an angiotensin-converting enzyme (ACE) inhibitor, used to treat hypertension and congestive heart failure. ACE inhibitors lower the production of angiotensin II, therefore relaxing arterial muscles while at the same time enlarging the arteries, allowing the heart to pump blood more easily, and increasing blood flow due to more blood being pumped into and through larger passageways.

Cautions

Do not take potassium supplements without seeking medical advice.
Do not take during pregnancy

Contraindications

Renovascular disease, severe renal impairment (especially in patients with one kidney or with bilateral renal artery stenosis), volume-depleted patients, history of angioedema while on an ACE inhibitor, pregnancy, hypotension.

Dose

Patients are started on the lowest dose and titrated up every 3 – 4 weeks as required.
Dosage comes in the following forms: 1.25 mg, 2.5 mg, 5 mg, 10 mg



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R a m i p r i l

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WARNING

This drug can cause serious (possibly fatal) harm to an unborn baby if used during pregnancy. Therefore, it is important to prevent pregnancy while taking this medication. Consult your doctor for more details and to discuss the use of reliable forms of birth control while taking this medication. If you are planning pregnancy, become pregnant, or think you may be pregnant, contact your doctor immediately.

USES

This drug belongs to a group of medications called ACE inhibitors. It is used to treat high blood pressure (hypertension). It works by relaxing blood vessels, causing them to widen. Lowering high blood pressure helps prevent strokes, heart attacks and kidney problems.

This medication is also used to prevent heart problems (such as heart attacks) and/or strokes in certain high risk patients, and with other drugs (e.g., "water pills"/diuretics, digoxin) to treat congestive heart failure.

HOW TO USE

Take this medication by mouth, usually once or twice a day; or as directed by your doctor. You may take this drug with or without food. Use this medication regularly in order to get the most benefit from it. Remember to use it at the same time(s) each day.

Swallow the capsule form whole. If you cannot swallow the capsule, open it and sprinkle the contents on a small amount (4 ounces) of applesauce or mix with apple juice or water. Swallow or drink the entire mixture.

Do not take potassium supplements or salt substitutes containing potassium without talking to your doctor or pharmacist first. This medicine can raise your potassium levels, which rarely can cause serious side effects such as muscle weakness or very slow heartbeats. Tell your doctor immediately if these effects occur.

The dosage is based on your medical condition and response to therapy. For the treatment of high blood pressure, it may take several weeks before the full benefit of this drug occurs or several weeks to months when used for congestive heart failure.

SIDE EFFECTS

You may experience dizziness, light-headedness, fatigue, nausea, vomiting, diarrhea, dry cough or blurred vision as your body adjusts to the medication. If any of these effects persist or worsen, notify your doctor or pharmacist promptly. This drug may rarely cause serious (possibly fatal) liver problems. If you notice any of the following highly unlikely but very serious side effects, seek immediate medical attention: yellowing eyes or skin, dark urine, stomach/abdominal pain, persistent fatigue, persistent nausea.

A serious allergic reaction to this drug is unlikely, but seek immediate medical attention if it occurs. Symptoms of a serious allergic reaction include: rash, itching, swelling (especially of the face, lips, tongue, or throat), severe dizziness, trouble breathing.

PRECAUTIONS

Before taking ramipril, tell your doctor or pharmacist if you are allergic to it; or to other ACE inhibitors (e.g., benazepril, captopril); or if you have any other allergies (including an allergic reaction after exposure to certain membranes used for blood filtering).



Before using this medication, tell your doctor or pharmacist your medical history, especially of: kidney disease, liver disease, high blood levels of potassium, heart problems, severe dehydration (and loss of electrolytes such as sodium), diabetes (poorly controlled), strokes, blood vessel disease (e.g., collagen vascular diseases such as lupus, scleroderma).

This drug may make you dizzy; use caution engaging in activities requiring alertness such as driving or using machinery. Limit alcoholic beverages.

To minimize dizziness and light-headedness due to lowering of your blood pressure, get up slowly when rising from a seated or lying position. Serious loss of body fluids can also lower your blood pressure and worsen dizziness. Drink adequate fluids to prevent from becoming dehydrated. If you are on restricted fluid intake, consult your doctor for further instructions. Be careful not to become too overheated during exercise which can lead to excessive sweating. Consult your doctor if you experience severe vomiting or diarrhea.

Before having surgery, tell your doctor or dentist that you are taking this medication. Caution is advised when using this drug in the elderly because they may be more sensitive to its effects, especially dizziness.

MISSED DOSE

If you miss a dose, use it as soon as you remember. If it is near the time of the next dose, skip the missed dose and resume your usual dosing schedule. Do not double the dose to catch up.

STORAGE

Store at room temperature between 59-86 degrees F (15-30 degrees C) away from light and moisture. Do not store in the bathroom. If you have opened the capsule form and mixed it with food or liquid, this mixture can be kept at room temperature for 24 hours or refrigerated for 48 hours. Keep all medicines away from children

DOSAGE

The usual dose of ramipril is 2.5-20 mg a day as a single dose or two divided doses. Patients taking diuretics or who have renal artery stenosis (narrowing of the arteries going to the kidney) may require lower doses.

Take Ramipril exactly as prescribed by your doctor. If you have difficulty swallowing the capsule, you can sprinkle the contents on a small amount (about 4 ounces) of applesauce, or mix the contents with 4 ounces of water or apple juice. Be sure to eat or drink the entire mixture so that you get the full dose of the drug. You can prepare the mixture ahead of time; it will keep for 24 hours at room temperature or 48 hours in the refrigerator.

Take this medication by mouth, usually once or twice a day; or as directed by your doctor. You may take this drug with or without food. Use this medication regularly in order to get the most benefit from it. Remember to use it at the same time(s) each day.

Swallow the capsule form whole. If you cannot swallow the capsule, open it and sprinkle the contents on a small amount (4 ounces) of applesauce or mix with apple juice or water. Swallow or drink the entire mixture.

Do not take potassium supplements or salt substitutes containing potassium without talking to your doctor or pharmacist first. This medicine can raise your potassium levels, which rarely can cause serious side effects such as muscle weakness or very slow heartbeats. Tell your doctor immediately if these effects occur.

Information Associated with Product:

DRUG DESCRIPTION

Ramipril is a 2-aza-bicyclo [3.3.0]-octane-3-carboxylic acid derivative. It is a white, crystalline substance soluble in polar organic solvents and buffered aqueous solutions. Ramipril melts between 105°C and 112°C.



The CAS Registry Number is 87333-19-5. Ramipril's chemical name is (2S,3aS,6aS)-1 [(S)-N-[(S)-1-Carboxy-3-phenylpropyl] alanyl] octahydrocyclopenta [b]pyrrole-2-carboxylic acid, 1-ethyl ester

Its empiric formula is C₂₃H₃₂N₂O₅, and its molecular weight is 416.5.

Ramipril at, the diacid metabolite of ramipril, is a non-sulphydryl angiotensin converting enzyme inhibitor. Ramipril is converted to ramiprilat by hepatic cleavage of the ester group.

Ramipril is supplied as hard shell capsules for oral administration containing 1.25 mg, 2.5 mg, 5 mg, and 10 mg of ramipril. The inactive ingredients present are pregelatinized starch NF, gelatin, and titanium dioxide. The 1.25 mg capsule shell contains yellow iron oxide, the 2.5 mg capsule shell contains

Ramipril belongs in a class of drugs called angiotensin converting enzyme (ACE) inhibitors. ACE inhibitors are used for treating high blood pressure, heart failure and for preventing kidney failure due to high blood pressure and diabetes

ACE is important because it is an enzyme responsible for producing the chemical, angiotensin . Angiotensin causes muscles in most arteries, including the arteries of the heart, to contract, thereby narrowing the arteries and elevating blood pressure. ACE inhibitors such as ramipril lower blood pressure by reducing the production of angiotensin , thereby relaxing arterial muscle and enlarging arteries. When the blood pressure is lower, the heart - including the failing heart - does not have to work as hard to pump blood. The arteries supplying the heart with blood also enlarge during treatment with ACE inhibitors. This increases the flow of blood and oxygen to the heart, further improving the ability of the heart to pump blood.

Note /Government Notification: These chemicals are designated as those that are used in the manufacture of the controlled substances and are important to the manufacture of the substances. For any (Control Substance) products Import and Export *** subjected to your country government laws /control substance ACT.

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The Controlled Substances Act (CSA) was enacted into law by the Congress of the United States as Title II of the Comprehensive Drug Abuse Prevention and Control Act of 1970.[1] The CSA is the federal U.S. drug policy under which the manufacture, importation, possession, use and distribution of certain substances is regulated. The Act also served as the national implementing legislation for the Single Convention on Narcotic Drugs

This document plus the full buyer/ prescribing information, prepared for health professionals can be found at:

<http://www.tajapi.com>

or by contacting the sponsor, Taj Pharmaceuticals Limited., at:
91 022 30601000.

This leaflet was prepared by
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Mumbai (India).
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